3rd INTERNATIONAL ORAL & MAXILLOFACIAL SURGERY SOCIETY CONGRESS

22 - 26 APRIL 2009

AÇBİD - OMFS ABSTRACT BOOK 2009
ORAL and MAXillofACIAL SURGERY SOCIETY
3rd INTERNATIONAL CONGRESS
22-26 April 2009, Antalya, Türkiye

Abstract Book of ACBID 2009
ACBİD OMFS CONGRESS
April 22-26 2009 ANTALYA
COMMITTEES
ACBID 2009

CONGRESS PRESIDENT
Behcet EROL

HONORARY CONGRESS PRESIDENT
Kenan ARAZ

CHAIR OF ORGANIZATION COMMITTEES
Ertuğrul DAYI

GENERAL SECRETARY
Mine CAMBAZOĞLU

ASSOCIATE GENERAL SECRETARIES
Rezzan GÜNER
Doğan DOLANMAZ
Yakup ÜSTÜN
Özgür PEKTAŞ

SCIENTIFIC COMMITTEE CHAIRMAN
Sina UÇKAN

SCIENTIFIC COMMITTEE VICE-CHAIRMAN
Serpil DURAN

INTERNATIONAL EDUCATIONAL ADVISORY COMMITTEE
CHAIRMAN
Piet HAERS

ORGANIZING COMMITTEE CHAIRMAN
Ayşegül APAYDIN

CO-ORDINATION COMMITTEE CHAIRMAN
Tayfun GÜNBAY

PROFESSIONAL DEVELOPMENT AND MEDIA RELATIONS
COMMITTEE CHAIRMAN
Bülent KATİPOĞLU
ACBID 2009

SCIENTIFIC COMMITTEE
Sina UÇKAN (Chairman)
Serpil DURAN (Vice-Chairman)
Murat GOMEL
Şenol TÜZÜN
Asriye MOCAN
Ömer KAYA
Ömer GÜNHAN
Onur İÇTEN
Selçuk BASA
Belgin GÖRGÜN
Hakki TANYERİ
Tülin OYGÜR
Yılmaz GÜNAYDIN
Semih ÖZBAYRAK
Beyza KAYA
Kemal ŞENÇİFT
Hanife ATAĞLU
Meral ÜNÜR
Emin ESEN
Ümit ERTAŞ
Alper ALKAN
Ercan DURMUŞ
Nurhan GÜLER
Muhtar GÜROL
Mahmut SUMER
ACBID 2009

CO-ORDINATION COMMITTEE
Tayfun GÜNBAY (Chairman)
Osman Zeki GÜMRÜ
Çetin KASAPOĞLU
Sevtap GÜNBAY
Sinan SOLEY
Özen Onur DOĞAN
Ayfer KAYNAR
Bahar SEZER
Nergiz YILMAZ
Timuçin BAYKUL
Sinan AY
Mehtap MUĞLALI
Hasan KÜÇÜKKOLBAŞI
Özkan ÖZKAYNAK
Emel BULUT
Gülsün Yıldırım ÖZ
Firdevs VEZİROĞLU
Gülperi ŞANLI
Ülkem CİLASUN
Gühan DERGİN
Hasan GARİP
Doruk KOÇYİĞİT
Serhat ATILGAN
M.Tamer KUTSAL
Altan VAROL
Fethi ATIL
ACBID 2009

ORGANIZING COMMITTEE
Ayşegül APAYDIN (Chairman)
Yavuz AYDINTUĞ
Nedim ÖZER
Gülsüm AK
Turgay SEÇKİN
Hatice Nevin BÜYÜKAKYÜZ
Zerrin ÇEBİ
Hülya Koçak BERBEROĞLU
Hakan H. TÜZ
Figen Çizmeci ŞENEL
Murat METİN
Bilge ÇADIR
Mehmet KÜRĶÜ
Umut SARAÇOĞLU
Uğur TEKİN
Engin BULUT
Abdullah KALAYCI
Erdem KILIÇ
Muzaffer ASLAN
Ufuk ATEŞ
Ercüment ÖNDER
Filiz KUNTAY
Osman A.ETÖZ
A.Alper PAMPÜ
Burcu BAŞ
Nurgül KÖMERİK
ACBID 2009

TECHNICAL COMMITTEE
Ferhan YAMAN
U. Nezih YILMAZ
Musa Can UÇAN
Ferit BAYRAM
İbrahim KÖSE

PROFESSIONAL DEVELOPMENT AND MEDIA RELATIONS COMMITTEE
Bulent KÂTİPOĞLU (Chairman)
Güller ÜNLÜ
Metin GÜNGÖRMÜŞ
Hüseyin KOCA
İmad SALİH
Meltem KORAY
ACBID 2009

INTERNATIONAL EDUCATION ADVISORY COMMITTEE

Piet HAERS - UK (Chairman)
James HUPP - USA
Peter Ward BOOTH - UK
Ghali GHALI - USA
Ahmed MEDRA - Egypt
Nick KATSIKERIS - Greece
Asri ARUMSARI - Indonesia
H. MONTEZAVI - Iran
Behzad RAHSEPAR - Iran
Farzin SARKARAT - Iran
Hatem EL-MEKKAWI - Egypt
Hamed Hassan AL-BARGI - Saudi Arabia
Ahmed AL-YAMANI - Saudi Arabia
Takeshi UCHIYAMA - Japan
Christos SKOUTERIS - Greece
Behnam BOHLULI - Iran
Vitomir KONSTANTINOVIC - Serbia
Paul SALINS - India
Fouad GHAREEB - Egypt
Sharifah Fauziah ALHABSHI - Malaysia
Mostafa HEMEDA - Egypt
Dear Colleagues,

We will be delighted to get together with our colleagues and friends again in The Third International Conference on Oral and Maxillofacial Surgery which will be held between the dates of 22 - 26 April 2009 in Antalya, Turkey.

I am very proud and honoured to invite all of our colleagues and friends to the 3rd International OMFS congress where advances, innovations and latest information will be discussed and presented by lectures, panels, courses, oral and poster presentations along with the presence of many reputable and distinguished invited speakers. The participants will be updated and refreshed with current information in the field of Oral and Maxillofacial Surgery both related to clinical practice and latest researches.

We are looking forward to see you in Antalya, one of the best holiday spots on Mediterranean coast with the famous regional hospitality. We make sure that scientific program will be complemented with social and recreational activities readily available on site and surroundings to enjoy your whole stay.

Best regards

Behçet EROL
CONGRESS CHAIRMAN
Dear Colleagues,

We will be together with social, cultural, sporting and scientific activities in our congress which will be held in Antalya, the heavenly place of tourism. We aim to establish an atmosphere discussing on different topics related to our specialty both with our colleagues and friends from foreign countries and those who will be attending from different parts of Turkey. I strongly believe that all presentations by successful scientists and clinicians will be very fruitful not only for all of us but for junior colleagues as well.

Our specialty is developing steady fast every day, and newer opportunities are provided by the new technologies by our fellow colleagues. Scientific progress is in acceleration even at higher levels throughout the years.

The previous congresses that were held until now were very successful with the contribution of colleagues nationally and internationally. I have a profound belief that our upcoming 3rd International Congress will be as successful as the past ones.

That is a great honour for me to be selected as the honorary president for this congress. I present my warmest thanks to the board members and the president of the congress.

I present my regards by wishing a very successful congress and wish to get together on 22nd of April, and meet all in Antalya.

Kenan ARAZ
HONORARY PRESIDENT
Dear Colleagues and dear friends,

It is my great honour and pleasure to welcome you to ACBID Third International Conference on Oral and Maxillofacial Surgery which will be held on April 22-26, 2009, and to beautiful, sunny Antalya, Turkey.

Over the last years we have witnessed remarkable advances in the management of various diseases, injuries and deformities of interest to the specialty of Oral and Maxillofacial Surgery. We aimed to held this international meeting to bring in the current knowledge and the key elements for favorable clinical applications as well as evidence based clinical decision making and future research. In addition to state-of-the-art presentations delivered by distinguished experts, poster presentations, free communications and courses there will also be ample room for discussion in an informal and friendly atmosphere that will further contribute to the success of the meeting.

On behalf of the Oral and Maxillofacial Surgery Society and Organizing Committees I am delighted to invite you to join us, to contribute to and enjoy the success of the 3rd International Meeting in an historical environment.

We all are looking forward to welcoming you in Antalya.

Kindest regards,

Reha S. KIŞNiŞCİ
President, ACBID
INVITED
SPEAKERS
Thomas DODSON - USA
Henning SCHLIEPHAKE - GERMANY
Lim K. CHEUNG - CHINA
Piet HAERS - ENGLAND
Anders HOLMLUND - SWEDEN
Luigi CALIFANO - ITALY
David PRECIOUS - CANADA
Tetsu TAKAHASHI - JAPAN
Ahmed MEDRA - EGYPT
Awwad AL-BISHRI - SAUDI ARABIA
Fouad GHAREEB - EGYPT
Vitomir KONSTANTINOVIC - SERBIA
Raja KUMMOONA - IRAQ
ORAL PRESENTATIONS
A Three Dimensional Analysis of Reconstruction Plates Used in Different Defects of Mandibular

Behçet EROL, Ahmet YARDIMEDEN, Serhat ATILGAN, Ferhan YAMAN

Dicle University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Diyarbakır - TURKEY

Aim: In this study, the reasons of the broken reconstruction plates was investigated that using for mandibular continuity or mandibular defects reconstruction in 10 cases with tumor resection or avulsive wound, and also the objective of the present study was to evaluate the mechanical stress in reconstruction plates by means of the finite element method.

Materials Method: Three dimensional model for reconstruction plate was generated using 6,821 nodes and 3014 tetrahedral elements and exposed to chewing force. A commercial finite element solver (ANSYS) was then applied to this plate to compute stresses generated in chewing situation. The mechanical stress was calculated according to von Misses stress hypothesis.

Results: In the standard reconstruction plate, the results of the finite element analysis revealed stress resulting from the simulated functional loadings which far exceeded the strengths of the components.

Conclusion: The main application of this study was the prediction of fractures as a consequence of known forces. If it was assumed that the patient executes several thousand masticatory movements within a week, a dynamic strain would be present due to the large number of changes in loading, so that there was a danger of a fatigue fracture at the point of the stress concentration (as seen in the analysis), as is also confirmed by clinical practice.
Reconstruction of the Atrophic Maxilla with Interpositional Bone Grafting/Le Fort I Osteotomy and Endosteal Implants

Aysegül SIPAHI, Altan VAROL, Onur ATALI, Serdar YILMAZ, Seçuk BASA

Marmara University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Istanbul - Turkey

Introduction: Severe bone resorption of edentulous maxilla in elders requires advanced reconstruction prior to placement of dental implants. Such patients seeking rehabilitation with dental implants should be restored for the lost bony volume and quality of the upper jaw. Inlay/onlay autogenous cortico-cancellous block or particulate bone grafts with simultaneous LeFort I osteotomy is accepted as the gold standard for reconstruction of severely atrophic maxilla.

Material and Method: 3-D CT reconstruction images were obtained for all cases. All patients underwent LeFort I down fracture and advancement. Interpositional cortico-cancellous bone grafts were harvested from the anterior ilium. All grafts were fixed with titanium plates and screws. After 6 months, patients received dental implants guided with surgical splints.

Discussion: The anterior ilium is mostly preferred donor site for maxillofacial reconstruction with non-vascularized free grafts. The ease of harvest, graft volume and excellent graft incorporation into host sites favors iliac corticocancellous grafting for maxillary reconstruction. Although overall treatment is achieved in two stages, the long term success of implants mandates the double-staged protocol.

Conclusion: Maxillary augmentation with interposition iliac bone grafting and LeFort I osteotomy provides acceptable bony reconstruction of the severely resorbed upper jaw.

Costochondral Graft Overgrowth Associated with Gustatory Sweating Syndrome (Report of a Case)

Ali Hossein MESGARZADEH

Oral & Maxillo Facial Surgery Department, Faculty of Dentistry, Tabriz University of Medical Sciences, Tabriz - IRAN

Gustatory sweating results from a disruption of the auriculotemporal nerve pathways. Damage to the nerve may cause a misdirected re-growth that results in parasymptothetic innervations of sympathetic receptors and therefore, facial sweating and flushing with gustatory stimulation. The reported case is a 20 years old young man that he had a history of 6 years ago TMJ ankylosis and costochondral graft transfer, after operation he involved a massive overgrowth of the costochondral graft and gustatory sweating syndrome (Auriculotemporal syndrome).

The author will present its preoperative-intra and post operative surgical procedures with short clips and power point slides.

Long Term Follow Up of Reconstructed Mandible Using the Split Rib Bundle Graft

Mohamed Hussein WARDA

Alexandria Faculty of Dentistry Alexandria EGYPT

The reconstruction of oromandibular defects following mandibular resection presents a big challenge to the reconstructive surgeon. Many methods have been used to reconstruct resected mandibles with and without soft tissue shortage. In our study we operated on 23 cases of mandibular tumours requiring mandibular resection and that do not present problems of soft tissue shortage. We used immediate reconstruction using the rib grafts after their splitting and fixation by reconstruction plates. We are going to present our technique, results and long term follow up to complete dental rehabilitation in some of them.
0P06
Role of Pectoralis Myocutaneous Major Flap in Maxillofacial Reconstruction
Reza TABRIZI
Tehran, IRAN

The pectoralis major musculocutaneous flap has been one of the most versatile flaps used in head and neck reconstruction. The pectoralis major myocutaneous flap remains a workhorse of reconstructive surgery. We used pectoralis major flap in immediate post-resection and delay reconstruction in maxillofacial area. Pectoralis myocutaneous flap is a good option in bulky soft-tissue defects of the neck and lower face, especially the oral cavity and oropharynx. We had good results in our patients without any complication due to congestion. Results showed pectoralis major myocutaneous flap is predictable in through and through defects, patients with history of radiation and oral cavity floor defects.

0P07
Simulation of Sinus Floor Augmentation with Symphysis Bone Graft Using Three-Dimensional Computerized Tomography
M. Cemil BÜYÜKKURT, Sinan TOZOĞLU, M. Selim YAVUZ, Ertuğrul DAYI
Atatürk University, Dentistry Faculty, Erzurum - TURKEY

Abstract Purpose: The objective of this study was to evaluate the maximum amount of harvestable bone graft in the mandibular symphysis and the augmentation volume needed for different sinus lift levels (from 10 mm to 18 mm), in addition to calculating which sinus lift level can be acquired using the individual's symphysis bone graft volume with 3D CT, and software.

Material and Methods: Data from 15 CT-scans was obtained from 15 adult patients (ten male/ five female) for the purposes of this study. The CT data, in DICOM format, was read into Mimics software from Materialize (Leuven, Belgium), with a slice thickness of 0.5 mm. The mandibular symphysis bone graft volumes and different levels of sinus lift augmentation volumes were calculated on the 3D images using Mimics software. Results: It was determined that the average symphysis bone volume (3491.08 ± 772.12 mm³) could provide about 14 mm of sinus lift height (3167.84 ± 1067.65).

Conclusion: 3D CT technique and software can be used to calculate the required graft volume for sinus floor augmentation and symphysis bone graft volume, and the mandibular symphysis region can provide adequate bone volume for sinus lift augmentation.

Key Words: sinus floor augmentation, symphysis bone graft, three dimensional computerized tomography

0P08
Comparison of Digital Radiography with Conventional Technique in Reconstruction of Bony Defects in Rats
Atefe IMANI, Toktam JALAYER, Bahram Saghai ESLAMI
Tehran - IRAN

Autogenous bone graft is commonly used for healing of bony defects. Human bone matrix gelatine (HBMG) is one of the most famous materials that is used as an alternative substitute for this purpose. (1, 2)

Objectives: This study was enrolled on parietal bone of rats in order to evaluate the effect of HBMG and autograft on reconstruction of bone defects. The comparison was based on radiographic evaluation by two methods and histopathologic appearances to clarify the mechanism of calcification during new bone formation induced by HBMG and autograft. Regardless of the surgical procedure, one of the aims of the present study was to evaluate the role of radiographic findings in determining the pattern of osteogenesis in parietal bone of rats and the ability to follow up the process.

Methods and Materials: This was an experimental study was conducted in 12 rats.
OP09
Rehabilitation of Bilateral Alveolar Cleft Patient with Block Bone Grafting and Double Mucosal Flap
Gühan DERCİN, Hasan GARİP, Gürler GÖKHAN
Marmara University Faculty of Dentistry, Department of Oral Maxillofacial Surgery, Istanbul - Turkey

In adequate grafting mostly fails as a resorption and collapsing of mucosa around alveolar cleft. Considering the resorption, sufficient bone grafting needs a careful closure and stabilization especially in bilateral clefts when premaxilla is mobile. Also preservation of attached gingival has advantages during healing. This case demonstrates how Adjacent gingival tissue and buccal mucosa can be used as a soft tissue sources for closure over bone graft recipient bed to secure bulky graft mass and how block bones can be used to stabilize the premaxilla.

Patient & Method: 35 year-old female patient presented to our hospital for orthodontic treatment who had a bilateral alveolar cleft and lost bone on both side of premaxilla which has mobile. Bone graft was harvested from the mandibular symphysis. The mobile premaxilla was fixed with symphyssial block bone grafts and screws. Free space between premaxilla and maxilla beneath the block bone grafts filled with particular spongyous bone graft. Clefts were closed with double mucosal flap.

Discussion: After surgery quality soft tissue healing was observed, haven't seen any bone exposure after operation although excessive bone grafting. 6 months observation, sufficient bone volume between maxilla and premaxilla was obtained for implant surgery.

Conclusion: correct secondary bone grafting and closure technique was very effective to overcome exposure complications for rehabilitation of the patient with bilateral alveolar cleft who lost the incisor teeth and bone of the premaxilla.

OP10
Evaluation of Hearing Level and Acoustic Impedance Following Le Fort I Osteotomy
Kağan DENIZ, Sina ÜÇKAN, Erdinç AYDIN, Burak BAYRAM
Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Correction of dentofacial deformities with Le Fort I osteotomy, is a common procedure. Pterygoid osteotomies are one of the steps of Le Fort I surgery and may lead to surgical disruption of pterygoid fossa and insertions of soft palate muscles especially m. tensor veli palatini and m. levator veli palatini. The purpose of this study is to understand the potential alteration of eustachian tube function, middle ear pressure and hearing level in individuals undergoing Le Fort I osteotomy. Pure tone audiometry and acoustic impedance measurements were done on eight patients preoperatively, 1 week and 4 weeks postoperatively. Results indicated that, hearing level and acoustic impedance did not change significantly after Le Fort I osteotomy.

OP11
Treatment Options for Skeletal Anterior Open Bite
Onur ATALI, Altan VAROL, Aysegül SİPAHLI, Serdar YILMAZ, Selçuk BASA
Marmara University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Istanbul - Turkey

An open bite is commonly one of the main symptoms of an overall dentofacial deformity. Most anterior open-bite cases are characterized by excessive vertical development of the posterior maxilla. Intru-
sion of the over erupted molar teeth by traditional orthodontic methods is hardly possible; there is therefore no real alternative to a combined orthodontic and surgical approach. Although multi-factorial, the etiology exerts its influence in tandem with craniofacial development.

Depending on the time of diagnosis and severity of the condition, treatment can vary from interceptive procedures, orthodontics only or a combination of orthodontic treatment and orthognathic surgery or distraction osteogenesis. Among the orthognathic procedures, one-piece Le Fort I osteotomy, maxillary anterior segmental osteotomy, bilateral sagittal split osteotomy and the multi-piece maxillary technique are mostly performed to close the open bite. Maxillary rotation achieved by intrusion of posterior maxillary quadrant using zygomatic anchorage is another alternative for major osteotomies. The therapeutic approach should be selected according to the severity of the open bite deformity and the patient dependent factors.

OP12

**Horizontal Reduction Genioplasty: Indications, Technique and Results**

Sıdika Şinem SOYDAN, Sina UÇKAN, Firdevs VEZOĞLU ŞENEL, Kenan ARAZ

Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Osseous genioplasty is a well known and frequently applied surgical technique and, can be performed alone or with orthognathic surgery. Osteotomised genial segment can be positioned in all planes. Although there are a lot of case reports or studies concerning vertical and sagittal lengthening or reduction of the chin, data about horizontal reduction genioplasty is missing. In this presentation horizontal reduction genioplasty technique, limitations and indications will be presented.

OP13

**Surgical Options in Dentofacial Deformities**

Serdar YILMAZ, Nedim ÖZER

Kocaeli University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Kocaeli - TURKEY

Dentofacial deformity has been described as a deformity that affects primarily the jaws and dentition, although the mid and lower faces are affected. In most cases, a complex interaction of environmental influences on growth, cellular and tissue responses to growth-promoting agents, and hereditary susceptibility is involved in the etiology. A major reason that patients seek treatment for dentofacial problems is to overcome social handicaps resulting from an abnormal facial appearance.

The deviations from normal proportions are likely to be both severe and complex, and a patient's reaction to his or her individual situation plays a major role in determining the severity of the associated problems. The goal of treatment planning should be put the patient's problems in priority order, examine the possibilities for correcting them and integrate the possibilities into treatment plan. There are several surgical options and also combinations of them. The surgeon should prefer the most suitable and conservative technique that has supplementary role to orthodontic treatment.

Orthognatic surgery can control all the dental and skeletal factors which will support the soft tissues of the face. Therefore, the postsurgical profile projection measurements should be within standard deviations. During the surgery every effort should be performed by the surgeon to achieve not to exceed this deviation. In this study, surgical techniques alone or in combination performed in our clinics in the treatment of dentofacial deformities are presented.
Correction of Facial-Skeletal Deformities by Using Anterior Segmental Mandibular Osteotomy

Alper PAMPU, Özkan ÖZKAYNAK, Birol ÖZEL, Mustafa ÇANKAYA, Nuray YILMAZ ALTINTAŞ, Ezher H. DAYISOYLU, Figen ÇIZMEÇİ ŞENEL
Karadeniz Technical University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Trabzon - TURKEY

Anterior maxillary osteotomies are generally used to treat dentofacial deformities existing maxillary protrusion and correction of anterior open-bite. Optimal aesthetic enhancement of the facial skeleton and a functional, healthy occlusion can be achieved. Despite the clinical success of this technique, postoperative complications are ischemic necrosis of the anterior segment, wound dehiscence at the osteotomized site and devitalization of the teeth adjacent to the osteotomized site. In the current study, 3 female patients with maxillary protrusion and gummy smile underwent maxillary anterior segmental osteotomy. Lateral cephalograms and lateral and frontal photographs were taken preoperatively and postoperatively. The malocclusion and skeletal discrepancy were managed with this surgical approach. Complications have not occurred during surgery or post-operatively following.

Discussion: In many study it has been shown that anterior segmental osteotomy can markedly reduce the treatment period and achieve immediate improvement of the facial profile. Anterior segmental osteotomy is recommended for bimaxillary dentoalveolar protrusion patients with a gummy smile, basal bone prognathism.

Conclusion: Anterior segmental osteotomy might be recommended in patients with bimaxillary and/or dentoalveolar protrusion. Because the technique is simple even can be achieved under sedation, postoperative complications are minimal.
OP16

Synovial Apoptosis in Temporomandibular Joints Disc Displacement without Reduction

Firdevs VEZİROĞLU SENEL,
Pervin IMRZAİLOĞLU, Sina UÇKAN,
Nurhan GÜLER, Ayşegül HABERAL

Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Our hypothesis is that increased apoptosis in synovium might contribute to temporomandibular joint (TMJ) degeneration. To investigate this, soluble Fas (sFas) and nuclear matrix protein (NMP) levels in TMJ synovial fluid was measured from patients with disc displacement without reduction as indicators of apoptosis in the synovium. Synovial fluid obtained by arthrocentesis from 17 joints in 17 patients (11 female, 6 male; mean age, 31.5 ± 11.9 years; range, 19 to 55). Synovial fluid was analyzed by enzyme-linked immunosorbent assays for APO-1/Fas and (NMP). We studied 12 left (71%) and 5 right (29%) joints with disc displacement without reduction. The chief complaint was pain on the affected side and limited mouth opening. Only 2 patients had a click in the affected joint, while 14 reported pain and 17 had the limited mouth opening. All patients experienced a significant (P<0.01) increase in maximal mouth opening immediately after arthrocentesis. Mean sFas and NMP levels were 484.9 ± 466.7 pg/mL (range, 17 to 1501) and 29.2 ± 13.7 U/mL (range, 8 to 52.8) respectively. In conclusion, low sFas and detectable NMP levels in synovial fluid suggests that apoptosis might contribute to TMJ degeneration in patients with ID.

We designed this study to evaluate the effect of small-dose intracapsular ketamine injection on post-operative pain and rehabilitation after TMJ arthroscopy. Patients were randomly assigned to receive 2cc intracapsular 0.5 mg/kg ketamine and 0.09 saline mixtures (Ketamine group) or an equal volume of saline only (Control group). Postoperative analgesia was provided by intra-venous tenoxicam 20 mg in case of necessity. Pain scores according to VAS (in the rest position and in the function) and the time for tenoxicam injections were recorded until 48h postoperatively. Long-term follow-up VAS scores were also recorded in the following 1-3 and 6 months post-operatively, if there is any therapeutic effect of ketamine in TMJ disorders.

The post-operative short-term follow-up VAS scores implied that the control group patients suffered from much pain especially in the function and so required more tenoxicam injection (Ketamine group mean value of tenoxicam injection= 2.2, Control group mean value = 3.7). Outcomes at first, third and sixth months were similar in each group. These results confirm that ketamine is a useful analgesic adjuvant in postoperative short-term with a positive impact on early function of mouth after TMJ arthroscopy.

OP18

Treatment of Microstomia with Commissuroplasties and Semi-Dynamic Acrylic Splints

Ramazan KÖYMEN, Aydin GÜLSES, Ümit KARACAYLI, Yavuz S. AYDINTUĞ

Ağız Diş Çene Hastalıkları ve Cerrahisi AD, GATA, Ankara - TURKEY

Microstomia is defined as an abnormal small oral orifice. Burns and injuries of perioral tissues, perioral surgeries and genetic disorders can lead to perioral scar formations and restrict mouth opening. Treatment of microstomia requires surgical or conservative approaches. The aim of this report is to assess the effects of surgical commissuroplasty techniques combined with the application of semi-dynamic mouth splints on four microstomia patients with dif-
ferent aetiologies. The combination of surgical and conservative techniques proves to be the best method of treating compromised perioral tissues in microstomia patients.

OP19

Why Open Rhinoplasty?

Masoud KARIM

Iran-Mehr Hospital, Tehran - IRAN

Open rhinoplasty is the most rewarding of all cosmetic operations, both for the patients and the surgeons. Also, Rhinoplasty is the most difficult of all cosmetic operations which include, nasal anatomy with highly variable, the procedure must correct form and function and the final highly visible result meet the patients high expectations. Each surgical technique has a standard distribution of application, results and problem. It is never an easy operation. In this study, four basic components of the external nose have been analyzed. Radix; dorsum, tip and base which are very significant. Also, we proposed the different between the open and closed methods of rhinoplasty surgery among of twenty patients in Iran. The result of our study showed that open method in pain, hematoma, hemorrhage and cosmetic of patients are better than closed rhinoplasty. Finally, rhinoplasty is truly worth the patients risk and the surgeon’s commitment.

OP20


Kyriaki C. MARTI, Christos A. SKOUTERIS

Athens, GREECE

Monopolar radiofrequency skin tightening has been used for facial rejuvenation in the head and neck area. Fractional photothermolysis has been shown to improve the appearance of photodamaged and dyschromic skin. The purpose of this paper is to present our experience with the combined use of these treatment modalities.

Patients and Methods: Monopolar radiofrequency skin tightening and fractional photothermolysis skin resurfacing was applied on 5 patients (4 women and 1 man). Our protocol consists of one radiofrequency treatment was followed by 4 fractional photothermolysis sessions spaced appropriately over time.. The patients were clinically evaluated with special emphasis on the assessment of skin laxity, wrinkles and face contour deficiencies, and patient expectations.

Results: None of our patients presented with any of the most common immediate and expected clinical effects like erythema and edema lasting more than 24 hours. Skin tone and quality, as well as facial contour were markedly improved. Skin dyschromic lesions and fine wrinkles were largely attenuated.

Conclusions: Our data although preliminary, indicate that monopolar radiofrequency combined with fractional photothermolysis for facial rejuvenation is a very safe and effective procedure. It is simple, reproducible, well tolerated by the patients and does not require local anaesthesia or sedation. Side effects are infrequent, self-limiting, and minor, comparing favorably with other ablative devices utilized for facial rejuvenation. This method is advantageous because of patient comfort, non-invasiveness, and no downtime. Relatively disadvantages are the high cost of the equipment and the special training required.
Reconstruction of the Mandibular Condyle by Transport Distraction Osteogenesis: Early Clinical Results

Celal ÇANDIRLI
Dental Park Ağız ve Diş Sağlığı Merkezi, Kayseri - TURKEY

Transport distraction osteogenesis is a unique treatment modality for reconstruction of the condyle. This treatment technique provides creation of vertical ramus dimension by original bone. Thus, facial asymmetry that results from deficiency of the ramus height can be solved by transport distraction osteogenesis. In this study we report a patient who has severe ramus defect that caused by a failed ankylos surgery. His complaints were facial asymmetry and limited mouth opening. We recontoured glenoid fossa with interposition with temporoparietal muscle fascial flap and performed transport distraction osteogenesis of the ramus.

The experimental study was performed using 18 male, 20 week-old New Zealand white rabbits. Left corpus mandibles of the rabbits were exposed through a submandibular approach. An osteotomy was carried out perpendicular to the inferior border of the mandible. A custom-made external distraction device was fixed and surgical exposure was primarily closed. In the experimental group 100 &g/kg osteoformin in 100&l/kg phosphate buffered saline (PBS) was injected to distraction area at day 1 and day 7 after surgery. When the experimental group and control group were compared in terms of BMD and BMC values respectively, an increase of %64 in BMD and %67 in BMC were observed.

These positive results concerning the experimental group were statistically significant. When the experimental group and control group were compared in terms of newly formed bone area, number of vessels and number of osteoblasts; all these parameters were significantly greater in experimental group. We are in opinion that the time of osteoformin injection is very important for the mineralisation and quality of newly formed bone.

The Effects of Osteoformin on Newly Formed Bone in Mandibular Distraction Osteogenesis in Rabbits

Mustafa CANKAYA, A. Alper PAMPU, Özkan ÖZKAYNAK, Figen ÇİZMEÇ ŞENEL, Doğan DOLANMAZ, Şafak ERSÖZ, Mustafa C. AVUNDUK

Karadeniz Technical University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Trabzon - TURKEY

Distraction osteogenesis (DO), used as an efficient technique in lengthening extremities, is now being used in the treatment of crania-maxillofacial defects and anomalies successfully. Osteoformin is one of the negatively charged resins and it is a polymer polyaspartate.

Investigation the Effect of Chemical Gases in Creation Cleft Lip and Palate in the Children of Chemically Injured of Ispahan (Iran)

Hamid Reza AZIMI, Ramin MIRY
Maxillofacial Department - Shahed Dental Faculty-Tehran-IRAN

Statement of Problem and Aim: Use of chemical gases in Iran and Iraq war created many problems that one of them is creation of cleft lip and palate in children of chemically injured soldiers that was borne after father's injury. The aim of this research is sur-
very any colleration between father's injury and children's cleft lip and palate.

Method and Material: 1140 chemically injured and 680 nonchemical injured soldiers entered in this research. Number of children of chemically injured soldiers was 1449 and nonchemical group's children were 731 person. Information was collected in about 8 mounts thru interview and questionnaire. Data were analyzed with Fischer test.

Finding: From 1449 children 48 one's (33 boys and 15 girls) had cleft lip and palate and from 731 children (nonchemical group) one child had the same anomaly. With p=00051 incidence was 34 in 1000 person that means a correlation between fathers injury and child's anomaly

Conclusion: It seems that chemical gases (mustard) is effective in creation cleft lip and palate in children of chemically injured soldiers. Clefts were seen in males and females but were more in males.

Key words: Chemical gases, cleft lip and palate, self sacrifice

OP24
Use of C.T versus U.S in Evaluation of Mandibular Distraction Wound
Heba SLEEM, Ibraheem EL-HAKEM, Nadia EL-BAEGOTHY and Yasser
Cairo, EGYPT

Abstract Purpose: Distraction Osteogenesis becomes one of the most important reconstruction armamentariums in management of mandibular deformities and deficiency disorders. The duration of consolidation period still one of the debatable issues among the clinical subjects. Evaluation of newly formed bone regarding quality and quantity is the corner stone to terminate the consolidation period safely. Various methods have been used to evaluate distraction callus including plain radiographs, computerized tomography and ultrasound. The purpose of this study is to correlate the computerized radiographic anatomy of distracted callus with ultrasound images and postulate the benefit of each.

Materials and methods: four adult patients (3 females and 1 male) underwent mandibular distraction (2 intracoral appliances and 2 extra-oral appliances). The protocol consisted of five days of latency period and distraction at rate of 2mm/day. All patients were evaluated during activation, three months, six months and one year post distraction. Evaluation includes clinical examination, plain radiographs, computerized tomographic and ultrasound examinations.

Results and conclusion: Clinical monitoring of mandibular distraction wound can be successfully achieved though frequent use of US examinations. Although US provides surgeon with easy, cheap and noninvasive examination tool the use of computerized tomography is essential to be sure for the quality of distracted bone before removal of fixation.

OP25
Growth of the Mandible Following Unilateral Mandibular Distraction Osteogenesis
Ayşe Tuba ALTUĞ-ATAÇ, Reha KİŞNİŞÇİ, Haluk İŞERİ
Ankara University, Dentistry Faculty, Department of Orthodonti, Ankara - TURKEY

Abstract Purpose: Distraction osteogenesis (DO) has become an accepted method of treatment for patients requiring mandibular lengthening due to congenital malformations. However, the skeletal growth pattern of a distracted mandible on long-term basis has still not been clearly shown in the literature. The purpose of this presentation is to put forth growth pattern of hemifacial microsomia for consideration by analyzing the dentofacial changes observed during a 10-year follow-up period, in a case treated by mandibular distraction osteogenesis.

Subject And Method: Twelve years old girl with Pruzansky-Kaban Type IIB right hemifacial microsomia, who had undergone DO with an external de-
vice. The analysis of the morphological changes during the observation period was based on panoramic radiographs, posteroanterior and lateral cephalograms.

Results: Marked amount of lengthening and a significant improvement in mandibular symmetry were achieved during the active phase of mandibular distraction. The ratio between the ramus heights of the affected side and the normal side improved significantly in the affected side's favor as the mandible was lengthened, but this ratio turned back to its initial value at the end of 10 years observation period.

Conclusion: Although there was some amount of growth at the affected side during the follow-up period, this was not enough to catch up with the growth of the condyle at the normal side. Therefore, the asymmetry reoccurred as a consequence of growth pattern in the growing hemifacial microsomia case of this report.

OP26

Evaluation of the Effects of Guided Bone Regeneration and Periosteum on the Newly Formed Bone in Distraction Gap

Alper ALKAN, Erdem KILIÇ, Umut DEMETOĞLU
Erzincan University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Kayseri - TURKEY

Purpose: The aim of this study was to determine the causes of bone resorption within distraction gap and to find out whether it can be prevented via guided bone regeneration during distraction. Furthermore, to determine the effect of periosteum to the bone healing in distraction gap is one of the goals of the study.

Materials and Methods: 12 sheep mandibulas were bilaterally distracted. One side of 6 sheep mandibulas were control group, the other sides were the study group which periost was excised and distraction performed. One side of the other 6 sheep mandibulas were the group which the guided bone regeneration applied with the distraction and the other sides were the study group which both guided bone regeneration applied and periost excised with the distraction. At the end of the one weak latent period, all subjects were distracted 10 millimeters (1 mm per day) and were waited 3 months for consolidation. At the end of this period all animals were scarified and histological and densitometric evaluations of the newly formed bone within the distraction gap were performed.

Results: The bone surface area of the regenerate in the membrane groups was significantly higher than groups without membrane. However, no additional effect of the periosteum on the bone surface area was observed. There was no significant difference between densitometric values of all groups.

Conclusions: Concomitant use of guided bone regeneration with distraction osteogenesis may be thought as an optimal resolution to gather a flat bone surface within the distraction gap.

OP27

Is Shortening of The Jaws Possible with Contraction Osteogenesis?

Alper ALKAN, Erdem KILIÇ, Hakan OCAK
Erciyes University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Kayseri - TURKEY

Distraction techniques constitute a new approach for treating conditions that require mandibular elongation or maxillary and midface advancement. However, treatment of the patients with craniofacial deformities such as hypertelorism, maxillary hyperplasia, or mandibular prognathism has been performed with traditional surgical methods, with considerable morbidity. As of yet, these patients cannot benefit from minimally invasive methods such as distraction. So, doctors must offer a solution, in the reverse form, to these patients to shorten or reduce the enlarged structures with minimal morbidity.

Contraction osteogenesis which is a new conception may be the right solution. The aim of the pres-
ent study is to investigate the shortening of sheep mandibles with contraction. Distraction devices which were activated 10 mm previously were fixed to mandible of all animals bilaterally and used in reverse as a contraction device. In the study group distractor will be activated for 10 days to the closing direction by 0.5 mm per day. At the first month and third month totally nine animals were sacrificed after the contraction period completed. Bone at the contraction area was evaluated radiodensitometrically and microscopically at both sacrifice time and present shortening was measured. Consequently, mandibles were shortened on an average 5.5 mm. This study has indicated that it is possible to shorten the bones with contraction osteogenesis. However it is need to be improving the technique and make further experimental studies for performing this procedure to humans.

OP28
Maxillary Anterior and Inferior Lengthening by Distraction Osteogenesis: Stability? – Case Report

Gökrem MÜFTÜOĞLU, Sina UCKAN, Firdevs V. ŞENEL, Metin KIZILKAYA, Zahiye ŞAHİNOĞLU
Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Simultaneous advancement and inferior positioning of maxilla by Le Fort; osteotomy, is usually unstable and has post-surgical relapse risk in severe maxillary hypoplasia patients. Distraction osteogenesis is one of the treatment options of these kinds of deformities. In the presented case, following Le Fort #921; osteotomy, bilateral unidirectional internal distractors was adapted to the patient with skeletal class 3 malocclusion and severe anterior open-bite, and maxilla was positioned inferiorly and inferiorly. In these case report, correction of maxillary vertical and sagittal deficiency by Le Fort #921; level osteotomy and distraction osteogenesis, and management of inadequate stability will be presented.

OP29
Rhinoplasty in Cleft Lip-Nose Deformity. Challenges in Management

Ahmed M. MEDRA
Alexandria, EGYPT

The cleft lip nasal deformity presents a formidable challenge in rhinoplasty surgery. Three main factors contribute to this: congenital anatomic deficiency/aberrancy, surgical scarring from previous reconstructive attempts and changes related to growth. A wide variety of techniques have been proposed for correction of this problem. The number of methods described in the literature serves as testament to the intrinsically difficult nature of this deformity. All of these techniques attempt to address some aspect of the problem. However, complete correction of all nasal deficiencies remains an elusive goal for many plastic surgeons.

Nasal deformity depends on all or some of the following factors: 1. Type of cleft; unilateral or bilateral. 2. Extent of the cleft; primary and/or secondary palate involvement. 3. Number and timing of previous surgeries. 4. Experience of the surgeon. Rhinoplasty in cleft lip and palate may be primary, intermediate or delayed (Secondary). Primary rhinoplasty at the time of primary lip repair (at the age of three months) can help improve the cleft lip nasal deformity by achieving better symmetry and improved over-all long-term appearance of the nose. All efforts are made to minimize nasal tissue trauma and scarring, which may, unfavorably affect subsequent growth. Intermediate rhinoplasty, at the age of 4-6 years, to minimize social pressures from other school children.
Comparison of Stability of Standard and Locking Plate Screw Systems by Using 3D-FEA

Yusuf TAMER, Yener OĞUZ, Sina UÇKAN, Kenan ARAZ

Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Sagittal split ramus osteotomy (SSRO) is a surgical procedure used for correction of congenital and acquired deformities of the lower jaw. Miniplates and screws have been used for the fixation of osteotomies since 1980's. Locking plates/screws were produced and used for reconstructive and trauma patients to overcome the well-known disadvantages of standard miniplates and to increase stability. The aim of this study was to compare the stability of 2.0mm locking screws/plates versus 2.0mm standard miniplates/screws after SSRO by finite element analysis (FEA). SSRO and 5 mm advancement were performed on a computer model and maximum bite forces of 200N were applied. As a result there was no significant difference between the standard plate/screw and locking plate/screw systems when the forces transmitted to the bone was considered.

Immediate Loading of Dental Implants Guided by Resonance Frequency Analysis (Case Series)

Tayfun GÜNBAİY, Erdem KAYA, M. Erhan ÇÖMLEKOĞLU

Ege University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, İzmir - TURKEY

Recent studies on dental implants have focused on the immediate and early loading protocols. Histological studies revealed insignificant results in osseointegration of immediately and conventionally loaded dental implants. The present studies demonstrated that osteoblastic activity increased in immediately loaded implants due to mechanical stimulation. In our study, clinical and radiological evaluation of immediately and conventionally loaded dental implants with two different surface characteristics (SLA, SLA Active, Straumann, Switzerland) were performed. All implants were placed with 56 Ncm torque and their primary stabilities were determined by Resonance Frequency Analysis (Ostell Mentor,ISQ). The implants having at least 55-65 ISQ at surgery stage were immediately loaded while implants having ISQ less than these values were conventionally loaded. It was concluded that immediate loading protocol could be safely performed in both maxilla and the mandible in presence of primary stability with rigid splinted suprastructures.
OP32

Early Soft and Hard Tissue Remodeling Around Two Different Dental Implant Systems

Deniz Nergiz ERGIN, S. Bayazıt BAĞCI, Emine E. ALAADDINOĞLU

Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

The aim of this study was to evaluate soft tissue and alveolar bone healing around two implant systems with different macro and micro design and surface modifications.

18 patients (9 male, 9 female) were randomly assigned to receive one of the two dental implants: M.I.S. Seven (MIS, N=17) or Astra Tech Osseospeed (AT, N=16). Implants were placed with the submerged protocol. The second stage surgery was performed 3 months later. During the first(1) and second stage surgery(2); width of the alveolar crest, buccal bone width at the margin of the implant(BBW), vertical position of the alveolar ridge in relation to the implant(VP), thickness (KGT) and width of keratinized gingival (KGW). Differences between the baseline and 3 month parameters of two implant systems were calculated using Wilcoxon sign test.

There was no significant difference between groups at baseline clinical parameters. Parameters were decreased from baseline to 3 months in both groups, but this was statistically insignificant (p>0.05). According to the baseline and 3 months data, buccal bone width (-0.45 ± 0.75) and width of keratinized gingival (-1 ± 1.58) was significantly decreased in MIS group (p<0.05).

In the limits of this study, it can be concluded that different designs and surface modifications of the implant systems influence hard and soft tissue remodeling at the early healing period.

OP33

Marginal Bone Resorption Around Dental Implants in Grafted Sinuses: An up-to-30 Months Clinical and Radiologic Follow-up

Anıl GÜVEN, Hakan KURT, Onur İÇTEN, Cem ÜNGÖR

Ankara University, Faculty of Dentistry, Ankara - TURKEY

The bone support for implants in the posterior part of the maxilla is often poor. This condition may be treated with augmentation of the maxillary sinus floor. The most common technique used is to elevate the sinus floor by inserting a bone graft through a window opened in the lateral antral wall. The objective of this study was to evaluate marginal bone loss around the implants which inserted into two different types of demineralized bone matrix. Sinus bone grafting and implant placement were performed on 12 patients. 48 dental implants inserted into grafted sides and evaluated with clinical and radiologic examinations.

OP34

Dental Implants - Their Extra Oral Uses

Abdul RAZZAQ MALIK

Margalla Dental College Institute of Dental Implants, Rawalpindi - PAKISTAN

The awareness of dental implants is increasing day by day in dental professionals and general public as well. Dental implants are being used mainly for the reconstruction of dental and intraoral structures. However, missing facial and other extra oral body organs are equally important from aesthetic, psychological and functional point of view for the patient. Restoration of these defects is a challenge for the head and neck surgeon, plastic surgeon and prosthodontist. Furthermore the choice between surgical reconstruction and prosthetic restoration is a difficult and complex decision. Rehabilitation of these defects especially in the institutes, where hi-tech facilities are not available, within the available...
resources, routine dental implants can be used for anchoring the extra oral prosthesis. Two case reports are being presented in one of which both ears and in the other thumb of right hand was rehabilitated.

OP35

Is Implant Insertion to Posterior Mandible with Infiltration Anesthesia Safer Than Inferior Alveolar Nerve Block?

Ersin ERSÖZ, Sıdıka SİNEM SOYDAN, Hakan AKMAN, Sina UÇKAN

Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Implant insertion to posterior mandibular region is performed routinely with alveolaris inferior nerve blockage. Although not evidence based, infiltration anesthesia is preferred by some clinicians who believe that during drilling patients will feel pain if drills come closer to the mandibular canal. Purpose of this study is to compare the efficiency and safety of infiltration anesthesia with alveolaris inferior nerve block. 45 implants were inserted to 32 patients. Infiltration anesthesia or nervous alveolaris inferior nerve block were randomly applied for sensitive nerve blockage. Injection pain, implant insertion pain and anesthesia efficiency of groups were evaluated by VAS.

There was no statistical significant difference between the groups (P>0.05). Implant insertion to posterior mandible is possible by infiltration anesthesia, however patients do not feel pain and warn surgeon when drills come closer to the mandibular canal. The present report suggests that although infiltration anesthesia was efficient for implant insertion to posterior mandible, it is not safer than inferior alveolar nerve blockage when nerve damage is considered.

OP36

Nobel Guide Circle: A New Concept in Implant-Prosthetic Rehabilitations

Davide FORNENGO, Bruno FORNENGO, Renzo RONCO

Alpignano, Torino - ITALY

Implant-supported rehabilitation in the partially or totally edentulous patients presents a series of challenges because of the possibility of different amount of bone resorption. In cases where significant maxillaries bone resorption has occurred and regeneration is contraindicated, efforts center on maximizing the use of the remaining bone to afford primary stability to the implants. It is possible to use computer technology and medical imaging to virtually place implants and to construct a precise surgical template and prosthesis (before the surgical procedure), which is connected at the time of implant placement.

This procedure drastically reduces patient office time, surgical treatment time, and the degree of post-treatment recovery. This is a significant advancement in implant dentistry and promotes interdisciplinary approaches to patient treatment. In the field of dental technicians work this procedure makes the restoration more simple. In fact starting from wax-up all the variables are controlled because the surgical index is a real copy of the provisional and final restoration. So the patient can see before the results of the treatment, the technician can ask an implant insertion good for his necessity during the making of the rehabilitation, and the doctor knows where to place fixtures to make possible the planning of wax-up. All this procedure gives a reduction of challenges, costs, time of work, and the best satisfaction for all the technical-surgical-prosthetic equip, including patient.
Maxillofacial Abscess of Odontogenic Origin

Sinan TOZOĞLU, Ümit ERTAŞ, M. Cemil BÜYÜKKURT, Hakan USLU, Ömer KAYA
Ataturk University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery, Erzurum - TURKEY

Objectives: This study aimed to determine the socioeconomic factors, etiology, location, microbiology and management of maxillofacial infections of odontogenic origin.

Materials and Methods: The records of 91 elderly patients who were diagnosed as maxillofacial abscesses were reviewed. Spilka's system was used to categorize each maxillofacial infection. Kuppuswamy revised classification was used to assess the socioeconomic status and literacy of all patients.

Results: There were 91 patients with ages ranging from 16 to 71 years. Most of the patients (86.8%) were of low socioeconomic status and 75.8% illiterate or primary school certificate. 80% of the patients live in rural area. Submandibular space was the most frequently encountered location. 75.8% of the patients had poor oral hygiene. Smoking was the most common addiction. Pain, fever, and dysphagia were the most common presenting symptoms.

Conclusions: Low socioeconomic status, poor oral hygiene and smoking may play an important role in the occurrence of maxillofacial infections. Early diagnosis and treatment are critical in the management of patients with maxillofacial abscesses.

Case Studies: Illustrating the Management of Trigeminal Neuropathic Pain Using Topical 5% Lidocaine Patches

Zehra YILMAZ, Nadine KHAWAJA, Tara RENTON
King's College London Dental Institute, London - UNITED KINGDOM

Introduction: Chronic trigeminal pain is particularly difficult to treat and is often empirically based on medications used for other chronic pain conditions. The sodium channel and calcium channel blocking agents cause a plethora of complications and are often poorly tolerated by the patient.

Objectives: To assess whether 5% Lidocaine patches reduce pain and subsequently the use of systemic medication in patients with chronic orofacial neuropathic pain.

Methods: Over the last year, fourteen patients referred for specialist opinion to the Oral Surgery department were identified as having sustained chronic orofacial pain conditions requiring long-term medication. Data was collected on patient demographics, pain levels using the visual analogue scale (VAS) scoring system (where 0= no pain and 10=worst pain imaginable) and medication.

Results: All patients suffered from chronic neuropathic trigeminal pain and reported associated functional problems. 10 patients suffered from post-surgical neuropathy affecting the inferior alveolar dermatome. One patient suffered MS-related V3 pain, and 3 patients presented with V2 pain caused by persistent idiopathic facial pain. Ramsay Hunt syndrome (PHN) or trigeminal neuralgia. Many patients reported reduced pain from 9.8 [range 7-15] to 4.7 [3.5-10] on using the patches. One patient ceased using the patches due to a persistent red rash. Eleven patients would recommend this treatment to other patients with similar problems and even stopped taking systemic medications (amitriptyline, gabapentin and cartamazepine) for their pain.
Conclusion: This cohort of patients demonstrates that topical Lidocaine 5% patches may be a novel tool that dental practitioners may use for managing patients with chronic trigeminal neuropathic pain.

OP39
Prevalence, Clinical Picture, and Risk Factors of Dry Socket in a Jordanian Dental Teaching Center
Mohammad ABU YUNIS, Yanal M. NUSAIR
Oral & Maxillofacial Surgery Faculty of Dentistry, Al-Quds University, Jerusalem - PALESTINE

Aims: The aims of this study were to determine the prevalence, clinical picture, and risk factors of dry socket at the Dental Teaching Centre of Jordan University of Science and Technology (DTC/JUST).

Methods and Materials: Two specially designed questionnaires were completed over a four-month period. One questionnaire was completed for every patient who had one or more permanent teeth extracted in the Oral Surgery Clinic. The other questionnaire was completed for every patient who returned for a post-operative visit and was diagnosed with dry socket during the study period.

Results: There were 838 dental extractions carried out in 469 patients. The overall prevalence of dry socket was 4.8%. There was no statistically significant association between the development of dry socket and age, sex, medical history, medications taken by the patient, indications for the extraction, extraction site, operator experience, or the amount of local anesthesia and administration technique used. The prevalence of dry socket following nonsurgical extractions was 3.2%, while the prevalence following surgical extractions was 20.1% (P<0.002). The prevalence of dry socket following surgical and non-surgical extractions was significantly higher in smokers (9.1%) than in non-smokers (3%) (P = 0.001), and a direct linear trend was observed between the amount of smoking and the prevalence of dry socket (P = 0.034). The prevalence of dry socket was significantly higher in the single extraction cases (7.3%) than in the multiple extraction cases (3.4%) (P = 0.018) The clinical picture and management of dry socket at DTC/JUST were similar to previous reports in the literature. The prevalence of dry socket, its clinical picture, and management at

OP40
Platelet Rich Plasma in the Treatment of Multiple Adjacent Gingival Recession Defects
Seda ÜNAL, Emine E ALAADDİNOĞLU, Ayşeşü HABERAL
Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Platelet-rich plasma (PRP) accelerates and enhances natural wound-healing mechanisms. Thus, PRP can be a great adjunct to many periodontal and oral surgical procedures.

The aim of this study was to evaluate the clinical effectiveness of coronally advanced flap (CAF) and PRP combination technique in the treatment of multiple adjacent gingival recession defects.

Seventeen patients with bilateral Miller Class I/II gingival recessions participated in this study. Probing depth (PD), clinical attachment level (CAL), gingival recession (REC), width of keratinized gingiva (KGW) were recorded at baseline and 6 months. Wound healing at postoperative 14th day was also evaluated.

Six months after surgery, probing depth, recession depth and clinical attachment levels improved for both study groups compared to the baseline. The increase in keratinized tissue width was statistically significant in the PRP+CAF. Mean root coverage was 65.86%±35.35 in the CAF group and 74.85%±34.65 in the PRP+CAF group. Although being clinically better for the PRP+CAF group, the results were statistically insignificant. Wound healing was better and complication occurrences were less than CAF group on 14th day (p<0.05).

Based on the results of this randomized controlled study, PRP may provide additional clinical benefits and accelerate wound healing compared to CAF alone in the treatment of Miller Class I recessions.
OP41

Malpractice in the Oral and Maxillofacial Surgery: A Clinical Evaluation of the 44 Malpractice Cases.

Serhat ATILGAN, Behcet EROL, Ferhan YAMAN, Nezih YILMAZ

Dicle University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Diyarbakir - TURKEY

The description of medical malpractice is that any act or failure to act by a health care professional diminishing or deviating the accepted standards of services and practices of the medical community is termed as medical malpractice. These actions can cause injury to the patient. Medical malpractice can also be termed as professional negligence on part of the health care professional. Clinical and surgical procedures of the oral and maxillofacial surgery (OMFS) are also carried out by the different specialist in Turkey. Therefore, we believe in that malpractices involving OMFS become more actual.

By taking this view as a starting point, in this study malpractice cases were analyzed in the terms of age and sex and also malpractice classification, malpractice reasons and oro-facial sequels that caused by the malpractice are aimed to investigate.

garding jaw function, but also in relation to dental, facial, and even overall body image (Kiyak et al., 1990). Thus, these injuries have a significant negative effect on the patient’s quality of life and the iatrogenesis of these injuries compounds the psychological effects (Abarca et al., 2006).

We prospectively assessed the incidence and characteristics of neuropathic pain in 91 patients with lingual nerve (LN) injuries and 80 patients with inferior alveolar nerve (IAN) injuries presenting at the Oral Surgery Department KCL. Assessment included psychometrics, functionality, pain history, quantitative neurosensory testing, pain scores at rest and after specific stimulants and mechanosensory testing. The neuropathic area varied from 5-100% of the affected dermatome, 94% of the patients presented with neuropathic pain, neuropathy was demonstrable in all patients with varying degrees of loss of mechanosensory function, paresthesia, allodynia and hyperalgesia. Cold allodynia and gingival hyperalgesia was a common feature in IAN injuries.

Contrary to popular belief, neuropathic pain is a common presenting factor in patients with post-traumatic trigeminal nerve injury. This finding may in part explain the functional difficulties and associated distress caused by these iatrogenic injuries.

OP42

Neuropathic Pain in Post-Surgical Neuropathy of the Trigeminal Nerve

Zehra YILMAZ, Nadine KHAWAJA, Tara RENTON

King’s College London Dental Institute, London - UNITED KINGDOM

Iatrogenic trigeminal nerve injuries remain a common and complex clinical problem. Altered sensation and pain in the orofacial region may interfere with speaking, eating, kissing, shaving, applying make-up and drinking, in fact just about every social interaction we take for granted (Ziccardi, 2000). Usually after oral rehabilitation, the patient expects and experiences significant improvements, not only re-

OP43

Comparison of Depth of Anesthesia in Different Parts of Maxilla When Only Buccal Anesthesia Was Done for Maxillary Teeth Extraction

Kubilay IŞIK

Baskent University, Faculty of Dentistry, Uygulama ve Araştırma Merkezi, Konya - TURKEY

Palatal anesthesia (PA) is routinely administered for extracting maxillary teeth. Since it is a very painful injection, some techniques have been offered to reduce the patient’s discomfort but they are not universally effective. Recently, some authors reported that maxillary teeth could be extracted without using PA. Apparently, buccally given local anesthetic solution infiltrates the porous maxilla and
achieves a sufficient anesthesia in the palatal side. Although causes of extractions were listed in those reports, extracted teeth were not clearly specified. Thus, it can be claimed that if the solution should diffuse from vestibulum to palatal side, thickness of the bone gains importance and depth of anesthesia may not be sufficient for some teeth located within thicker alveolar bone. The aim of this study was to compare the depth of anesthesia in different parts of the maxilla when only buccal anesthesia was done.

**OP44**

**Prevention of Alveolar Osteitis by Antibacterial Mouthwash (A Case and Control Study)**

Ali Hossein MESGARZADEH, Sanaz HELLI  
Oral & Maxillo Facial Surgery Department, Faculty of Dentistry, Tabriz University of Medical Sciences, Tabriz - IRAN

Tooth extraction is the most common surgical procedure in the majority of societies and it may have been associated with many complications alveolar osteitis is one of the painful and serious postoperative complication.

**Purpose:** The aim of this study was evaluation of antibacterial mouth wash on reducing of dry socket prevalence.

**Material and Methods:** The study was conducted on 274 patients with 300 teeth sockets of extracted teeth. Patients randomized selected from those referred to Tabriz oral and maxillo facial clinic. Before extraction the patients in study group rinsed their mouth with an antibacterial mouth wash and the operator rinsed site of the extraction by a gauze soaked with respective mouth wash on 3rd and 7th days we called them and filled the questionnaire form based on symptoms of dry socket. The dry socket involved patients invited and examined by the same oral and maxillo facial surgeon. The data collected from both groups and statistically analyzed by SPSS software.

**Results:** %2.5 from study group and %10.5 from control group had dry socket. There was a significant difference between two groups. There was a significant difference between study and control group on smokers (p=0.009). Patients with poor oral hygiene showed more dry socket involvement than good oral hygienic group.

**Conclusion:** Antibacterial mouth wash can reduce dry socket prevalence. Bacterial accumulation and their virulence may have a major cause of the dry socket.

**OP45**

**Effect of the Proteolytic Enzyme Serrapeptase on Swelling, Pain and Trismus after Surgical Extraction of Mandibular Third Molars**

Taiseer AL-KHATEEB, Yanal NUSAIR  
Faculty of Dentistry, Jordan University of Science and Technology, Irbid, JORDAN

The aim of this study was to investigate the ability of serrapeptase to reduce postoperative swelling, pain and trismus after third molar surgery. Twenty-four healthy individuals with symmetrically impacted mandibular third molars underwent surgical removal in a prospective, intra-individual, randomized, doubleblind, cross-over study. Teeth were removed in 2 sessions by the same surgeon. At each session, one third molar was removed under local anaesthesia via a buccal osteotomy. All patients received a combination of either serrapeptase 5 mg or placebo tablets and 1000 mg paracetamol tablets at either the 1st or 2nd operation in accordance with the randomization plan. Cheek thickness, pain and interincisal distance were measured preoperatively, and on the 1st, 2nd, 3rd and 7th postoperative days. Cheek thickness and maximum interincisal distance were measured using calipers. Pain intensity was assessed clinically using a numeric scale. There was a significant reduction in the extent of cheek swelling and pain intensity in the serrapeptase group at the 2nd, 3rd and 7th postoperative days (P < 0.05), but no significant difference in mean maximal interincisal distance was found between the 2 groups (P > 0.05)
OP46
A New Suturing Technique Used for Securing Three Sided Mucoperiosteal Flaps
A. ABDUL-MUHSEN, Bashar TAWFEEQ, Younis RAWAA

Oral and Maxillofacial Unit- Alsalam Hospital, Mosul, IRAQ

Introduction: The art of dental suturing allows for the precise positioning of the mucoperiosteal flaps to promote optimal healing. Surgical sutures should hold flap edges in position until the wound has healed enough to withstand normal functional stresses.

Materials and Methods: study was conducted on 284 patients (18-45 years old), from March 2004 till March 2008. All had underwent an oral surgical operations in upper jaw under local anaesthesia (without palatal involvement) involving three sided labial and/or buccal mucoperiosteal flap (three to four papillae in each flap), all have a standing sound tooth uninvolved with the flap on each side. A clinical examination made preoperatively and at the 2nd, 7th, 14th and 21st postoperative days. The edges of the flap were evaluated. The exclusion criteria consist of poor oral hygiene, and those with spaced teeth in the flap site. This technique involves one papilla on each side of the flap and the suture thread loop around the tooth distal to the flap and finally secured with the other end without any additional gingival tissue involvement. (No involvement of the labial or palatal papillae). The remaining midway papillae not involved with any stitch.

Results: clinical evaluation at 2nd days revealed pain and swelling is minimal with less inflammatory reaction. All cases being free of stitch abscess or infection at 7th days follow up where suture removed.

Discussion: The new suturing technique prove that healing process of mucoperiosteal flaps is clinically accepted and satisfy the conventional criteria of normal healing process.

OP47
Complications of Rhinoplasty
Dr. Reza Khorshidi KHIAVI

Medical Science of University, OMFS Dept., Tabriz, IRAN

Complications of rhinoplasty are not uncommon and most of them lead to secondary operations which are more technically difficult and complicated.

Prevention of any complication is easier than its treatment.

Majority of complications arise from poor preoperative assessment, lack of experience and the patients’ unrealized expectations.

In this lecture some of the most complications and their treatments are reviewed.
OP48

Triple Assessment of Palpable Parotid Lesions

Gülcen GÖK, A.B. MOODY, David C. HOWLETT,

EDGH, Brighton, UK

One stop and triple assessment (comprising clinical examination, imaging and histology) breast clinics are well established. According to the UK guidelines 2004: Improving outcomes in head and neck cancers recommended development of one stop clinics for patients with palpable neck lumps with an emphasis on a clinically-guided fine-needle aspiration cytology (FNAC) led service. This document only briefly alludes to the use of ultrasound and ultrasound-guided core biopsy (USCB). We would propose a triple assessment model for diagnosing parotid swellings. Ultrasound is the initial imaging technique and is able to accurately characterize and demarcate parotid masses. It will act as a guide for the need for biopsy. FNAC and USCB are safe with few complications. USCB, unlike FNAC, does not provide immediate results but does permit grading and typing of carcinomas and improved diagnosis of lymphoid proliferation. This potentially reduces the number of patients requiring surgical biopsy. The complimentary roles of clinical, imaging and histological assessment are illustrated by case studies. Conclusion: Triple assessment of palpable parotid lesions is recommended, with correlation of clinical, sonographic and histological findings. FNAC and USCB can both confirm diagnosis in skilled hands, although USCB does have potential advantages.

OP49

Melanotic Neuroectodermal Tumor in Infants: Two Cases Report

Behçet EROL, Ferhan YAMAN, Serhat ATILGAN, Nezih YILMAZ, Cevat CAN

Dicle Üniv. Dişhef Fak Diyarbakır - TURKEY

Melanotic neuroectodermal tumor of infancy is rare, distinctive neoplasm of crest origin, which contains melanin primarily, affects maxilla of infants during the first year of life. The tumor presents clinically as a rapidly growing, painless, expansile, partly pigmented mass. This tumor has very different names in the literature. It is also known about this tumor’s origin is retinal, odontogenic or neuroectodermal. Krombecher was the first author reporting the entity in 1918. So far, approximately 200 cases have been reported in medical literature. It was observed local recurrence in the 15% of the all cases. 90% of MNTI are commonly seen in the head and neck area. The maxilla is most common tumor location, followed by mandible, anterior fontanel, temporal bcone, frontal area of brain, cerebellum, mediastinum, epididymis, shoulder, uterus etc. It is not a tumor seen only in humans; there are two cattle reported with MNTI of mandible. In this study we present two babies with MNTI and also it is aimed to discuss the clinical, histopathologic and surgical features of MNTI.

OP50

The Use of Ultrasound Guided Fine Needle Core Biopsy in the Diagnosis of a Parotid Mass – Results in 200 Patients

Gülcen GÖK, A. DESAI, David C. HOWLETT

EDGH, Brighton, UK

Purpose of this study is to evaluate the accuracy of ultrasound guided core biopsy (USCB) in obtaining a diagnosis in patients presenting with a palpable parotid mass. 200 patients were enrolled in the study, between 1998 and 2008. Patients underwent initial diagnostic ultrasound and then USCB under local anesthesia, using 18 or 20 G needles and a
spring-loaded biopsy gun. Outcome measures were sensitivity, specificity and predictive value of USCB when compared with subsequent histology in the surgical group. Final diagnosis in the non-surgical group was based on adequate core biopsy histology, imaging findings and clinical follow up. 198/200 core biopsies were suitable for histological diagnosis. 50/200 patients (25%) had malignant lesions, 109/200 (54.5%) benign neoplasm and 39/200 (19.5%) miscellaneous non-neoplastic lesions.

In the surgical group, USCB had an accuracy of 99.1%, sensitivity of 96.8% (30/31) and specificity of 100% (83/83) in the diagnosis of malignancy. The positive predictive value was 100% (30/30) and the negative predictive value was 98.8% (83/84). There were no significant complications. USCB is a highly accurate technique in assessing palpable parotid gland lesions. It can be safely performed as an outpatient and avoids intra-operative biopsy and unnecessary surgery.

OP51

Is Oral and Maxillofacial Cancer Still a Nightmare, or Now a Curable Disease?

Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ, Fethi YILDIRIZ

Dicle Üniv. Dişhek Fak Diyarbakır - TURKEY

Numerous and different malignant tumors can appear as primary lesions in the oral cavity. These tumors can occur in any part of the mouth, tongue, lips, throat, salivary glands, pharynx, larynx, sinus or other sites in the head and neck area, and cause a higher proportion of deaths per number of cases than breast cancer, cervical cancer or skin melanoma. Most of these malign tumors in the oral cavity and jaw reduce patients' quality of life and lead to life-threatening situations and socio-economic problems. Conservative approaches to and early diagnosis of these types of lesions are therefore as important as their treatment. In addition, dentists and oral and maxillofacial surgeons have a major responsibility to determine and prevent oral malignancies in the early stages? In this study, in addition to describing the clinical ap-

proaches and surgical treatment procedures we applied to several cases diagnosed as oral cavity and jaw cancers, we provide visual images and also set out the responsibility and role of the dentist and oral and maxillofacial surgeon in this area. The paper also discusses conservative approaches that reduce the frequency of oral cancer, oral cancer treatment methods and complications thereof.

OP52

Ultrasound Guided Submandibular Gland Injection of Botulinum Toxin for Hypersalivation in Cerebral Palsy

Gülcen GÖK, Michael D. WILLIAMS, David C. HOWLETT, EDGH, Brighton, UK

Hypersalivation or excessive drooling is a frequent complaint in children with cerebral palsy. The use of Botulinum toxin-A (BTX-A) injection of submandibular glands (SMG) in the treatment of this condition is not well described but its utility is being increasingly recognized. Injections are best performed under ultrasound guidance and, therefore, both radiologists and clinicians need to be aware of this potential role for BTX-A and the technique used.

In this case series, the procedure was performed general anaesthesia in 4 patients with cerebral palsy associated hypersalivation. 20-25 U of BTX-A diluted with 2.5 ml normal saline, was injected into the superficial and deep lobes of each SMG under ultrasound guidance using a 22 G spinal needle. Questionnaires conducted prior to and 4 weeks following the procedure revealed subjective improvement in 3 patients and clinical improvement in all 4 patients. There were no complications. Care needs to be taken during injection to avoid intravascular toxin administration.

Conclusion: SMG injection of BTX-A reduces hypersalivation and improves quality of life for the patient and career. Ultrasound guidance enables accurate administration of the toxin, thus minimizing side effects.
Comparison of the Planimetry and Point-Counting Methods for the Assessment of the Size of the Mandible Cysts on Orthopantomograms

Emel BULUT, Bünayım ŞAHIN, Mehtap MUĞLALI, Burak BEKÇIOĞLU

19 Mayıs Üniversitesi, Diş Hek.Fak.Ağız Diş Çene Hastalıkları ve Cerrahisi AD, Samsun - TURKEY

Purpose: The purpose of this study is to compare the computer-assisted planimetry and point-counting methods in evaluating the sizes of the jaw cysts with respect to their sensitivity and the time required to analyze.

Material and Method: The surface areas of forty mandibular cyst lesions on orthopantomogram were estimated using the point-counting and computer-assisted planimetry methods. Three observers evaluated the outlined areas twice using the point-counting computer-assisted planimetry methods with an interval of two weeks. In the planimetry technique digitalized images and ImageJ software were used to measure the surface area of the half mandibles and cysts. The grids were superimposed over the same images and the number of points hitting the interested structures was counted for the point-counting technique. The projection area fraction (PAF) of the cysts within the mandible was estimated using the obtained values by means of the two techniques.

Results: Computer-assisted planimetry and point-counting techniques showed consistent intra-observer values in all observers. In inter-observer scores, only the first observer's values showed statistically significant differences. However, the results of planimetry and point-counting techniques were different from each other (p<0.0). The durations of point-counting technique was 32% higher than the planimetry technique.

Conclusion: These two methods were seemed to be reliable and ease of the application and disadvantages were minimal variations in measuring between different observers and inability of performing a volumetric measurement. Both techniques were found to be suitable for the evaluation of treatment or the follow-up process of mandibular lesions by the same observer.

The Use of Ultrasound-Guided Wire Localization in Head and Neck Surgery

Gülcan GÖK, N. SRISKANDAN, David C. HOWLETT,
EDGH, Brighton, UK

Ultrasound-guided wire localization (UGWL) is a well-recognized technique in the management of impalpable lesions in breast surgery; however its use in head and neck has not been well described. We describe the use of this technique to facilitate excision of impalpable lesions in the neck in two patients. The first was a 40 year old male with a thyroglossal cyst diagnosed an ultrasound and confirmed on fine needle aspiration (FNAC). The second patient had a second branchial cleft cyst, again impalpable and diagnosed on ultrasound and FNAC.

The procedure is performed in the immediate pre-operative period in the ultrasound department using local anaesthesia. Under ultrasound guidance an 18 G needle is introduced into the lesion and a central hook wire deployed which anchors into the mass. Needle removed and wire secured to skin. Surgeon can dissect down the wire and localize and remove lesion. UGWL has potential uses in many branches of surgery and can be performed in the radiology department or theatre. The technique aids operative planning and improves tissue conservation, leading to improved patients recovery.
OP55
Irregular Bordered Intraosseous Lesion in a Pediatric Mandible – Case Report

Tuba DEVELI, Kağan DENİZ, Firdevs VEZİROĞLU ŞENEL, Sina UÇKAN, Faik SARIALİOĞLU
Başkent University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

Diagnosis and management of intraosseous jaw lesions in pediatric patients are difficult due to lack of co-operation during diagnostic and surgical procedures. Additionally invasive surgical treatment modalities may disturb teeth germs and adjacent anatomic structures. In this case report management of irregular bordered intraosseous lesion in a 2-years old girl by non-invasive surgery will be presented. Differential diagnosis and treatment modalities will be described.

OP56
An Uncommon Region for Hydatic Cyst

Hossein SHAHOON, I. MOBEDI, M. RAHIMI, M. NEMATOLLAHI
Maxillofacial Department of Dental School of Shahed University, Tehran - IRAN

Hydatid disease is common & major public health problem. This disease may develop in almost any part of the body. We describe an unusual case of multi focal skeletal hydatosis & also explain the clinical &diagnostic points. Hydatid disease may develop in almost any part of the body such as the liver (70%) or in lung (27%). Involvement of the kidney (3%) or brain (1-2%) is rare. Bone localization is also rare comprising 0.5% to 2.5% of all human hydatosis. Hydatid disease is an infection caused by parasite Echinococcus granulosus that this parasite is zonitic infection caused by adult or larval stages of cestodes belonging to the genus Echinococcus. The highest prevalence of the parasite found in parts of Eurasia, Africa, Australia, & South America.

OP57
Evaluation of the Treatment Plans for 46 Cases of Ameloblastoma

Qais AL-NEAMA, Raad ALI
Dentistry College Babylon University, Babylon - IRAQ

The purpose of this study to evaluate the treatment plan selection of different types of ameloblastoma & its effect on prognosis depend on follow up for different periods Its represent the simple experience of author in treatment of 46 ameloblastoma cases in the period between January 2004 to August 2008 at Al-Hilla general teaching Hospital maxillofacial department & Al-Abass private Hospital.

46 patient are recorded in this study complains from different type of ameloblastoma, 28 were males constituting 61% while 18 were females constituting 39% the youngest patients was 13 years, while the oldest one was 55 years & the mean age was 34 years. 26 case conventional type (multilocular), 10 case unilocular, 2 extraosse & 8 malignant ameloblastoma all the conventional types were treated by resection with immediate reconstruction, unilocular cases by curettage, extraosses by local resection & malignant ameloblastoma by resection with selective neck dissection, 2 cases in maxilla unilocular type are recurrent therefore treated after recurrence by local resection one case of mandibulare conventional type resulted in failure of iliac crest bone graft due to infection therefore reconstructed later from other side of iliac crest.

Successful treatment of ameloblastoma depends on correct selection of treatment plan .Curettage is not sufficient treatment plan of maxillary unicystic ameloblastoma but sufficient in mandible therefore local resection is preferred in maxilla. All the malignant types in this study are multicystic & metastasis to cervical lymph nodes rather than distance organs as lung or liver.
OP58

Oral Cancer: Diagnostic Work-Up and Surgical Management of the Unknown Primary

Christos A. SKOUTERIS, Kyriaki C. MARTI,
University of Athens, Athena, GREECE

Carcinoma of unknown primary (CUP) manifests itself through regional lymph node or distant metastases. The incidence of CUP ranges from 3-5%. The case of a 54-year-old female with a cervical mass is presented. FNAB diagnosis was that of adenocarcinoma. The remainder of the physical examination and the preoperative diagnostic work-up were essentially noncontributory. The mass was resected through a selective neck dissection. Final diagnosis was solitary lymph node metastasis of moderately differentiated squamous cell carcinoma. In view of this diagnosis the patient was thoroughly re-evaluated clinically and with appropriate imaging modalities. No primary lesion was identified. Further treatment included a course of induction chemotherapy with two cycles of carboplatin followed by radiotherapy to a total dose of 65 Gy. The patient remains free of disease 5.5 years following treatment. In the head and neck region CUP is associated with a 5-10% incidence of lymph node metastasis. N1 disease is managed by surgery and radiotherapy, whereas N2 and N3 disease is treated by a combination of induction chemotherapy, radiotherapy, and surgery. Total resection of the jaw. When a child with benign high recurrence rate tumor is being treated, total resection should be undertaken; however, the growth and development of the patient should also be considered. Morbidity of aggressive surgery-interruption in growth and development-could interfere with future function and esthetics. In this report, a non-aggressive surgical modality, enucleation or curatage of the benign tumor was performed in young patients.

The defect sites healed without complication, there have been neither functional failure nor facial deformity. In this treatment protocol, local recurrence of the tumor should be expected in the follow-up. However supplementary surgeries like local curettage and / or enucleation of the tumor can be performed. The main idea of this treatment protocol is to preserve the continuity of the jaw that leads to regeneration of new bone at the marginal surfaces. This healing procedure provides the bone integrity especially at the margins of the mandible and at the condyle prose that will let the surgeon make additional curettage or enucleation of the recurrent tumor without disrupting the continuity of the bone. On the basis of the literature and our experience, conservative treatments of the benign tumors of the jaws in young patients should be encouraged and conservative treatment protocols should be improved.

OP59

Surgical Management of Benign Tumors in Young Children

Serdar YILMAZ, Nedim ÖZER
Kocaeli University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Kocaeli - TURKEY

Odontogenic or non-odontogenic benign tumors of the jaws have a wide-range surgical management options. Because of high recurrence rate of some aggressive benign tumors, radical surgical modalities have been improved like en bloc resection or
A Clinical Investigation on the Mandibular Fractures

Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ

Dicle University, Dentistry Faculty, Diyarbakır - TURKEY

Aim: To review the mandibular fractures in young and adult patients.

Patients and Methods: We retrospectively evaluated patients treated at the Oral and Maxillofacial Department of Dicle University with respect to age groups, gender, etiology, localization and type of fractures, associated fractures, symptoms, treatment methods and complications. All of the data were collected from the patient’s file. (Approximately 700 files were reviewed)

Result: 458 patients were included in the study, 329 (71.8%) males and 129 (28.2%) females, with a total of 634 mandibular fractures. The mean age of patients was 30,033, with a male-female ratio of 3:1. The most common causes of injury were traffic accidents (33.3%) and falls (21.1%) in all patients. The most common fracture sites were the parasympysis (25.6%), corpus (25.6%) and condyle (28.5%). Mandibular fractures were generally treated by arch bar and mini plate osteosynthesis (31.2%, MPO) and maxillo-mandibular fixation (21.3%, MMF) in patients. And also reconstruction plaque and autogenous bone graft were used in the treatment of avulsive mandible fractures.

Conclusion: Fractures can occur at any age and the facial area is one of the most frequently injured parts of the body. To choose the best treatment method mandibular fractures is to analyzed in terms of age (children, adult), occlusal situation (partially or totally edentulous), fracture type (isolated or combined) and anatomical site of fracture. The main aim applicable in children and adults is treatment with the least morbidity of mandibular function by providing anatomical stabilization of the bone segments.

Secondary Correction of Posttraumatic Dento-facial Deformities

Altan VAROL, Serdar YILMAZ, Selçuk BASA

Marmara University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Ankara - TURKEY

The aim was to evaluate treatment options for secondary skeletal reconstruction in cases with posttraumatic dentofacial deformities and malocclusion as a long-term complication of maxillofacial trauma. Patients with LeFort I-II-III fractures, mandibular and condylar fractures were treated with conventional facial osteotomies, distraction osteogenesis (DO) and polyethylene facial implants. Patients were treated for asymmetric malocclusion with unilateral/bilateral mandibular ramus osteotomies, LeFort I osteotomy and midface distraction. All patients had clinical and radiographic follow-up for at least 1 year. Stable dental and cephalometric results were obtained in all patients. Orthognathic surgery is a predictable and stable technique for the treatment of posttraumatic dentofacial deformities due to maxillofacial fractures. DO could be preferred in more severe skeletal discrepancies to overcome relapses after major skeletal movements. Facial polyethylene implants are helpful to achieve acceptable soft tissue equilibrium in asymmetric patients.
OP62

Orbital Fractures: Different Patterns, CT Diagnosis and Surgical Management.

Magid AMIN, Fouad GHAREEB, Eissa ABDEL HAMID

Craniomaxillofacial Team, Oral and Maxillofacial Surgery, As Salam International Hospital, Cairo, EGYPT

Orbital fractures take different patterns according to the type, force and direction of trauma. Fractures unassociated with other facial fractures are termed "blow out fracture" in which orbital soft tissues and muscles maybe affected in different ways.

Computed Tomography (CT) has become the imaging Standard of reference in evaluation of maxillofacial fractures. With the high definition of CT, even minor, clinically irrelevant fractures can be visualized.

The aim of surgical treatment is to restore the normal alignment of bones to achieve the normal form and function. The use of titanium plates & screws and titanium mesh for rigid fixation and reconstruction facilitates surgical management of these fractures.

Repair of orbital soft tissues and muscles is as important as bone reconstruction.

OP64

Late Enophthalmos; is it a Correctable Problem?

Yasser M. ELSHEIKH, Ahmed M. MEDRA

Plastic Surgery Unit, Faculty of Medicine, Menofia, Alexandria, EGYPT.

Introduction: Enophthalmos is defined as a backward and sometimes downward displacement of the globe within the bony orbit; it is a matter of disproportion between the globe and its confinement. There are different factors that maintain the optimum position of the globe within the orbit. Early correction of this problem is the golden chance to obtain the best results functionally and aesthetically; but with the problem of late cases the problem needs more attention.

Patients and Methods: In this study 25 patients' of late posttraumatic enophthalmos were treated by orbital reconstruction in combination with bone grafts, biomaterials, titanium mesh and/or orbital osteotomies if needed, according to each case one or more of these techniques may be used.

Results: Most of the patients had satisfactory results. Whoever it is evident that a perfect correction of the deformity is difficult to achieve.

Conclusion: Late enophthalmos is a multifactorial problem and the loss of harmony between bone and soft tissues in late cases may compromise the results despite perfect bony reduction.

OP63


Younis RAWAA, M.K.HASOUNI, Bashar Abdul Ghani TAWFEEQ

Oral and Maxillofacial Unit-Alsalam Hospital, Mosul, IRAQ

......

of the 777 patients presented with injuries involving the maxillofacial region.

Results: Apart from soft tissue injuries which shows the highest incidence (49.3%). Dentoalveolar frac-
OP65

Late Consequences of the Traumatic Injuries to the Temporomandibular Joint

Saeed NEZAFATI, Seyed Ahmad ARTA
Dental Faculty, Medical Science University of Tabriz, Tabriz, IRAN

Lower facial skeleton has some unique functional and morphologic characteristics. Bilateral joint articulation for example is a distinctive feature of the mandible. Restoring a fractured face to its previous state of shape and function is not possible without having a healthy and functioning joint. The treatment of injuries to the temporomandibular joint (TMJ) is one of the more controversial areas in maxillofacial traumatology. The degree of proximal segment displacement, the location of the fracture in the vertical ramus, and other variables influence surgical treatment planning.

Open reduction of condylar fracture has become more popular among the surgeons. Whether the patient has had a closed or open reduction, postoperative physiotherapy remains as the most important part of the treatment. Late complications of TMJ trauma such as ankylosis, internal derangement and dislocation can be prevented by accurate treatment planning and postoperative controls. This lecture is an overview of the late consequences of the traumatic injuries to the temporomandibular joint and their treatments.

OP66

The Effect of Osteoformin on Mandibular Fracture Healing in Rats: Preliminary Study

Alper PAMPÜ, Özkan ÖZKAYNAK, Figen ÇIZMECE ŞENEL, Nuray YILMAZ ALTINTAŞ, Ercümen ÖNDER, Şafak ERSÖZ
Karadeniz Technical University, Dentistry Faculty, Department of Oral & Maxillofacial Surgery, Trabzon - TURKEY

Negatively charged resins have been reported to stimulate bone formation in vivo. Osteoformin which include negatively charged polymer polyaspartate has been shown that it stimulates the osteoblastic activity. The aim of this study was to determine the changes of mandibular fracture healing in rats with osteoformin. 26 male Sprague- Dawley rats were used in this study. Mandibular fracture sites of anesthetized animals were created. Fixations of mandibular fractures were done by miniplate. At experimental group osteoformin was injected at 1 and 7 day after surgery. At 2 and 3 weeks the animals were killed and DEXA analyses of fracture site were done. Statistical analysis of the data was carried out using SPSS and Mann Whitney U test. The result of the study is shown that the bone regeneration of experimental group is higher than control group. As a conclusion, osteoformin affect the fracture healing positively.

OP67

Orbital Floor Reconstruction: Comparison of Medpor, Medpor-Titan, Titanium Sheet and Autogeneous Bone Graft

Reza TABRIZI
Tehran, IRAN

The aim of our study is evaluation of medpor and Medpor® Titan sheets, Titanium sheets and autogeneous bone graft in reconstruction of orbital floor fracture. This is retrospective study of 35 patients with blow-out fracture. Medpor was used in 17 patients. Postoperative evaluation was shown improvement in 6 patients (75%) and relative improvement in 2 patients. One patient had seroma formation. Infection was not seen in any patients. One patients needed reoperation because significant enophthalmous. In 10 patients Medpor® Titan (MTM) was used. Five patients had diplopia before operation. In 4 patients (80%) improvement was seen. All patients were free of postoperatim infection. Five patients were treated with Titanium sheets. No infection was seen.

Postoperation CT scan evaluation revealed good adjustment of sheets and symmetrical floor to unfrac-
ture side. Autogenous bone graft was used in 2 patients. One patient was treated with Medpor and after removal pervious Medpor, bone graft was used in orbital floor. Calvaria bone graft was used in one patient. I suggest autogeneous bone graft or Medpor sheets in orbital floor, which needed to treated enophtalmous. Major problem with bone graft donor site morbidity especially in calvaria bone graft. In large defect of orbital floor, Titanium and Medpor-Titan sheets are good choice. I didn't have any problem with removal of Medpor.

OP68
Avulsive Injuries of Oro-Facial Region: Early and Late Period Treatment Results
Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ

Dicle University, Dentistry Faculty, Diyarbakir - TURKEY

As it is known that avulsive maxillofacial injuries associated with the loss of soft and hard tissue are the situation which requires more complex reconstructive approaches both for the patient and maxillofacial surgeon. In Gunshot wounds of the facial region, bone and the soft tissue damage or loss is often complicated by concomitant injuries to the nasal passages, orbits, oral and cranial cavities. After having treated with the life threatening situations like breathing, bleeding and shock, the main goal in the cases involving such oro-facial injuries is to bring the patient's appearance to its previous situation before the injury both aesthetically and functionally. For the realization of this goal, reduction of the fractures, grafts for soft and hard tissue defects, fixation and immobilization of fractures may be suggested as basic surgical approaches. The answer of which of the goals to be reached mostly depends on the type of facial damage, general health situation of the patient, existent surgical equipment, type of anesthesia, the skillfulness of the surgeon and his or her priority. Although the patient with complex and avulsive maxillofacial injuries is seem as dramatic and hopeless, the results might be highly satisfactory, if these cases are treated in early stage by competent and specialist team. By taking this view as a starting point, in this study, we aimed to present the patients who came to our clinic course of different size avulsive oro-facial wounds, early and late period treatment results.
POSTER PRESENTATIONS
Simple Bone Cyst; Case Report

Peruze ÇELENK, Özgün ŞENYURT, Nergiz YILMAZ, Burak BEKÇİOĞLU, Zeynep ZENGİN, Yurdanur SÜLLÜ
Ondokuz Mayıs University, Faculty of Dentistry, Samsun, TURKEY

The simple bone cyst (TBC) has been a recognized entity since 1929, when it was described by Lucas, and subsequently further defined by Rushton (1,5). This intraosseous entity is also known by a variety of synonyms including solitary bone cyst, simple bone cyst, hemorrhagic bone cyst, unicameral cyst, idiopathic bone cavity, and progressive bone cyst or cavity (1,2). The simple bone cyst is a benign nonneoplastic lined lesion has been described in the maxillofacial under various terms. Simple bone cysts of the mandible are also referred to as hemorrhagic cysts, extravasation cysts or progressive bone cavities. The majority of these simple cysts are asymptomatic. In rare cases when they cause pain or tooth sensitivity or expand, these features can cause difficulty in distinguishing simple bone cysts. (7) The aim of this case report was to determine if there is a correlation between clinic, histopathologic and radiographic findings, and to discuss the cause of the simple bone cyst considering the correlation between these findings.

Case Report: A healthy 26-year-old woman was referred for evaluation and management of an asymptomatic radiolucency of the left body of mandible that was noted on routine panoramic radiography. The patient revealed no history of trauma. The past medical and surgical history was noncontributory. Physical examination showed a symmetric facial appearance, normal mandibular excursions, painless range of motion. Also any paresthesia was noted. No occlusal disturbance or endodontic treatment was detected. Panoramic radiography of the mandible showed a well-defined, 1×1.5 cm sized, unilocular, radiolucent lesion located at the left body mandible. The lesion was not associated with the permanent left second premolar and molar teeth apices, teeth were vital. The loss of the lamina dura was not seen in teeth except for left second premolar adjacent to the lesion. Any resorption or divergence of tooth apices was noted. Maxillofacial axial and coronal computed tomography (CT) images showed a lytic lesion of the left body of mandible, was not revealed bucco-lingual expansion; however lesion was thinned of both mandibular cortices. Under local anesthesia, simple surgical exploration, sized 0.5 x 0.8 cm; hole was created to establish the diagonal on the mandibular buccal cortex above the lesion via intraoral approach. Lytic defect founded which was an empty cavity with smooth, shiny bony walls. The cavity contained small amounts of serosanguinous fluid. Aspiration biopsia was performed. Bony wall of the cavity was curetted carefully. Histopathologic examination revealed hematoma, hemosiderin pigments in the aspirated sample. There was never any evidence of an epithelial lining. The histopathological smear report confirmed our prediagnosis about a simple cyst. At the 6 weeks follow up clinical and radiological evaluation no nerosensory function damage or swelling was seen.

Discussion: Simple bone cyst is seen in a wide range of years but it is common with in the second decade. Classical scalloped radiographic appearance is not diagnostic, nor does the lesion possess clinical specificity, it is important to differentiate it from other forms of pathology occurring in the maxillofacial region, including aneurysmal bone cyst, eosinophilic granuloma, central giant cell granuloma, ameloblastoma, brown tumor of hyperparathyroidism and osteosarcoma (3). Etiologic theory of simple bone cyst include inability of interstitial fluid to exit the bone because of inadequate venous drainage, local disturbance in bone growth; ischemic marrow necrosis and localized alteration in bone metabolism resulting in osteolysis. (8) The simple bone cyst is most frequently seen in the long bones. When the simple bone cyst occurs in the jaws, the majority of the cases may affect the body or symph-
ysis of the mandible (3, 4). The clinical features of the presented case was in accordance with the literature. (3, 6, 8) Typically, the simple bone cyst occurs most frequently without symptoms and is accidentally detected by panoramic radiography. Simple bone cysts has been reported self-limiting lesions and to resolve spontaneous resolution without treatment. (6) However, it is necessary to differentiate the simple bone cyst from other cystic lesions because a large number of cysts grow progressively in the oral and the maxillofacial region (5). Also surgical exploration was created to establish the diagnosis in presented case. Treatment of the lesion involves surgical exploration and curettage to confirm the presence of an empty cavity and absence of an epithelial lining. A final diagnosis is derived after taking into account the history, physical examination, radiographic appearance, histopathology and intraoperative findings. Clinical and radiographic follow-up are indicated to evaluate proper healing of the bony defect. Recurrence is uncommon in the jaw bones. (1)

It is important to differentiate it from other forms of pathology. However surgical exploration is diagnostic and therapeutic approach.


PP02
Juvenile Hyaline Fibromatosis of the Mandible with Bone Involvement: Report of a Rare Case
Hasan Ayberk ALTUĞ, Armagan GÜNAL, Ömer GÜN Han, Metin ŞENÇİMEN
Gülnane Military Medicine Academy, Ankara, TURKEY

Juvenile hyaline fibromatosis (JHF) is a rare autosomal-recessive hereditary disease, characterized by gingival hypertrophy, flexion contractures of joints, bone lesions, hyaline deposition in the extracellular spaces of the dermis and soft tissues, stunted growth and skin lesions such as multiple nodules, tumors and pink, pearly papules. No case of JHF with a mandibular bone involvement exists in the literature. Bone involvement in JHF is an uncommon finding and distinct solitary lesion in the calvarial bones has been reported by some authors.

A 21-year-old male patient was referred to Diyarbakir Military Hospital, Department of Dental Service. Clinical findings were consistent with a solid alveolar mass in the right mandibular premolar-molar region and displaced right mandibular molar teeth (Figure 1). Orthopantomographic examination showed impaction of all lower right molars in a mixed radiopaque/radiolucent area (Figure 2). Microscopically; increased nodular connective tissue were seen under the lobulated mucosal surfaces of resected area (Figure 3).

The case presented here has a localised fibrous proliferation that infiltrates bone trabeculae and causes displacement of teeth. Since, juvenile hyaline fibromatosis, should be considered in the differential diagnosis with the other intraosseous radioluent-patchy opaque lesions of jaw bones.

Based on the clinical and histopathological findings, a diagnosis of JHF was made.
PP03
Ameloblastoma of the Acanthomatous Type in the Mandible: A Case Report
Ahmet ARSLAN, Ilisu ERİŞIR, Sedat ÇÖLOĞLU
Yeditepe University, Faculty of Dentistry, İstanbul, TURKEY

The ameloblastomas are benign but locally invasive neoplasms derived from odontogenic epithelium. They are relatively uncommon, representing between 1% and 19% of all tumors and cysts in or around the mandible and maxilla. Over 80% of ameloblastomas occur in the mandible and the remainder in the maxilla with only 2% originating anterior to the premolar area. In the mandible, about 70% are in the molar region and the ascending ramus, 20% in the premolar region, and 10% in the incisor region. Maxillary ameloblastomas are generally thought to be more aggressive than mandibular ameloblastomas owing to the decreased bone density of the maxilla and the anatomical relationship to vital structures in the orbit and base of the skull. There is no significant race or sex predilection. Usually the ameloblastomas are diagnosed in the fourth and fifth decades of life and rare in children and old people, except the unicystic type, which is usually found in the second and third decades. Clinically, three subtypes of ameloblastomas are recognized: (1) polycystic (common); (2) unicystic; and (3) peripheral. The last one is confined to the gingiva or alveolar mucosa and does not invade the underlying bone. It is very rarely encountered type. Radiographically the typical picture of the polycystic ameloblastoma is of a multilocular destruction and gives the radiograph a “soap bubble” appearance. Histologically there are two main patterns: follicular and plexiform. Other variations are acanthomatous, granular cell, basal cell, and desmoplastic ameloblastomas, which are less common. In many Japanese and English language reports, the plexiform and follicular types accounted for the vast majority of cases and the acanthomatous, basal cell and granular cell types are rare. This report presents a rare case of an ameloblastoma in the mandible that consists of acanthomatous type. The diagnostic procedure, surgical therapy, and follow-up findings are described and discussed.

In August 2008, a 80-year-old female patient was referred to the Department of Oral and Maxillofacial Surgery, University of Yeditepe, for the complaint of pain and swelling in the anterior part of the mandible. Her medical history revealed the presence of hypertension, anemia and asthma. She is in the third class in ASA classification. Extraoral examination revealed no abnormal findings in the cervical and submandibular lymph nodes. A panoramic radiograph showed a well defined, radiolucent area, representing soap bubble appearance in the anterior part of the mandible (Figure 1). Enucleation of the lesion was performed after induction of sedation and local anesthesia. Postoperative surgical histopathologic examination revealed the ameloblastoma of acanthomatous type, which shows squamous metaplasia of the central cores of neoplastic epithelium (Figure 2). There were no major complications during the wound healing and the sutures were removed in a week. The patient was followed monthly for 6 months without any of complication nor recurrence (Figure 3).

Since ameloblastomas originate centrally within the bone, early symptoms are usually absent or minimal. Therefore, a delay in recognition is very common. In the present report, the patient was referred for the complaint of pain and swelling, therefore she was not asymptomatic which differs our case from the general description of the ameloblastomas. It is generally thought that the ameloblastoma may cause extensive destruction by direct invasion into the surrounding structures, although histologically it is a benign and slow growing tumor. Better diagnosis of the various clinicopathologic subtypes of ameloblastoma have facilitated the development of a basis for treatment. Hence, in most of the studies reviewed, the treatment of the ameloblastoma was reported to be primarily surgical removal. For the unicystic type, this is usually enucleation, whereas for the solid and multicystic variants, it is marginal or segmental surgical excision. Radiation therapy can reduce the size of an ameloblastoma, primarily that part of the tumor which has expanded the jaw or broken into the soft tissues,
but it does not appear to be an appropriate treatment for an operable ameloblastoma. The use of radiation is usually discouraged because of radioresistance of the ameloblastoma following the treatments. Cryotherapy as a mode of treatment is combined with local enucleation. Curettage also is described in the literature but has not found widespread support, because of high recurrence rates following the treatment.

Ameloblastoma has a well-deserved reputation for recurrence after curettage. This is because the ameloblastoma characteristically infiltrates between the trabeculae of the cancellous bone of the jaws leaving them intact at least for some time. This infiltration of cancellous bone has two important consequences clinically. First, the tumor extends beyond its radiologically apparent margin. Second, recurrence is to be expected if the clinician accepts the radiologic margin of the tumor in cancellous bone as its actual limit and performs the curettage of the lesion on that basis. Consequently, attempts have been made to remove any tumor that has extended beyond its radiologic margins by the use of various forms of cautery or by removing bone from the surgical cavity with a bur (peripheral ostectomy). Although the use of cautery appears logical, there appears to be no readily available information concerning its effectiveness. However, Sachs recently reported treatment of nine patients by peripheral ostectomy. He experienced no recurrences in follow-ups that ranged from 2 to 15 years. Most of his follow-up periods were between 5 and 10 years, which is not quite long enough to establish that the tumors are being controlled, but it is impressive that two of his patients have been followed for over 10 years with no evidence of recurrence. Postoperative follow-up is important in the management of ameloblastoma of because more than %50 of all recurrences occur within 5 years of surgery. Long-term follow-up at regular intervals after surgery is also recommended.

Many recent reports have warned of high recurrence rates (%75-90) with conservative treatment, compared with recurrence rates of %15 to %25 after radical surgery. The location of the ameloblastoma in the jaw is also important for the treatment. First, the further the tumor is from vital structures, the less likely it is to infiltrate them. It follows that ameloblastomas of the body of the mandible and of the anterior maxilla are less dangerous than those of the ascending ramus and especially those of the posterior maxilla. Complete excision, including removing an extensive margin of apparently unaffected bone, is also the standard treatment for mandibular ameloblastomas. In the present report, ameloblastoma was found in the anterior part of the mandible which is an uncommon situation. Due to its location it gave us an easy approach and minimizes the risk of recurrence than the other regions.

Considering the treatment of the ameloblastoma as well as other tumors, the suggestion that selection of the most effective treatments must be determined by various factors such as the patient’s general health, specific anatomical location of the tumor, extent of the lesion, and aesthetic considerations, is noteworthy.

PP04
Treatment of Large Jaw Cysts with Marsupialisation
Timuçin BAYKUL, Gülper KOÇER, Muge ÇINA AKSOY, Semra KAYAALTI ÖZARSLAN, Orçun TOPTAŞ
Stüleyman Demirel University, Faculty of Dentistry, Isparta, TURKEY

Marsupialisation is a successful technique in the treatment of cysts of the jaws, from simple cysts to odontogenic keratocysts. Size of the lesion, the bony integrity of the jaw adjacent to the cyst, the proximity of the cyst to anatomical structures (teeth, mandibular canal and maxillary antrum) that may be damaged during surgery affect the treatment choice. Marsupialisation can be best option in these cases.

Between 2001 and 2008, a prospective study of 26 patients was performed to evaluate the benefits and risks of decompression of cysts. Patients were between the ages of 6 to 75. One of them had a radic-
cular cyst, 4 of them had odontogenic keratocyst and 21 of them had dentigerous cyst. Decompression tube was inserted under local anaesthesia. Then patients have been taken under follow-up. Some of them were operated by enucleation after their lesions had become smaller. The non-erupted permanent teeth in children at mixed dentition period were protected. Some of them are still under our follow-up.

Marsupialisation requires maintenance of a patent surgical opening into the cavity of the cyst. Using decompression tubes is one of the simple and effective methods for treatment. Patient cooperation, requirement of second operation are the disadvantages of the technique. Easier operating, not harming adjacent tissues are the advantages. The patient must be followed up until eruption of the permanent teeth and bony consolidation of the dentigerous cyst.

Marsupialisation is an established alternative technique in the treatment of large cysts of the jaws.

PP05
The Diagnosis and Treatment of Huge Central Giant Cell Granuloma: Case Report
Timuçin BAYKUL, M. Asım AYDIN, S. Sıha TÜRKAŞLAN, Müge ÇİNA AKSOY, Ayşe İlkur KARADUMAN, M. Mustafa ÖZARSLAN
Süleyman Demirel University, Faculty of Dentistry, Isparta, TURKEY

Central giant cell granuloma (CGCG) is a benign lesion of the jaws. CGCGs of the jaws mainly occur in young adults, in the mandible with a female predominance. It may occur with a rapid onset of pain, paraesthesia, root resorption and tooth displacement; and is also able to expand or destroy surrounding bone, resulting in facial asymmetry and large bone defects.

An eighteen years old boy admitted to our clinic with a complaint of exophytic growth in the mandible and facial asymmetry. Clinical examination showed a huge hyperemic exophytic lesion and luxation of the related teeth. Radiographic examination revealed a radiolucent lesion including the right deciduous second molar and left first molar (Figure 1). An incisional biopsy was performed and histopathological diagnosis was central giant cell granuloma. Under general anesthesia, the lesion was curetted thoroughly and the cavity was irrigated with saline solution. The related teeth were extracted. The post-operative course was uneventful and one year after the operation there were no signs of recurrence. The rehabilitation of the patient accomplished with implant retained overdenture utilizing four implants inserted, one year after the operation, bilaterally in mandibular premolar region (Figure 2, 3).

CGCGs of the jaws, especially small lesions, are treated by surgical curettage. Aggressive lesions are occasionally treated by resection and reconstruction because of their high recurrence rate. Recent approaches for the treatment of large or multiple lesions have included intralesional corticosteroid injection, subcutaneous administration of calcitonin. The extend of surgery is related to the size and localization of the lesion. Management has generally involved long-term follow-up and the treatment is reserved for patients with functional and aesthetic impairment.

The early and precise diagnosis of CGCG, based on the clinical and radiographical findings, and histological study, allows conservative management with a lesser risk for the adjacent teeth and bone.

PP06
Squamous Cell Carcinoma of the Maxilla: A Case Report
 Çağrı BURDURLU, Çağrı DELİBAŞI, Ismail KOÇAK, Özlem MALKONDU
Yeditepe University, Faculty of Dentistry, İstanbul, TURKEY

Squamous cell carcinoma (SCC) is one of the most common neoplasms of the maxillofacial region. The most significant prognostic indicator for the survival is the presence or absence of metastatic cervical nodes. Frequently, squamous cell carcinomas are seen in aged male patients who are not aware of the disease.
A 41-year-old male patient was admitted to our clinic with complaints of swelling in the left palatal region. He had been operated twice for the same region in other institutions with diagnosis of palatal cyst. Panoramic radiograph revealed a radiolucent lesion with irregular border around the apexes of upper left lateral and canine teeth of which apical resection had been performed in the previous operation. CT view showed destruction of the alveolar bone and maxillary sinus penetration. Incisional biopsy revealed SCC. During the first week after biopsy the lesion enlarged dramatically. The patient was operated under general anesthesia to perform hemi-maxillectomy with neck dissection. Esthetic and functional rehabilitation are still being provided with obturators.

Metastatic capacity of SCC is about its histological variation that also depends on differentiation (grade). Palatal carcinomas commonly arise in the uvula, soft and hard palate junction or directly in the hard palate. It perforates hard palate and infiltrates into nasal cavity and maxillary sinus. Tobacco and alcohol use play an important role in the etiology as seen in our patient.

Persistant swelling in the palatal region especially those have irregular borders radiographically should be carefully assessed by the clinician in order not to overlook malignancy.

PP07
Verrucous Carcinoma Presenting as Mandibular Osteomyelitis: Report of a Case

A. Alper PAMPU, Özkan ÖzkayNAK, Nuray YILMAZ, Ezher DAYISOYLU, Mustafa ÇANKAYA,
Figen ÇİZMECİ ŞENEL, Ömer GÜN Han

Karadeniz Technical University, Faculty of Dentistry, Trabzon, TURKEY

Osteomyelitis is an inflammatory lesion that involves the bone marrow. Oral verrucous carcinoma (OVC) is a rare variant of squamous cell carcinoma with a characteristic morphology and specific behavior. The tumor occurs frequently in the oral cavity and larynx but its etiopathogenesis remains unclear.

A 43-year-old man referred to our clinic with persistent pain originated from an extraction socket for a month. Clinical diagnosis was chronic osteomyelitis of the mandible. We performed a combination therapy of decortication and super selective intra venous infusion of antibiotic. After an uneventful healing and pain-free period of four months the patient again visited the clinic for the same region. A marginal resection under general anesthesia was performed and histology revealed osteomyelitis. In our post surgical follow-up period after a year we observed progressive lactic area in C.T. imaging. A resection and immediate reconstruction with titanium plaque was done under general anesthesia and histology revealed OVC.

As verruous carcinoma can present as mandibular osteomyelitis oral and maxillofacial surgeons and pathologists should be careful about this condition.

PP08
Sublingual Sialolithiasis: Report of 4 Cases

Alper PAMPU, Özkan ÖzkAYNAK, Nuray YILMAZ, Ezher DAYISOYLU, Mustafa ÇANKAYA,
Figen ÇİZMECİ ŞENEL

Karadeniz Technical University, Faculty of Dentistry, Trabzon, TURKEY

Sialolithiasis occurs with the obstruction of calcified calcium carbonate/phosphate on an organic matrix of the parenchyma/duct of the gland. More than 80% of salivary sialolithiasis occur in the submandibular gland or in its duct. However it rarely occurs in the sublingual gland, which reported 1-5% of the cases. Symptoms include swelling and tenderness of the involved gland especially during meals and a solid mass is also located with palpation.

4 patients; 3 male and 1 female, ages ranging from 50 to 75 have referred to our clinic. Main discomfort was painful swelling during meals. In all cases palpable solid mass were determined on the floor of mouth. Clinical and radiological examination confirmed the diagnosis of sublingual gland sialolithiasis.
in bartholini duct. Sialoliths enucleated under local anesthesia via intraoral approach.

Sialoliths occur middle-aged patient with 2:1 male/female ratio. 85% of sublingual sialoliths have been reported in the duct. Our cases also middle-aged patients with sialolith in the duct. All the sialoliths enucleated via intraoral approach and no recurrence noted after 1 year.

Sialoliths may cause obstruction and fibrosis of gland. Treatment modality is surgically removal of sialolith. It is appropriate to provide both clinical and radiographic Sialoliths may cause obstruction and fibrosis of gland. Treatment modality is surgically removal of sialolith. It is appropriate to provide both clinical and radiographic follow-up after surgical excision

PP09

Intraoral Superficial Angiomyxoma: A Case Report

Ediz DENİZ, Ahmet Sedat COLOĞLU, İbrahim TUNCER

Yeditepe University, Faculty of Dentistry, Istanbul, TURKEY

Angiomyxomas are a group of relatively uncommon myxoid mesenchymal tumors with a predilection for the perineal regions of middle-aged women. Three types have been identified: aggressive angiomyxoma, superficial angiomyxoma, and angiomyofibroblastoma. Superficial angiomyxoma is a distinct type of soft-tissue myxoma characterized by increased numbers of stellate fibroblasts and thin-walled blood vessels admixed with a variable inflammatory infiltrate. Although there have been reported cases in various parts of the body, intraoral superficial angiomyxoma cases are extremely rare. We report three additional cases of superficial angiomyxoma which appeared intraorally.

Case Report 1: A 66-year-old woman presented with a painless soft mass at the palate. The patient had noticed the lesion 6 months previously. Clinical examination revealed a well demarcated, sessile soft mass measuring approximately 6 x 4 x 4 mm at the palatal mucosa. A diagnosis of lipoma was suggested and the lesion was excised under local anesthesia. There has been no recurrence after 12 months of follow-up.

Case Report 2: A 56-year-old woman presented to her private dentist with a several months history of a painless and slow enlarging mass of the interdental papilla between the right mandibular premolar teeth for 18 months. Clinically the lesion appeared a sessile fibromatous mass with an intact mucosal surface measuring approximately 10 x 8 x 5 mm. An excisional biopsy under local anaesthesia was performed. No recurrence of the lesion has been reported 8 months after excision.

Case Report 3: A 26-year-old woman complained of a nonpainful, nontender mass in the attached gingival region of the right mandibular second premolar and first molar, present for 6 months. Her medical history was noncontributory. Intraoral examination revealed a soft, movable fibromatous mass measuring 8 x 7 x 5 mm. A diagnosis of pyogenic granuloma was suggested and the lesion was excised under local anaesthesia. There was no sign of recurrence after 6 months. Common Histopathological Findings Tissue samples were fixed in 10% buffered formalin solution, embedded in paraffin, and tissue sections were stained with hematoxylin-eosin and Alcian blue.

An immunohistochemical panel was performed using antibodies directed against S-100 and SMA. The histopathological examination of the lesions revealed irregular portions of paucicellular myxoid soft tissue composed of scattered spindle-shaped and stellate cells in copious amounts of myxoid material with collagen fibers varied among different areas (Figure 1). The cells of myxoid compartment were mostly oval or stellate-shaped, and the cytoplasm were amphophilic. Cellular atypia, pleomorphism, and mitotic figures were not seen. Thin-walled, small to medium sized, curvilinear blood vessels were prominent within the myxoid background. Myxoid inflammatory cells were identified occasionally. The sections stained with Alcian blue technique showed
a strong blue staining throughout the myxoid areas (Figure 2). The tumors were immunopositive or SMA (Figure 3), and were negative for S-100 protein. For each case, the diagnosis of superficial angiomyxoma was made based on these findings.

Superficial angiomyxoma is a rare distinctive cutaneous soft-tissue tumor, frequently presenting as cutaneous papules, nodules, or polypoid lesions on the trunk or head and neck region. Superficial angiomyxomas are extremely uncommon in the oral cavity. The authors review of the English literature revealed only 3 cases of intraoral superficial angiomyxoma which are briefly outlined in Table I. The differential diagnosis of superficial angiomyxoma includes aggressive angiomyxoma, oral focal mucosis, nevus sheath myxoma (neurothekeoma), myxoid neurofibroma, and cutaneous myxoid cysts. Aggressive angiomyxoma can be distinguished by the proliferation of spindle- or stellate shaped cells that are widely separated by loose myxoid stroma in which there are prominent vascular components. Oral focal mucosis is characterized by the lack of reticulin fibers in the mucoid stroma that is clearly defined from the surrounding tissues. It is typically cellular with a few blood vessels. Nerve sheath myxoma exhibits a well-defined multinodular pattern, the stroma cells tend to be arranged circumferentially in whirls and there are fewer blood vessels then in superficial angiomyxomas.

These tumor cells are often immunoreactive for S-100 protein. Myxoid neurofibromas are characterized by wavy collagen bundles, sharply angulated nuclei, and cells that are strongly positive in the S-100 stain. Cutaneous myxoid cysts are usually located distally on the fingers and blood vessels are not as prominent as they are in superficial angiomyxomas. It is possible that cases like presented here may be confused with other oral lesions of similar characteristics. This emphasizes the fact that the dentist should always be cautious about the possibility of the occurrence of these tumors in the oral cavity. Another reason why these cases are considered extremely rare, might be the neglect of dental practitioners in terms of histopathological examination thinking that they are well-known lesions of the oral cavity such as lipoma. Superficial angiomyxoma is a benign tumor with a tendency to have local recurrence after incomplete excision. Therefore, treatment should consist of wide surgical excision and it would be reasonable to keep such patients under regular review.


PP10
Oncocytoma of an Intraoral Minor Salivary Gland: Report of a Case

Nergiz YILMAZ, Emrah GÖNÜLOL,
Cansu KARAKAŞ, Peyker TEMİZ
19 Mayıs University, Faculty of Dentistry, Samsun, TURKEY

Introduction: Oncocytoma is a rare benign salivary gland tumor (1). Their incidence represents approximately 1-3% of salivary gland tumors, occurring primarily in the parotid gland. Only small percentages are found in the minor salivary glands of the palate, tonsillar fossa, larynx, nasal cavity, including the maxillary sinuses, and the lacrimal gland. It has usually occurred at the persons older than 50 years of age. Oncocytomas are composed of oncocytes, which are large, epithelial cells with a granular eosinophilic cytoplasm and small, centrally located nuclei (1, 2, 3, 4). In this report, a case of oncocytoma arising in an intraoral minor salivary gland in the maxillary posterior alveolar crest were presented.

Case Report: A 72-years old male was referred to our clinic with the complaining of bleeding and wide swelling in his maxillary posterior region for several
months. Clinical examination revealed that 4.0x3.0-cm-diameter, well circumscribed, soft, round mass on the left maxillary posterior alveolar crest adjacent to the palate (Figure 1). There was no pain, facial asymmetry, paresthesia or regional lymphadenopathy. The surface of the lesion was lobular with grey and brown colour. In radiographic examination many tooth radices which have chronic apical apices were observed in the related area (Figure 2). For the purpose of the treatment the total excision of the mass was planned. The tumor, including surrounding healthy tissue, was easily removed under local anesthesia (Figure 3). Light microscopic examination indicated a solid tumor with a fibrous capsule which divided into the septums and containing capillary vessels. It consisted of a sheet of polyhedral cells with abundant granular eosinophilic cytoplasm and large, round nuclei. The cells were characterized with prominent nucleolus (Figure 4). According to the this findings the final diagnosis was determined as oncocytoma.

**Discussion:** Oncocytomas are seldom found in people under the age of 50 and their prevalence rises with increasing age (5). It is reported that it occurs in older adults with a peak incidence in the seventh to ninth decades of life (6). In this case the patient’s age was 72 years so it was conforming with the literature. It was reported that the most frequent site of origin in the oral cavity was the hard and the soft palate (57%), followed by buccal mucosa (26%) (6). In this case the mass had 4.0x3.0-cm-diameter and widely placed at maxillary posterior alveolar crest adjacent to the palate and buccal mucosa. However according to the literature the tumor size is rarely exceeds 5.0 cm diameter (7). Most reported cases were treated by surgical excision without recurrence (8). However oncocytomas of the minor salivary glands should be carefully removed, together with a small margin of uninvolved healthy soft tissue, because these lesions occasionally have a thin incomplete capsule and rare malignant cases of oncocytic carcinoma have been reported (1, 3, 4, 9). For this reason in this case the tumor was totally removed with the surrounding healthy tissue. The patient was recalled with regular intervals for control of the operation site but one month later the patient has died because of the liver cancer.


**PP11**

**An Unusual Odontogenic Cutaneous Sinus Tract to the Cervical Region: A Case Report**

**Aydin GülSES, Alatt VAROL**

Gülhane Military Medical Academy, Ankara, TURKEY

A cutaneous dental sinus tract is a channel which leads from a dental focus of infection to drain onto the face or neck. (1) Cutaneous sinus tracts of odontogenic origin usually appear more common in the submandibular or submental regions as nodulocystic suppurative lesions. (2,3) These tracts tend to occur more frequently from infected mandibular teeth (80%) than maxillary teeth (20%). (4) They do not always arise in close proximity to the underlying infection, and only about half of all patients have obvious dental symptoms. (3) Therefore, a cutaneous sinus tract of dental origin can be misdiagnosed easily and many patients seek evaluation from several physicians before an accurate diagnosis is made. It has been estimated that half of all patients undergo surgical excisions, radiotherapy, multiple biopsies.
and antibiotic regimens before definitive diagnosis. (1, 4) The purpose of this paper is to report a very rare case of a sinus tract to the midline of the cervical region, just over the hyoid bone, secondary to a periapical abscess of the left mandibular second molar. This paper also points out at the need for the consideration of dental origins for any chronically draining sinus of the face or neck.

A 14-year-old girl sought evaluation of a chronically draining small nodule on the midline of the cervical region just over the hyoid bone (Fig. 1). She denied having dental symptoms like pain or swelling. Gentle pressure on the surrounding tissue elicited thick purulent drainage from the central punctum (Fig. 2). The nodule had been present for several months. Radiographic examination revealed the presence of a concrecence like malformation of the left mandibular second molar and a radiolucent area extending from mandibular left second molar to inferior border of mandible (Fig. 3). The diagnosis of periapical abscess with dentocutaneous sinus tract was made. The patient was treated successfully with the extraction of the malformed mandibular second molar (Fig. 4). One week after the extraction, resolution of the infection was conspicuous but a small umbilication in the skin remained (Fig. 5).

Cutaneous draining sinus tracts are typically formed by periapical abscesses, which result from inflammatory degeneration of the pulp and periodontal membrane of the tooth. (5) The point of drainage usually depends on the location of the apex of the affected tooth in relation to the muscular attachments of the bone and will follow the path of least resistance through the fascial planes of the face. (6) According to Cioffi et al (7), the mandible (40%) and the chin (30%) were the most common sites of cutaneous drainage. In the case presented, considering the infection spread, the midline of the cervical region is an infracted cutaneous site of drainage for sinus tract originating from a dental abscess localized on the lower second molar. The malformed anatomy of the lower second molar may resulted as an unusual spread of the periapical abscess. However, we had not come across any such reference in the literature. A cutaneous draining sinus tract of the face frequently present a diagnostic problem and may mimic pyogenic granuloma, actinomycosis, thyroglossal duct cyst, branchial cleft cyst, furuncle, squamous cell carcinoma, and epidermal cyst. (3) According to Spear et al8, obtaining a medical history from patients was most important for the differential diagnosis. In the present case report, radiographic finding and clinical examination were suggestive of odontogenic extraoral sinus tract. In particular, the examiner should look for dental caries or restorations and periodontal disease. (9) We also stated that the malformations of the teeth such as fusions, twinnings or concrescences are also suspicious for cutaneous sinus tracts.

Treatment of an odontogenic cutaneous sinus tract must be focused on the elimination of the source of the infection. Root canal therapy or surgical extraction is the treatment of choice. (10) After treatment, the sinus tract usually heals in 5 to 15 days with a small scar that over the next few months will almost become invisible. (8) The present case report also highlights the importance of communication between medical subspecialists and general dentistry practitioners in the evaluation of patients with head and neck lesions even if there is no complaint of dental symptoms.

PP12

Complex Odontoma That Interfered the Eruption of Maxillary Left Incisors: A Case Report.

Mehmet KELEŞ, Cenk ERDAL, Ümit KARAÇAYLI
Samsun Military Hospital, Samsun, TURKEY

Odontomas are hamartomas composed of various dental tissues, enamel, dentin, cementum and sometimes pulp. They are classified as complex, when the calcified tissues present simply as an irregular mass composed mainly of mature tubular dentin, or compound, if there is superficial anatomic similarity to even rudimentary teeth.

A 12-year-old girl referred to our clinic with the lack of maxillary left incisors and canine (figure 1). Two radiopaque masses were found on radiographic examination (Figure 2). The masses were found to be in an anterior position relative to the maxillary left incisors which prevented their eruption. Using the clinical and radiographic findings the presumptive diagnosis was complex odontomas with surgical excision being indicated (figure 3). The histopathological exam confirmed the diagnosis.

Both types of odontoma are usually found in the teens or early twenties. Compound odontoma is more common in the anterior of the jaws whereas the complex type is found more commonly in the posterior. Odontomas behave more like developmental abnormalities (hamartomas) than true neoplasms. Although they may reach large size, they do eventually cease growing in contrast to true neoplasms which show continuous growth. Once a dental impaction is detected the diagnosis must be established. The removal of the obstacle that interfered with the physiologic eruptive path makes potential eruption process easier but the retained tooth still may not erupt spontaneously. In these cases orthodontic traction and subsequent correction of the positioning of the teeth is indicated. In our case spontaneous eruption of the impacted teeth is not expected. So that the treatment will include the orthodontic traction and the surgical exposure of the crown of the impacted tooth.

Odontomas are the very common obstacle that interfered the eruption of the teeth. The importance of the clinical and radiographic diagnosis of the retention of a permanent tooth associated with a pathological entity should be emphasized.

PP13

Multiple Compound Odontomas of the Mandible in a Child: A Case Report with Three Years Follow Up

Erdem KILIÇ, Aydin GÜLSES, Alper ALKAN
Erciyes University, Faculty of Dentistry, Kayseri, TURKEY

Odontoma is a tumor composed of differentiated cells of the tooth germ that lay down tooth substance in an abnormal pattern. They have a limited growth potential, cause no pain or cosmetic deformity and in most cases they do not cross the bone borders.\(^1\) Odontomas are diagnosed in each age as a singel bone lesion. However, multiple odontomas with extensive involvement of jaws are found very rarely and their prevalence is unknown.\(^2\) Based on the amount of differentiation present, odontomas are classified as either compound or complex. Compound odontomas account for about two-thirds of the total number of odontomas and about 10% of all odontogenic tumors.\(^3\) They are usually diagnosed during the second decade of life and show no gender predilection.\(^4\) There is also a tendency for compound odontomas to occur in the anterior jaws and for complex odontomas to occur in the posterior jaws. Surgical removal of the odontoma as soon as possible is the optimal treatment.\(^4,5\) The following is a description of a case of multiple compound odontomas appearing in the mandible of a 13 year old boy, along with a review of the literature.

A 13 year old male was referred to our department by his general dentist due to a facial swelling. Past family and medical history were unremarkable. General physical examination showed a healthy looking male with a diffuse, hard, bone swelling on the right anterior region of the mandible covered with normal skin. Intraoral examination showed bone expansion
in the mandible. Radiographic examination showed multiple and diffuse tooth-like opacities occupying mandible (Figure 1). The masses extended from both symphysis and body of the mandible, with a major bone expansion on the right side. On the basis of clinical and radiologic aspects, the initial diagnosis was multiple compound odontomas and surgical treatment was indicated. Surgical removal of the masses was accomplished under local anesthesia. A horizontal incision in the labial vestibulum was made and flap was raised. All tooth like tumor masses were excised (Figure 2). Two mini plates were applied to prevent the mandible from an unexpected fracture. Postoperative healing period was uneventful (Figure 3). Microscopic examination showed a structure consisting of dentine and connective tissue resembling a pulp tissue. The inner soft and reticular connective tissue was covered by stratified epithelium resembling odontoblasts. Based on the histopathologic features, a definitive diagnosis of compound odontoma was established. Postoperatively, there was no evidence of recurrence or complications during 3 years follow up (Figure 4).

Odontomas are pseudo-tumoral lesions composed of both epithelial and mesenchymal cells that give rise to functional ameloblast and odontoblast and represent a malformation with a high degree of histomorphologic differentiation similar to the process producing supernumerary teeth or locally conditioned hyperactivity of the dental lamina. The cause of odontoma is still unknown, although local trauma, infection and genetic factors have been implicated. Odontomas are usually asymptomatic lesions that are discovered incidentally during routine radiography. In the compound odontoma, multiple small and malformed tooth like structures are formed creating a "bag of marbles" radiographic appearance therefore, these are diagnostic on radiographic examination. However, a differential diagnosis might include opaque jaw lesions such as focal sclerosing osteitis, osteoma, periapical cemental dysplasia, ossifying fibroma, and cementoblastoma. Odontomas have very limited growth potential, although an occasional complex odontoma may achieve a considerable mass. They are often collocated with impacted permanent teeth, with or without persistence of the primary tooth.

According to Kaugars et al. odontomas were found to be in association with an unerupted tooth in 48% of cases and in conjunction with a central cyst in 28% of cases. Although every effort should be made to preserve impacted permanent teeth, in this case, the mandibular right canin was removed due to its position. Odontomas are relatively common lesions among odontogenic tumors, but multiple odontomas rarely occur. According to Iwamoto et al. Only 12 cases of multiple odontomas have been described in the English literature. In concordance with Bordini et al., we found only 6 published reports of extensive multiple compound odontomas. Multiple odontomas has been associated with systemic syndromes such as cleidocranial dysostosis, familial adenomatous polyposis and Schimmelpenning syndrome. The presence of such an anomaly must prompt the dental surgeon to perform further investigation. Schimmelpenning syndrome (SS) is a well defined disorder characterized by sebaceous nevi and abnormalities of the CNS, ocular, and skeletal systems. It was first comprehensively described by Schimmelpenning in 1957. Many oral manifestations have been reported, not only including hypoplastic and malformed teeth, and mucosal papillomatosis, but also ankyloglossia, hemihyperplastic tongue, intraoral nevus, giant cell granuloma, ameloblastoma, bone cysts, follicular cysts, oligodontia, and odontodysplasia. Familial adenomatous polyposis (FAP) is an autosomal dominant syndrome, characterized by the development of innumerable adenomatous polyps in the colon and rectum and osteomas, odontomas and abnormal dental findings frequently occur in patients with FAP. Extra intestinal manifestations of FAP are frequently observed and this combination has been called Gardner's syndrome. However, no systemic symptoms were evident in this case.

This case report briefly highlights the presentation and subsequent treatment of multiple odontomas, adding a seventh such case to the dental literature.

PP14
Bisphosphonate Induced Osteonecrosis Because of False Indication: A Case Report
Gülder KOÇER, Hasan Onur ŞİMŞEK, Mümde ÇİNA AKSOY, Serhat Süha TÜRKASLAN, Timuçin BAYKUL
Süleyman Demirel University, Isparta, TURKEY
Despite the benefits related to use of bisphosphonates, osteonecrosis of the jaws is a significant complication in a subset of patients receiving these drugs. This complication has occurred either spontaneously or after simple dentoalveolar surgery.

A man patient who was 64 years old was diagnosed by prostate cancer in April 2006. Because of a pre-
PP15

Lymphoepithelioma-Like Carcinoma of the Palate: Report of a Case with 15 Years Follow Up

Yavuz Sinan AYDINTUĞ, Kemal Murat OKÇU, Melin ŞENÇİMEN, Hasan Ayberk ALTUĞ, Mükresem SAFALI, Murat HAZNEDAROĞLU

Gülhane Military Medical Academy Ankara TURKEY

Lymphoepithelioma refers to the non-keratinizing undifferentiated squamous cell carcinoma associated with various degrees of lymphocytic infiltration (1). Lymphoepithelioma-like carcinoma (LELC) is characterized histologically by a syncytial growth pattern of undifferentiated malignant epithelial cells with ill-defined borders, prominent nucleoli, and numerous mitoses, and a prominent stromal and intratumoral lymphoid infiltrate (2). Non-nasopharyngeal LELC is uncommon and most cases arise from the major salivary glands, affecting almost exclusively Eskimos (3) and Chinese (4) people. LELC of the oral cavity is one of the tumors that it very rarely encountered in practice. Epstein-Barr virus (EBV) has been demonstrated in carcinomas of various organs, including the nasopharynx (5-6) salivary gland (7-8) lung (9) thymus and stomach (10). Most of these EBV associated tumors have characteristic histological features, such as syncytial sheets of undifferentiated malignant cells in a dense lymphoid infiltrate. Tumors with this basic histological pattern were commonly referred to as lymphoepitheliomas. Tumors with similar morphological appearances arising from organs other than the nasopharynx and salivary gland are commonly termed lymphoepithelioma-like carcinomas (11). In this poster presentation a 41-year-old woman operated in 1994 from LELC of the hard palate is presented.

In 1994 a 26-year-old Turkish women was referred to our department presented with an 18-month history of a right hard palate swelling. She had not experienced symptoms such as pain. Intraoral examination revealed a 3-cm in diameter fixed, firm, nontender, swelling but ulcerative in appearance because of the impaction of the food on the surface Figure 1. In physical examination there were no palpable cervical lymph nodes; no other abnormalities were noted. Panoramic radiogram showed a mild decline in bone density in the right molar region Figure 2. Computed tomography (CT) of the head and neck regions revealed normal bone structure on the scull base. On the right nasopharyngeal airway pillar a mild asymmetry was detected on the torus tuberosus level. The oropharynx and hipopharynx airway pillars were seen normal. The soft tissues of the neck were evaluated as normal and there was no pathologically increasing dimension of the lymph nodes. Fine needle aspiration cytology (12) revealed both atypical and necrotic cells, but failed to confirm the diagnosis. Based on the above mentioned findings, the neoplasm was presumed such as pleomorphic adenoma or adenocarcinoma. Incisional biopsy of the neoplasm was planned, and the patient was informed about the surgery. During surgery, pathological review of a rapidly frozen section was consistent with carcinoma. Largely surgical excision of the neoplasm was performed.

Intraoral LELC is rare, as reflected by the paucity of cases reported in a major centre, which equates to less than one case per year (13). Owing to the rarity of intraoral LELC, comprehensive description of its behavior and optimal treatment is lacking. Gathering of information from the literature concerning LELC of the oral cavity may unveil some important aspects of this rare clinical entity. The literature search revealed that intraoral LELC has a male preponderance (1.5 to 1) (1). Yang et al (14) reported a mean age of 45.5 years (range 12–83) from 883 patients suffering from nasopharyngeal carcinoma. The tonsil followed by the tongue base, are the sites most frequently involved. This can be attributed to the abundant lymphoid tissue at the Waldeyer’s ring (15). Chow et al (1) reported that LELC rarely affected other sites of the oral cavity. In two of their three cases LELC occurred at the soft palate. In their literature review, a total of 66 patients suffering from intraoral LELC were identified. LELC occurred most frequently at the tonsillar area (49), followed by tongue base (14), palate (two) and floor of the mouth (one). LE is more radiosensitive than keratinizing squamous cell carcinoma, with a 60% versus 10–20% 5-year survival rate (16, 17). It can be explained by the lesser tumor
density due to the dilutional effect of lymphocytic infiltration. Moreover the immune response in LE may play a role in tumor inhibition; intraoral LE is endowed with similar radiosensitivity. The overall local and regional recurrence rates were both around 5% for the cases of intraoral LEIAC in the literature review (1). For the loco-regional treatment radiotherapy is considered as the first-line treatment. Dubey et al (18) recommend 66 Gy in 33 fractions for T1, T2 or moderate T3 lesions. In our patient combined therapy (excision and radiotherapy) was performed and for radiotherapy 62 Gy in 31 fractions was applied. Lymph node metastasis was not present. Accordingly to Dubey recommendation the radiation is not applied to the neck, because of the well lateralization, small dimension of the tumor and, the absence of lymph metastasis. The patient is being follow-up and no local or regional recurrence of the tumor is detected after the treatment.


PP16

Bisphosphonate Associated Osteonecrosis of the Maxilla

Özlem ÖĞRETİR, Ramazan KÖYМEN, Yavuz Sinan AYDIN'TUĞ

Gülhane Military Medical Academy, Ankara, TURKEY

Bisphosphonates is being used currently for treatment of metastatic diseases and complications of primary bone pathologies such as multiple myeloma, Paget disease, hypercalcemia occurring with malignancies and osteolytic bone diseases successfully. Despite these benefits, osteonecrosis of the jaws is a significant complication in a subset of patients receiving these drugs. This complication usually presents after simple dentoalveolar surgery.

71-year-old woman with a medical history of multiple myeloma referred to our clinic for dental extraction. She received chemotherapy (VAD) during 2 months and zoledronic acid (Zometa, Novartis) during 11 months. Maxillary second premolar was extracted on 1 February of 2009. After the extraction, patient...
started to complain of jaw pain, difficulty in masticating and in brushing teeth. On 8 February of 2009, a panoramic radiography revealed that there wasn’t regeneration of the bone tissue and a process of osteonecrosis with reactive osteosclerosis was present. (Figure 1) Examination revealed an area of exposed necrotic bone, and the diagnosis was jaw avascular osteonecrosis. Minor debridement procedures under local anaesthesia were attempted. Biopsy of the involved area was performed. Presence of necrotic lacunae, bacterial debris, and granulation tissue with infiltration of lymphocytes and histiocytes were observed with the pathologic investigation.

Osteonecrosis (ON), death of bone, occurs as a result of impaired blood supply. Both cancer and its treatment have been associated with an increase in the risk of ON (1). ON of the jaw, and often accompanying osteomyelitis, may be a serious consequence of the inability of the affected bone to meet the increased demand for repair and remodeling from physiologic stress (mastication), iatrogenic injury (dental extraction or denture irritation) or tooth infection in an environment that is trauma intense and bacteria laden.

Dental surgeons should take regarding bisphosphonate-related osteonecrosis of the jaws for some patients on long-term bisphosphonate treatment.

PP17

A Large Radicular Cyst Involving the Entire Maxillary Sinus: Report of a Case

Bora ÖZDEN, Kaan GÜNDÜZ, Ferhat MISIR

19 Mayıs University, Faculty of Dentistry, Samsun, TURKEY

The radicular cyst develops at the root apex of an erupted tooth whose pulp has been devitalized by dental caries or trauma. When a cyst reaches a large size, intraoral or facial asymmetry may occur. Presented here is a case of a rarely seen large lesion, which involved the entire maxillary sinus.

A 16 -year-old male was referred with the complaint of swelling and pain on the right posterior maxillary area. The aspiration biopsy had performed by a general practitioner previously and the lesion was odontogenic cyst histopathologically. The panoramic radiography showed a large radiolucency. Computerized tomography revealed a well circumscribed and defined lesion which filled the maxillary sinus completely together with deviation of nasal septum (Figure 1). Ten months after marsupialization (Figure 2), enucleation and curettage were performed. The patient followed up for one year after the surgical treatment. The healing was uneventful (Figure 3).

Most of the radicular cysts develop slowly and do not usually become very large cavities. Enucleation of the small cyst are generally advised, whereas large cysts are often marsupialized.

In accordance with the literature, the large radicular cyst of our case was successfully enucleated after a period of nine months marsupialization.

PP18

Osteonecrosis of the Mandible Related to the Use of Bisphosphonates: A Case Report

Aydin ÖZKAN, Emre DIKKİER, Mehmet KELEŞ, Ümit KARAÇAYLI

Gülhane Military Medical Academy Ankara TURKEY

Bisphosphonates are used to treat osteoporosis, Paget disease, pain from osseous metastases and malignancy-related hypercalcemia. The main pharmacological effect of bisphosphonates is the inhibition of bone resorption, mediated by a decreased function of osteoclasts (1). Patients with bisphosphonate-associated osteonecrosis present with non-healing extraction sockets and painful bone exposure (2, 3). Because of the increasing use of bisphosphonates, these complications are now being encountered more frequently. Diagnosis of bisphosphonate-associated osteonecrosis is clinical, because it is preferable to avoid biopsy in patients taking bisphosphonates because of problems with healing postsurgical intervention (4). Generally, these drugs are well tolerated, rarely inducing clinically significant side effects: gastrointestinal symp-
toms for oral bisphosphonates (alamdronate and risedronate); elevated serum creatinine, transient low-grade fever, arthralgias and increased bone pain for the injectable drugs (pamidronate and zoledronate) (5). However, recent reports have described osteonecrosis of the jaw bones as a potentially serious complication of the long-term use of these drugs (6-8). In this condition the bone tissue in the jaw fails to heal often after minor trauma, such as a tooth extraction, leaving the bone exposed. The aim of this study is to determine the surgical approach to patients using bisphosphonates as well as how to treat chronic osteonecrosis.

A 63 year old man was referred to the Department of Oral and Maxillofacial surgery at Gülhane Military Medical Academy Ankara with a 2 months history of pain in the left mandibular region. The patient received long-term bisphosphate treatment (six years) for the management of bone metastases due to prostate cancer. The patient was entered into a Zometa (zoledronic acid) trial due to its efficacy in reducing the bone lesions and symptoms. He had undergone tooth extraction while he was using bisphosphate. The patient complained from pain and swelling in the left mandible after second molar extraction. Oral examination revealed localized swelling and pain with exposed bone in the left side of mandible (Fig. 1). Panoramic radiograph showed presence of necrotic sequestrum on the left mandible (Fig. 2). 3D Computerized tomography contributed to demonstrating the osteonecrosis in mandible (Fig. 3). Histopathology confirmed diagnosis of osteomyelitis. The patients were treated for chronic refractory osteomyelitis. The treatment protocols included the conservative (culture, antibiotics and hyperbaric oxygen) and surgical (debridement–sequestrectomy) procedures of osteomyelitis. Patient was given long term antibiotics to prevent infection (osteomyelitis). Exposed areas of bone were removed and debridement of non healing sockets was performed (Fig. 4 and 5). Patient was informed for good oral hygiene protocol and regular use of antiseptic mouthwash. After the surgery the patient was referred to hyperbaric oxygen therapy. In addition to this, bisphosphonate therapy discounted for several months before the surgery.

At the 1-month follow-up he had no signs of disease recurrence (Fig. 6).

Bisphosphonates are drugs that decrease bone resorption by inhibition of osteoclasts (1). Bisphosphonate-associated osteonecrosis of the jaws is a newly recognized entity (9). The diagnosis of this entity relies on a characteristic clinical presentation of painful bone exposure histologic evidence of osteonecrosis the absence of any histologic evidence of neoplasm, and a history of use of bisphosphonates. The exact mechanism by which bisphosphonates cause osteonecrosis of the jaws is unclear. Most of the current theories are extrapolated from the known mechanisms of action of bisphosphonates and cases of osteonecrosis of the jaws that have occurred in association with bisphosphate use (2, 10). The mandible and maxilla are normally the only bones involved in bisphosphate-induced osteonecrosis, the most common site of exposure being the mandible in the area of the molars (about 70% of cases), followed by the posterior maxilla (about 30%); only few cases occur simultaneously in the mandible and maxilla (3). In 25% to 40% of cases osteonecrosis arises spontaneously, not related to any particular trauma (3, 11). Currently, there is no evidence to support or oppose discontinuation of bisphosphonate therapy before the oral surgery treatment. If the patient’s systemic disease is stable, bisphosphonates can be withdrawn until the area of osteonecrosis heals.

Bisphosphonates are drugs that increasingly used in a variety of medical conditions. It is important that dental surgeons to be aware of side effects and complications associated with these drugs and take appropriate caution to avoid the development of this debilitating condition in their patients.

Oral Pemphigus Vulgaris: A Case Report

Aydin ÖZKAN, Mehmet KELEŞ, Ümit KARAÇAYLI
Gülhane Military Medical Academy Ankara TURKEY

Pemphigus is a group of potentially life-threatening autoimmune diseases characterized by epithelial blistering affecting cutaneous and/or mucosal surfaces (1). There are 6 main types of pemphigus: pemphigus vulgaris, pemphigus vegetans, pemphigus erythematosus, pemphigus foliaceus, paraneoplastic pemphigus and IgA pemphigus (2). Pemphigus vulgaris (PV) is the most frequent form showing oral lesions as an initial manifestation in 50% of cases (3). PV is rare disorder and occurs between the fourth and sixth decades of life. The male to female ratio was 1:2 (4). While any area in the oral cavity can be involved, the soft palate, buccal mucosa and lips are predominantly affected. Oral mucosal lesions are characterized by blisters that rapidly rupture, resulting in painful erosions (5). We describe a very severe form of this disease in an 45-year-old woman in this study.

A 45 year old woman presented with a 3 months history of oral ulceration and blisters. The oral ulceration caused the patient considerable discomfort and affected normal oral function. There were no lesions on the skin or other mucosal sites. She had several red-based superficial erosions on the mucosal side of her lower lip (Fig. 1). An oral examination revealed large aphthoid lesions, with several red-based superficial erosions and abrasion, covering the entire oral mucosa. The lesions affected, both cheeks (Fig. 2), the gums (Fig. 3), edentulous alveolar mucosa (Fig. 4), hard palate and soft palate (Fig. 5). The diagnosis of pemphigus vulgaris was confirmed with clinical, histological and immunohistological findings. Systemic corticosteroids therapy is used at the initial dose of 0.5 mg/kg/day (40mg). In addition, the patient was put through periodontal, conservative, oral surgery and prosthetic therapy. Control of oral ulceration was achieved with re-establishment of normal oral function (Fig. 6). At 3-month follow-up she had no signs of disease recurrence.

Pemphigus vulgaris is an autoimmune disease of skin and mucous membranes that is characterised by formation of bullae. While the aetiology of PV is still not clear, it is known to involve an autoimmune mechanism with antibodies that alter the epithelial intercellular junctions (6, 7). Diagnosing PV requires correlation of clinical findings with histopathologic information. Since the clinical aspects of pemphigus vulgaris are similar to lichen planus and benign mucous membrane pemphigoid, the diagnosis of pemphigus vulgaris should be confirmed with immunofluorescence testing. Immunofluorescence methods are used to detect IgG antibodies in the intercellular space of the epidermis or epithelium and circulating antibodies in serum (6). Good oral hygiene and diet are important components of our treatment plan. The basic treatment for PV consists of either local or systemic corticosteroid therapy (8). The initial dose depends on the chronicity of the lesions and the severity of the disease. A daily application of prednisone 0.5–2 mg/kg is recommended (8, 9). Depending on the response, the dose is gradually decreased to the minimum therapeutic dose, taken once a day in the morning to minimize side effects. In 75% to 80% of cases, pemphigus vulgaris lesions first appear in oral cavity. The mouth cavity may be only site of involvement and this can lead to delayed
the diagnosis and inappropriate treatment. Therefore dentists have a crucial role to recognize the oral symptoms of the disease.


PP20

Calcifying Odontogenic Cyst Associated With Compound Odontoma

Timuçin BAYKUL, Serap ŞİMŞEK

Süleyman Demirel University, Faculty of Dentistry, Isparta, TURKEY

Calcifying odontogenic cysts are rare lesions which may occur in association with other odontogenic tumors. The most common of the combined tumors with calcifying odontogenic cyst is odontoma. The term 'odontocalcifying odontogenic cyst' was suggested by Hirshberg for these cases.

The patient was 25 year old women complained of a small painless swelling in the right mandible premolar-canin region. Intraorally, the overlying mucosa was normal and there was no tooth absence. Panoramic and occlusal radiography revealed a well defined unilocular lesion with a sclerotic margin and multiple radiopaque masses were observed in the lesion. The lesion was enucleated under local anesthesia and calcified masses were observed. The histopathologic diagnosis was calcifying odontogenic cyst associated with compound odontoma.

Calcifying odontogenic cyst was a heterogeneous group of entities, with distinct histopathologic findings. The calcifying odontogenic cyst is histologically characterized by the presence of a lining epithelium showing extensive proliferation accompanied by dentinoid and enameloid formation, and the morphologic connection of the lining epithelium of the cyst with the enamel epithelium, indicate that the possible origin of the cyst is the enamel epithelium of the odontoma.

These lesions should be treated by enucleation, recurrence is very uncommon. There must be a close follow-up, because there have been reports of association with carcinoma, adenomatoid tumor and ameloblastoma.

PP21

A Gigantic Peripheral Osteoma of the Mandible: A Case Report

Göksel ŞİMŞEK KAYA, Mehmet Melih ÖMEZLİ, Sare ŞİPAL, Ümit ERTAŞ

Atatürk University, Faculty of Dentistry, Erzurum, TURKEY

Abstract: Osteomas are seldom osteogenic lesion and have a limited growth potential. They are classified according to location as central, peripheral or extraskeletal, however their pathogenesis is debatable. In this report, we presented a gigantic peripherial mass on the left mandible in a 55-year old patient exhibiting clinical signs related to neoplasia. Key words: Peripheral osteoma, mandible. Introduccion Osteoma is a benign neoplastic lesion characterized by proliferation of compact or cancellous mature bone cells. In general, it slowly and progressively grows and is categorized as central, peripheral or extraskeletal according to location.1-10 Central osteomas originate from the endosteum and peripheral osteomas originate from the periosteum, whereas extraskeletal osteomas also known as choristoma originate from the soft tissues.1,2,4,8,9 Clinically, peripheral osteomas (PO) are unilateral, sessile or pedunculated and mushroom-like lesions.5,7,8 They are well-circumscribed radiopaque masses and appear in oval or
round shape in radiography. Osteomas affecting the mandible rarely occur and their occurrence is independent from age and gender. There are few cases that reach large dimensions as in our case in the literature. In this report, we presented a gigantic PO invading lingual part of the left mandibular corpus and discussed its possible pathogenesis.

**Case Report:** A 55 year-old female patient was referred to our Department of Maxillofacial Surgery in June 01, 2008 for preprosthetic surgical evaluation of a slowly grown asymptomatic mass that extended from the left lower central incisor to mandibular ramus in the lingual part of the left mandible. In intraoral examination, there was an immobile, hard and well-circumscribed mass that diffused to the lingual part of the left mandible. This subperiosteal mass was covered with normal mucosa. Lateral skull radiography and computed tomography (CT) however revealed a well circumscribed and sessile mass with a dense radiopaque area (Fig 1 and 2). The patient reported neither a previous systemic illness nor traumatic exposure. However she was unable to confirm the duration of lesion. Vitality tests for all teeth in the lower were positive and regional lymph nodes were in normal appearance. Laboratory measures were within physiological limits. There were no signs related to Gardner syndrome. Full-thickness subperiosteal flap was reflected intraorally via circular incision under local anesthesia (Fig 3). Excisional biopsy was performed by rotary instruments and bone chisel. Cortical bone of the mandible was shaped and smoothed before closing flap. In microscopic evaluation of the specimen, there were no signs of inflammation, but loose stroma among intense lamellous bone structures (Fig 4). The case was diagnosed as PO and no undesired event developed after operation.

**Discussion:** Because of developing without signs, patients with PO visit the dentists for cosmetic deformities, malocclusion, pressure of the mass on neighboring anatomical structures and preprosthetic evaluation. Thus, surgical intervention is indicated when tumor is symptomatic or is actively growing. Surgical intervention varies by the dimension and localization of mass. Histologically, presence of other neoplastic or inflammatory lesions such as eozitos, ossifying fibroma, chronic focal sclerose osteomyelitis, fibrous dysplasia, Paget’s disease, chondroma, osteosarcoma should be excluded prior to the diagnosis of osteomas that are associated with various osteoblastic and osteoclastic activities. Gardner syndrome accompanied with colorectal polyps with high malignity, anomalies involving soft or hard tissues, congenital retinal pigment hypertrophies, and multiple impacted or supernumerary teeth, but unrelated to osteomas is rare. Johann et al. 9 reported 63 mandibular PO cases unrelated to Gardner’s syndrome in literature published in English between 1927 and 2003. Since osteoma in autosomal dominant Gardner syndrome generally develops before colorectal polyps, early diagnosis can be import for saving life.

Our patient did not present any sign of this syndrome. Despite known clinical and radiographical characteristics, pathogenesis of osteomas is largely unknown. According to researchers favoring the reactive theory, such a minimal trauma that cannot be recalled for a long time can cause edema, hemorrhage, and muscle traction, which consequently results in an increased regional osteogenic activity. Moreover, they postulate that osteoma generally develops in regions that are prone to trauma, such as angle, lower border, or buccal aspect of the mandible and buccal aspect of the maxilla as well as attachment areas of masticator muscles. However, development of osteoma in other locations may suggest involvement of other factors in addition to predisposition. Varboncoeur et al.10 have postulated that osteomas originate from embryological cartilaginous rests or persistent embryological periosteum. As this tumor occurs in the adults, many authors refuse this postulation. It is unlikely to deny the embryological theory here because our patient could not recall or confirm traumatic exposure and onset of lesion development. Some researcher claim absence of neoplastic nature based on evidence that this tumor has a limited growth potential, a rare recurrence, and no malign transformation ability. A progressive but slow growth to a gigantic mass and a lack of previous exposure to trauma in the present case may refute the claim of no neoplastic nature.
In summary, PO’s can seldom develop and reach large dimensions as did in the present case. Histopathological examination of lesions is required for an absolute diagnosis and malignity especially in gigantic osteomas should be considered despite typical clinical and radiographical signs.

Figure Legends: Figure 1: Lateral skull radiography of the lesion on the left mandible. Figure 2: CT scan of lesion on the left mandible. Figure 3: Intra-operative view of the lesion. Figure 4: PO on the left mandible (HEx200). Regular and bordered mature bone tissue.


PP22
Chronic Osteomyelitis of the Mandible Caused By Escherichia Coli: Case Report
Pınar TEKMEN, Serpil DURAN, Mehmet AKSAR
Ankara University, Faculty of Dentistry, Ankara, TURKEY
With the advent of antibiotics, osteomyelitis of the mandible became a relatively uncommon inflamma-
tory disease in developed countries. The purpose of this poster is to report a case of chronic osteomyelitis of the mandible caused by Escherichia coli which is a very uncommon causative bacterial agent.

A 23-year-old woman referred to our clinic with 1 month history of an intra-oral nonhealed wound on her left mandible following second molar tooth extraction. In the following period chronic osteomyelitis developed due to Escherichia coli. Treatment protocol with Amikacinc sulfate, irrigation and hyperbaric oxygen was applied. It took eleven months for sequestration and for the wound slightly healing.

In the past, staphylococcal species were considered the major pathogen in osteomyelitis of the jaws. As with most oral infections the prime pathogenic species are streptococci and anaerobic bacteria. The anaerobes responsible are generally bacteroides or peptostreptococci species. Isolation of Escherichia coli in our patient is very surprising as she has absence of a history of intravenous drug use or chronic diseases.

Chronic osteomyelitis should necessitate microbiological investigation to identify the organism. Surgical debridement, hyperbaric oxygen, and long-term antibiotics should be instituted.

PP23
Central Giant Cell Granuloma and Peripheral Giant Cell Granuloma Occurring in the Same Patient: A Case Report
A. Pınar SÜMER, Mahmut SÜMER, N. Tuba TELÇİOĞLU, Peruze ÇELENK, Ömer GÜNHAN
Ondokuz Mayıs University, Faculty of Dentistry, Samsun, TURKEY
The giant cell granuloma was considered widely to be a nonneoplastic lesion. Giant cell granuloma of the jaws had two forms as peripheral giant cell granuloma and central giant cell granuloma. Peripheral giant cell granuloma was located in gingival and alveolar process whereas central giant cell granuloma was located in bone. Both lesions were seen in females more than males, and generally localized in
mandible. Possible etiologic factors are hormonal disorders, trauma and neoplasm.

This case report presented a central giant cell granuloma and a peripheral giant cell granuloma occurring in the same patient. An 11 year old boy generally healthy was admitted to our clinic with a swelling in the right canine region of the maxilla. Clinical examination revealed a red-blue nodular and pedunculated lesion with an ulcerated surface. Radiographic evaluation showed a concave depression image corresponding to bone resorption. Additionally, an unilocular radiolucent lesion with well-defined sclerotic margins between the right mandibular central and lateral incisor teeth roots and tooth migration was observed. Maxillary lesion was described as a peripheral giant cell granuloma and mandibular lesion as a central giant cell granuloma.

Both lesions were removed surgically and curettage was performed. After surgery, the lesions were examined under light microscopy. In both lesions, the clinical and radiologic diagnosis was confirmed by the histopathologic examination.

Lots of cases were severally reported about central and peripheral giant cell granulomas, however to our knowledge, central and peripheral giant cell granulomas in the same patient have not been previously reported. This case might suggest a relationship between these entities.

In this study, we represent three submandibular gland sialolithiasis that was treated with excision of the stone via a transoral approach successfully. The aetiology, pathogenesis, and management of patients with sialolithiasis were discussed and review of literature represented.

Transoral sialolitotomy for large intraductal sialoliths prevents the morbidity associated with extirpation of the submandibular gland. Conservative management such as lithotripsy is emerging as a valuable alternative to salivary glands removal.

PP25
Pleomorphic Adenoma of the Cheek: A Case Report and Review of Literature

Cem ÜNGÖR, Anıl GÜVEN, Hasan ALP, Onur İÇTEN
Ankara University, Faculty of Dentistry, Ankara, TURKEY

Pleomorphic adenoma is a benign salivary gland tumour originating from the epithelial and myoepithelial elements. They are seen in parotid gland mostly with a painless mass. Intraorally, the palatal glands are most commonly affected and the cheek, lip and gingiva are rare sites of occurrence.

In this case report, pleomorphic adenoma which occurred in cheek site in a 67-year-old female patient represented. The patient was treated by wide local excision and no recurrence was observed 3 years after the surgery.

Treatment alternatives, prognosis, histopathology, different types and aetiology of pleomorphic adenoma discussed.

This significant case report serves to alert clinicians regarding the diagnosis of unusual cases of orofacial swellings.
Botryoid Odontogenic Cyst: Report of a Case

Doğan DOLANMAZ, Gülsün YILDIRIM, Handegül KORKMAZ
Selçuk University Faculty of Dentistry, Konya, TURKEY

The botryoid odontogenic cyst (BOC) is a rare entity which has been sporadically reported in the literature since Weathers and Waldron coined the term in 1973. Cysts with similar characteristics may have been seen even earlier than 1973, but were classified as other types of cysts of odontogenic or mesenchymal origin. BOC is a developmental cyst of odontogenic epithelial origin considered as a rare multilocular variety of lateral periodontal cyst. In this report, clinical and histopathological features of a case of BOC found in mandibular posterior region will be presented.

A 35-year-old man consulted for a swelling of the posterior mandibular region. The clinical examination revealed buccal swelling extending from the second molar to the mandibular ramus. The mucosa was normal. Radiographic examination revealed a bilocular radiolucency extending from impacted third molar to the ramus region. The lesion was enucleated and impacted third molar was removed, under local anaesthesia via a vestibular approach. Histopathologically, the diagnosis was BOC.

BOC is known to be a recurrent odontogenic cyst. Several cases of multiple recurrences have been reported up to nine years after the initial surgery. Long term follow-up is thus mandatory.

Complex Odontoma: A Case Report

Çiğdem ÇETİN, Belgin Gülsün GÖRGÜN, Hakan ÇAĞLI
Dicle University, Faculty of Dentistry, Diyarbakir, TURKEY

The odontomas constitute about 22% of all odontogenic tumors of jaws. The lesions are almost invariably asymptomatic and are usually discovered in routine radiographic examinations. Two types of odontomas are recognized clinically: complex and compound. Both kinds of odontomas are generally present in bone tissue; however, in extremely rare instances they may erupt into the oral cavity. The majority of both the complex and compound odontomas occurred from 0-30 years, with a clear peak seen in the second decade of life. Although some differences exist among the data reported from the literature, there is a general agreement that there is an equal sex incidence. The majority of complex odontoma are found in the posterior mandible, followed by the anterior maxilla. Clinical signs that reflect the presence of an odontoma are a retained deciduous tooth, an impacted tooth and alveolar swelling. These lesions generally produce no symptoms. In complex type the radiopacity does not have a specific shape but appears as a disorganized irregular mass. Microscopically, complex odontomas consist of haphazard conglomerates of dentine, enamel matrix, cementum and pulp tissue. The purpose of this study is to show the case of complex odontoma associated with an impacted canine in a patient.

A Case Report: A 54 years old male patient was referred to our clinic with a complaint of hard swelling in his mouth. After clinical examination of his intraoral conditions and manual palpation indicated a solid mass and hardness in anterior alveolar crest (Fig 1). Both the buccal and lingual cortices were expanded and hard. The panoramic radiograph obtained at the first examination showed an oval shaped radiopaque mass that was closely associated with the horizontal unerupted lower permanent canines (Fig 2, 3). Clinical and radiographic appearances suggested that the lesion was a complex odontoma. The lesion was removed from the patient after local anesthesia had been induced (Fig 4). Macroscopically, the surface of the surgical specimen was slightly lobular and showed conglomeratic solid features with a rugged outward appearance; the lesion, which was 2.5 x 2 x 2 cm in size, resembled an osteoma. The mass and the horizontally positioned canine were removed and operation side was sutured primarily (Fig 5). Histopathologically, irregular arrangement of dentine, enamel matrix, cementum and pulp-like
connective tissue forming an irregular mass enclosed in a fibrous capsule, which was a typical complex odontoma (Fig 6).

Odontomas are known as mixed odontogenic tumors because they are composed of tissue that is both of epithelial and mesenchymal origin. These tissues are fully differentiated, resulting in deposition of enamel by ameloblasts and dentin by odontoblasts. These calcified lesions take one of two general configurations. They may appear as multiple miniature or rudimentary teeth in which case they are known as compound odontomas, or they may appear as amorphous conglomerations of hard tissue, in which case they are known as complex odontomas. Hisotomi et al. examined 107 cases of odontoma retrospectively and they reported that the average age for the complex odontoma was between 10-19 but in this case we encountered 54 years old male patient. Odontomas are mostly associated with permanent teeth, and only rarely with deciduous teeth. Katz reported that some odontomas interfered with deciduous tooth eruption. In our case the mass was associated with deciduous canine. Philipson et al. reported that the majority of complex odontomas are found in the posterior mandible, followed by the anterior maxilla in our case it was associated anterior part of mandible. Compound odontomas are diagnostic on radiographic examination. Complex odontomas are usually present a typical radiographic appearance because of their solid opacification in relationship to teeth. However, differential diagnose might include other opaque jaw lesions such as focal sclerosing osteomyelitis, osteoma, periapical cemental dysplasia, ossifying fibroma and cementoblastoma.

In conclusion, odontomas are benign tumors frequently seen in oral pathology that sometimes produce no symptoms and are diagnosed as incidental finding on routine radiological studies. Odontomas usually caused delayed eruption. If no sign or symptoms appear and lesions go undetected, they can remain for many years without clinical manifestation the recommended treatment is total surgical removal with proper histopathologic evaluation to confirm the diagnosis.

**PP28**

**Pleomorphic Adenoma of the Palate: Report of 3 Cases**

Alper PAMPU, Figen ÇIZMECI ŞENEL, Nuray YILMAZ ALTINTAŞ, Mustafa ÇANKAYA, Ezher DAYISOYLU, Fatih TAŞKESEN

Karadeniz Technical University, Faculty of Dentistry, Trabzon, TURKEY

Pleomorphic adenoma is the most common salivary gland tumor and represents %40-70 of all major and minor salivary gland neoplasms. It is a benign neoplasm composed of epithelial and myoepithelial cells arranged in a great variety of morphological patterns, with areas of mesenchymal differentiation. The clinic features of the pleomorphic adenoma is firm, painless, nonulcerated, irregular swelling. The most affected site is palate, upper lip and buccal mucosa.

In the current study 3 painless well defined pleomorphic adenomas were excised under local anesthesia. Closures of the defects were performed by intact mucosa. All of the cases were localized at hard palate. No recurrences were seen.

The most common histological type, pleomorphic adenoma enlarges slowly over a period of years. The differential diagnoses include palatal abscess, odontogenic and non-odontogenic cysts, soft tissue tumors and salivary gland tumors.

Although pleomorphic adenomas are benign lesions, surgical removal should be done completely because of high recurrence rate. Periodic controls are required for the possibility of malignant transformation.

**PP29**

**Eruption Cysts (3 Case Reports)**

Beyza KAYA, İbrahim KÖSE, Musa Can UÇAN

Dicle University, Faculty of Dentistry, Diyarbakır, TURKEY

**Introduction:** The eruption cyst is an uncommon type of dentigerous cyst. It may occur during the pe-
riod of eruption of the deciduous or permanent teeth. Eruption cysts occur within the mucosa overlying teeth that are about to erupt. It is mostly a bluish translucent, elevated, compressible, dome-shape lesion of the alveolar ridge. Eruption cyst is one of the local disturbances to eruption of teeth. The reported average age for EC is about 7 years. Eruption cysts can be seen to be different from the dentigerous cyst by the clinical features and dental radiograph surveys. In the past, eruption cyst (EC) was considered a dentigerous cyst (DC) occurring in the soft tissues. Whereas the typical DC develops around the crown of an unerupted tooth within the jaw bone, the EC occurs when a tooth is impeded during the eruption process within the soft tissues overlying the bone. Treatment of the eruption cyst is not always undertaken immediately. However, if necessary, the most common method used has been the removal of a portion of the tissue overlying the crown of the tooth to facilitate eruption. The purpose of this article is to report on three cases of EC occurring in three children and their diagnosis and management.

**Case 1:** A 2-year-old boy presented with a 1x1.5x1-cm diameter gingival swelling over the right maxillary area of several month's duration. There was no previous facial trauma or contributory medical history. Physical examination showed a soft, smooth, mucosal swelling with a bluish hue over the clinically missing right maxillary second deciduous molar (Fig 1). A periapical radiograph showed that the maxillary second deciduous molar was impacted and the crown of the impacted right maxillary tooth to be in close proximity with the clinical mucosal swelling. Cyst was completely enucleated and submitted for histological examination (Fig. 2, 3)

**Case 2:** A 7-year-old boy presented with a 1x1x1-cm diameter gingival swelling over the right frontal maxillary area of several month's duration. There was no previous facial trauma or contributory medical history. Physical examination showed a soft, smooth, mucosal swelling with a bluish hue over the clinically missing right maxillary first incisor (Fig 4). Panoramic and periapical radiographies (Fig 5, 6) showed that the right maxillary first incisor was impacted and the crown of the impacted right maxillary tooth to be in close proximity with the clinical mucosal swelling. Cyst was completely enucleated and submitted for histological examination (Fig. 7)

**Case 3:** A 7-year-old boy presented with a 1x2x1-cm diameter gingival swelling over the right and left frontal maxillary area of several month's duration. There was no previous facial trauma or contributory medical history. Physical examination showed a soft, smooth, mucosal swelling with a bluish hue over the clinically missing right and left maxillary incisors (Fig 8). Panoramic and periapical radiographies (Fig 9, 10), showed that the right and left maxillary incisors were impacted and the crowns of the impacted teeth to be in close proximity with the clinical mucosal swelling. A diagnosis of eruption cyst were made and the patients were scheduled for removal of a portion of the tissue overlying the crown of the teeth to facilitate eruption. At surgery, a small cysts were identified lying entirely in soft tissue between the labial surface of the impacted teeth and the epithelial mucosa. They were completely enucleated and submitted for histological examination. Postoperative recoveries were were uneventful. Microscopic examination of the soft tissue mass specimen confirmed the diagnosis of eruption cysts. An eruption cyst wall showed unremarkable gingival mucosa and irregular inflamed but intact cyst wall and lining.

**Discussion:** Eruption cysts develop coronal to the erupting deciduous or permanent teeth. In present cases one of them associated with deciduous second molar, two of them were together with permanent first incisors. They usually occur in the first decade of life, in single or multiple, unilateral or bilateral form, and in the maxillary or mandibular arch. Our cases occurred in the first decade of life. Two cases were unilateral in the right maxillary arch; one case was bilateral form in the maxillary arch. Clinically, eruption cysts appear as smooth, painless swellings in the mucosa of the alveolar ridge and the color is described as blue, bluish, red bluish or blue black. In our cases they appear as smooth, painless swelling and the colours were bluish in two cases, purple was in one case. The origin of the cyst can be degenerative cystic changes in the reduced enamel epithelium following completion of amlosgenesis or
the cyst develops from the epithelial remnants of the dental lamina overlying the erupting tooth. The causative factors for eruption cyst formation are early caries and chronic periapical inflammation or trauma in the primary teeth as well as a certain genetic predisposition. The pathogenesis of eruption cyst is probably similar to that of dentigerous cyst. The difference is that the tooth in the case of eruption cyst is impeded in the soft tissues of the gingiva rather than in the bone. The presence of particularly dense fibrous tissue could be responsible from impede eruption. EC is not detectable on radiographic examination, because there is usually no bone involvement. Both cyst and tooth are located directly in the soft tissue over the alveolar ridge. Even so, radiography is highly recommended for evaluation of the morphology of the involved tooth or its surrounding jaw bone. The treatment approach has to be case specific. The clinical characteristics of eruption cysts usually disappear spontaneously without surgical treatment, with the eruption of the associated tooth. However, if tooth eruption is impaired by the cyst, surgical removal of the overlying tissues usually facilitates eruption. In present cases cystic tissues over the teeth were removed.

Result: Surgical removal of the cyst and exposure of the underlying tooth crowns may facilitate tooth eruption in such cases. It is important to send the material for examination, to prevent any possible misdiagnosis, such as hemangioma, melanoma or unicystic ameloblastoma.

PP30
Actinomycotic Osteomyelitis of the Mandible
Altan VAROL, Ayşegül SİPAHİ, Onur ATALİ, Serdar YILMAZ, Selçuk BASA
Marmara University, Faculty of Dentistry, Istanbul, TURKEY

Von Langenbeck noted the first case of human actinomycosis in 1845. Bollinger described the organism Actinomyces bovis and its ability to cause “lumpy jaw” in cattle. The word Actinomyces means “ray fungus,” and reflects the general belief at the time that the organism was a fungus. The organism was first isolated from humans in 1891, when Wolff and Israel reported culturing it anaerobically growing only at body temperature. In the 1960s, Waksman concluded that Actinomyces was actually a gram-positive bacteria. The organisms that cause Actinomycosis are members of the families Actinomyceataceae, Streptomycetaceae, and Actinoplanaceae. The organisms are gram-positive, branching, nonspore-forming bacilli. They are anaerobic or microaerophilic. They are very difficult to grow in culture, and the culture-recovery rate from active infection is only approximately 30%. The organisms responsible for infection in man are thought to be Actinomyces israelii, naeslundii, viscosus, and odontolyticus; of these israelii is the most common. Actinomyces bovis has not been isolated in man, and is felt to be the organism responsible for “lumpy jaw” in cattle. Actinomyces israelii is a part of the human oral flora which is more commensal than being a pathogenic agent. Local mucosal trauma or dental procedures such as extraction can precipitate its introduction into the soft tissues and jaw bones which is known as actinomycosis. In infection, the organism can function as a facultative intracellular parasite which spreads into adjacent soft tissues without regard for tissue planes or lymphatic drainage. Actinomycosis seldom involves lymph nodes. Actinomycotic osteomyelitis is a very resistant infection that may complicate the physical status of patient with pathological mandibular fractures. Essential step of the treatment includes culture test, long period of broad-band antibiotic regimen and surgical resection of the necrotic bone. We present a very interesting case reporting a 41 years old female patient who suffered from abscess formation after extraction of left lower 2nd molar. Patient underwent a serial of surgeries until she is completely free of symptoms.

A 41 years old Caucasian female patient admitted to a private dental office to had her lower left premolar and molars extracted. The dentist extracted the tooth and patient developed intense headaches and edema at her left face. She was referred to Marmara University, Dept. of Oral & Maxillofacial Sur-
gery with 41 C body temperature, tenderness in her jaw and swollen cheeks. Intraoral examination revealed necrotic alveolar sockets.(Fig.1) Preoperative OPTG and CTs were obtained(Fig.2). The CTs revealed presence of localized pus in the buccal and temporal region (Fig.3). The patient underwent drainage of temporal and buccal space abscesses under general anesthesia. The culture test revealed presence of Actinomyces israelii in the pus. Patient continued on i.v. penicillin for several weeks and had excision of involucrum and necrotic tissue under general anesthesia. Actinomycotic infection of the mandible was also verified by biopsy of the resected involucrum. Patient was set on oral amoxicillin and clavulanate for FIVE months. After 6 months, the patient admitted with pain and she was diagnosed to have a pathologic fracture at the body of left mandible(Fig.4). Partial mandibulectomy was performed and mandible was bridged with a 2.4 mm reconstruction plate (Fig.5-6). Patient was set to consolidation period until infection was completely eradicated. One year later, free non-vascularized iliac bone grafting was performed for mandibular reconstruction (Fig.7-8). A new 3-D CT was obtained to check incorporation of the iliac graft. (Fig.9) The case was finished by placement of dental implants into the newly formed bone (Fig.10).

named the "masquerader" of the head and neck, and the differential diagnosis for its presentation is extensive. Radiographic findings are non-specific, and even after biopsy or excision, the diagnosis can be difficult because the organism is very difficult to grow in culture, and the characteristic pathologic findings are not always present. Because the diagnosis is difficult to make, surgery becomes important as both diagnosis and treatment of actinomycosis. Recurrence following surgery alone, however, is very common, and antibiotic therapy is a necessary part of treatment. The course of treatment is two to four weeks of high-dose intravenous antibiotics, followed by three to six months of oral antibiotics. The mainstay of therapy for years has been penicillin. The semi-synthetic penicillins such as Naflillin and Dicloxacillin are less effective. In penicillin allergy, tetracycline is used. Erythromycin is effective, and is recommended in rare cases of penicillin and tetracycline allergy. Clindamycin is also effective, and if co-infection with other anaerobic bacteria or Staphylococcus is suspected, treatment with clindamycin is recommended. The cure rate with appropriate antibiotic therapy is over 90%. After partial mandibulectomy, we did not reconstruct immediately the mandible and followed "wait and see" protocol until infection was completely treated. The patient was reconstructed with autogenous iliac bone block grafts subsequent to a long waiting period. It would not be appropriate to risk autogenous bony tissues of the patient with a resistant bacterium and we waited as much as possible until the actinomycosis disappeared. It is a very educative case which shows just how a simple extraction of an acute tooth could cause a cascade of inadvertent dramatic destruction of lower jaw with Actinomycosis infection. Actinomycosis of the lower jaw continued with low-grade chronic infection after antibiotic therapy and caused pathologic fracture. At the second surgery, the resection of the mandible was performed with a bur until healthy bleeding bone was encountered. The inferior alveolar nerve was also sacrificed since the trajectory of the nerve was localized in the mid infected region in the CTs.

Actinomycotic osteomyelitis of the mandible may be clinically observed as a resistant infection even with sudden recurrences after antibiotic regimen. Complete eradication of the infection is mandatory unless a hard tissue reconstruction is planned.

PP31
Management of a Large Odontogenic Keratocyst in the Mandible Using Imaging Cone Beam Computed Tomography: A Case Report
Meltem KORAY, Prof.Dr. Nedim ÖZER, Esra SOMTÜRK, Hakki TANYERİ, İstanbul University, Faculty of Dentistry, İstanbul, TURKEY
Odontogenic keratocysts (OKCs) generally occur as a multilocular or unilocular radiolucency, often in a dentigerous relationship. Most common occurrence
location is the posterior portion of the mandible or the mandibular ramus. OKCs are generally thought to be derived from either the epithelial remnants of the tooth germ or the basal cell layer of the surface epithelium. They have an aggressive nature and a high recurrence rate. Cone beam computed tomography (CBCT) may prove useful in clarifying detailed internal structure and the state of margins.

A 64-years old man was referred to our clinic with an unilateral intraoral swelling in the right mandible. CBCT of mandible (Fig.1) and panoramic radiography (Fig.2) showed a large lesion that involved most of mandibular corpus and expanded to medial and lateral cortical edges and. Under general anesthesia, the cyst was totally enucleated. Bone graft material was placed into the bone defect. The enucleated lesion was histopathologically identified as parakeratinized odontogenic keratocyst. There was no sign of recurrence on follow-up for two years (Fig 3). The patient has been symptom-free up to now and he is scheduled for future re-calls.

Treatments of OKCs have ranged from marsupialization and enucleation to resection. Resection is a rare modality of treatment. Conservative surgical removal and long-term follow-up should be the treatment choice

Three-dimensional imaging using CBCT has enabled the successful treatment by means of enucleation instead of mandibular resection.

PP32


Meltem KORAY, Duygu OFLUOĞLU, Hakkı TANYERİ, Alp SARUHANOĞLU

İstanbul University, Faculty of Dentistry, İstanbul, TURKEY

Ankaferd Blood Stopper (ABS) is a unique folkloric medicinal plant extract which has historically been used in Turkish traditional medicine as a haemostatic agent. ABS comprises a standardized mixture of the plants Thymus vulgaris, Glycyrrhiza glabra, Vitis vinifera, Alpinia officinarum, Urtica dioica. Each of these plants has some effect on the endothelium, blood cells, angiogenesis, cellular proliferation, vascular dynamics and cell mediators however the basic mechanism of action for the haemostatic effects of ABS is currently unknown. The peripheral giant cell granuloma is a relatively common tumour like growth of the oral cavity. It probably does not represent a true neoplasm but rather is a reactive lesion caused by local irritation or trauma. It occurs exclusively on the gingiva or edentulous alveolar ridge, presenting as a red or reddish-blue nodular mass. The peripheral giant cell granulomas can develop at almost any age but show peak prevalence in the fifth and sixth decades of life. Approximately %60 of cases occurs in females. The treatment consists of local surgical excision down to the underlying bone. The adjacent teeth should be carefully scaled to remove any source of irritation and to minimize the risk of recurrence. The aim of this report is to present the benefits of usage of ABS, in surgical operation of a peripheral giant cell granuloma of the mandible in an eight year-old boy and the additive effects of ABS in healing process.

A 8 year-old boy, lack of any systemic disease or syndrome, was admitted to our department with the complaint of a lesion on his right lower jaw. His parent noticed the mass 3 months earlier but they had waited for a while for the spontaneous regression of the lesion. In intraoral examination, an expansive mass extending from the right primary canine to right permanent first molar was detected. The oral hygiene was poor and the root of right second primary molar could be seen in the mouth (Figure 1). A panoramic radiograph exhibited the roots of primary second molar and a faint shady appearance between the primary canine and permanent first molar was seen vaguely (Figure 2). The lesion was curedtted totally along with the extraction of primary second molar roots, using an intraoral approach, under general anesthesia (Figure 3-4). Ankaferd blood stopper was applied to the defect area, the wound edges were supported with sutures and antibiotic was prescribed (Figure 5-7). Histopathologic exam-
ination revealed multinucleated giant cells within a background of plump ovoid and spindle-shaped mesenchymal cells and verify the lesion as “peripheral giant cell granuloma”. The healing was better than expected one week after the surgery (Figure 8). He is in third week after surgery and under regular follow-up in our clinic.

Ankaferd is a medicinal plant extract, which has previously been used in Turkish traditional medicine as hemostatic agent. Ankaferd comprises a standardized mixture of plants Thymus vulgaris, Glycyrrhiza glabra, Vitis vinifera, Alpinia officinarum, and Urtica dioica. ABS as a medicinal product has been approved in the management of external hemorrhage and dental surgery bleedings in Turkey. The safety and efficacy reports on the product have indicated its sterility and nontoxicity. A very recent in vitro study has shown that exposure of ABS resulted in a very rapid formation of network within the plasma and serum. Routine hemostasis and biochemical tests revealed that the network formation due to ABS depended upon the interactions of the substance with the blood proteins, mainly fibrinogen, and indicated that ABS could affect both fibrinogen and other proteins possibly via agglutination of these molecules. The network of ABS might cover the entire physiological hemostatic process without affecting any individual clotting factor. Thus, this unique mechanism of action provides ABS with the advantage over other hemostatically active plant extracts and might be effective both in subjects with normal hemostatic parameters and in those with primary and/or secondary hemostatic disorders. On the other hand usage of ABS provides better view for surgeon, shortens the operation time and fastens the healing process.

PP33
Orantral Fistula with Prolapsed Antral Post-Traumatic Polyp: Review of the Literature and Case Report
Mehmet Cemal AKAY, E. KAYA, S. GÜNBAK
Ege University, Faculty of Dentistry, Izmir, TURKEY
Orantral fistula can be defined as a pathologic communication between oral cavity and maxillary sinus and is usually located between the antrum and vestibule. Orantral fistulas most commonly arise because of tooth extraction and usually heal within 2 to 3 weeks. After 3 weeks, they are accepted as chronic; spontaneous healing is uncommon, and surgical correction is necessary. The patient frequently complains of regurgitation of food through the nose while eating and may be aware of air entering the mouth through the nose during eating and smoking. In some cases the oroantral fistula may eventually be blocked by a hyperplastic growth of the sinus mucosa or by an antral polyp herniating through the fistula. The post-traumatic polyps differed from those of other aetiologies by showing the presence of granulomas, less numerous inflammatory cells with very few eosinophils, nearly normal surface epithelium (smaller surface area occupied by nonciliated epithelium, absence of epithelial squamous cells, normal frequency of goblet cells), rapid appearance of symptoms, and shorter duration of the disease. It seems that the specific characteristics of the injury-induced polyps results from a different mechanism of their formation, involving primarily abnormal mucosal repair and to a lesser extent an inflammatory process. Some of these cases could be misdiagnosed by clinician due to rapid growing of sinus mucosa through the oro-antral fistula. The resulting polyp may develop, as demonstrated in the animal model, by proliferation of the damaged epithelium and subsequent involvement of the fibrob-
Abstract Book of ACBID 2009

lasts responsible for the production of the extracellular substance and growth of polyp stroma. Although the surgical closure is successful in more than 95% of cases, inappropriate operation will result in closure failure.

Case Report: A 42-year-old man was referred to the Ege University, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery for evaluation of a large mass and an oro-antral fistula that developed following extraction of his upper right first molar three months previously. Intraoral examination revealed a nodular swelling on first molar area. The overlying mucosa was normal but slightly erythematous. The patient reported that the lesion had been increasing in size over the past three months, accompanied by occasional symptoms of pain. The extraoral examination was within normal limits with no evidence of lymphadenopathy. The overlying skin was normal with a smooth surface. The swelling was nonfluctuant and nonpulsatile. An intraoral examination revealed a red firm lesion of the upper lip mucosa measuring 5x6 cm in greatest dimension (Fig. 1). The lesion was excised totally under local anesthesia and the resultant defect was reconstructed by using mucoperiosteal flap (Fig. 2-5). The histological diagnosis of the lesion was sinus polip. To our knowledge the patient is currently free of disease ten months post operatively.

Discussion: The most common etiologic factor for oroantral fistula is tooth extraction. Infection, cystic lesions, maxillary tumors, and tumors were other causative factors. Fistulas are common between the ages of 30 and 60. It is considered that the loss of teeth experienced with advancing age increases the likelihood of fistulas. In male patients fistulas are twice as common as in women. This is attributed to more common and more traumatic tooth extraction in men. The first molar tooth is involved in most of the cases; this is followed by the second molar as in our series. The incidence of chronic oroantral fistulas is decreasing. Smaller fistulas tend to heal spontaneously, whereas the fistulas larger than 5 mm rarely heal. Together with the size of fistula, the presence of maxillary sinusitis, epithelialization of fistula tract, osteitis or osteomyelitis on fistula margins, foreign body, dental cysts, dental apical abscess, or tumors prevents spontaneous healing and results in chronic fistulas. Sinusitis may occur as a result of oroantral fistula; maxillary sinusitis is the most important factor for chronicity. For this reason, foreign bodies, infected and degenerated polyoid mucosa, and infected bone should be immediately removed. Palatal, buccal, or combined mucoperiosteal flaps are used for the surgical closure of oroantral fistula. None of these methods were proved to be superior to the other. However, certain advantages and disadvantages do exist. Perfusion of palatal flaps is better, but the surgical procedure is harder. Palatal flaps are preferred in larger and recurrent fistulas. Bony structure of hard palate is exposed, and reepithelialization requires 2 to 3 months, causing severe complaints and edema of the hard palate. Despite the easier surgical procedure, perfusion of buccal flaps is poor. These flaps are not preferred in large and recurrent fistulas. Narrowing of gingivobuccal sulcus may occur. Bluestone and von Wowern consider it as a transient complication, whereas Amaratunga and del Junco et al reported permanent cases. The correction of maxillary sinus pathology is essential for successful therapy. The drainage and adequate aeration of the sinus should be achieved in cases with mucosal thickening and cystic or polyoid degeneration of mucosa. Gold and tantal plate; bone grafts; fascia lata, dura, and hydroxyapatite blocks; and lyophilized collagen have all been used for surgical correction. In our opinion, homografts are preferred over foreign materials. Recently good results were achieved by the application of laser biostimulation. Tissue and bone distraction osteogenesis could be tried for recurrent cases or treatment failures, especially in irradiated cases.

Conclusion: Complete healing of the oro-antral fistula was evident. In the presented case, there was no evidence of recurrence 24 months postoperatively.
One Year Postoperative Stability of Bimaxillary Orthognathic Surgery Combined with Paranasal Bone Graft Augmentation: An Analysis of Relapse

Metin ŞENÇİMEN, Altan VAROL, Aydin GÜLSES, Fidan SABUNCUOĞLU, Erol AKİN, Kemal Murat OKÇU

Gülhane Military Medical Academy, Ankara, TURKEY

Advancements in surgical techniques have profoundly changed and improved orthognathic surgery stability. Over the past 30 years, clinicians and research scientists have collaborated to provide an impressive volume of literature on the total maxillary osteotomy to the surgical and orthodontic communities. Less than 2 mm of postoperative relapse 1 year after surgery has been reported as a clinically acceptable relapse threshold for autogenous bone grafts. (1) The main purpose of this study was to assess the magnitude of postoperative relapse of paranasal augmentation with maxillary Le Fort I osteotomy 1 year after the operation.

The female subject, aged 21, was treated with Le Fort I osteotomy and sagittal split ramus osteotomy to correct excess anterior cross bite (Fig 1-2). Paranasal area was augmented bilaterally with autogenous bone grafts harvested from iliac crest. All osteotomy and augmentation sites were stabilized with titanium plates and screws. No signs or symptoms of infection or adverse postoperative swelling were found within 1 year after surgery (Fig 3). All fixed orthodontic appliances were removed within 6 months of patient’s surgery date with slight vertical dentoalveolar movements noted in patients progress notes required to finish treatment. At the 1-year postoperative visit, the patient retained the Class I canine occlusion, positive overjet, and overbite that were achieved at the immediately postoperative visit (Fig 3). Preoperative (Fig 4) and 6 and 12 months postoperative (Fig 5-6) lateral cephalometric radiographs were taken with the same cephalometric machine and by the same technician. All radiographs were traced initially on matte acetate tracing paper (3M Unitek, Monrovia, Calif) to identify universally accepted cephalometric landmarks by a single operator, and then retraced and superimposed on the sella-nasion line to verify their reproducibility. Vertical and horizontal reference planes were constructed for linear measurements (in millimeters). The landmarks were the vertical and horizontal borders of the bone grafts. Results: According the comparison of the pre- and post-treatment lateral cephalometric of the patient magnitudes of vertical and horizontal surgical movements, postoperative relapse, or any volumetric alterations of the bone grafts were absent.

Orthognathic surgical techniques include both the Le Fort I osteotomy and sagittal split ramus osteotomy, and both can be used to correct mandibular prognathism. However, large bone mass deficiencies, where there is not enough bone to distract, require iliac bone graft reconstruction, though a vertical gain of 10 mm is difficult to achieve. (2) Common applications of allogeneic bone implants for orthognathic surgery include iliac crest segments, and calcified or decalcified ribs. The ilium is the most preferred donor site for bone grafting. (3) Grafts may be obtained from either the anterior or posterior portions of the bone. It contains the greatest absolute cancellous bone volume and has the highest cancellous-to-cortical bone ratio. Greater amounts of bone can be obtained from the posterior ilium. From a single side, the maximum amount of obtainable bone approaches 50 cc. From the posterior ilium, the maximum obtainable bone approaches 90 cc. (4) Documented donor site complications include hematoma, seroma, nerve and arterial injuries, gait disturbances, fractures of the iliac wing, peritoneal perforation, infection, sacroiliac instability, and pain. Major complications have been reported to be less common (0.7–25%) than minor ones (1.8–15.4%). (5) Potential advantages of the iliac crest bone graft include low morbidity and high volume of viable os-
teoblastic cells (cancellous bone); two teams may work simultaneously, and this procedure is well accepted by the patient. Most clinicians will allow at least 4 months to healing of the iliac crest cortico-cancellous bone graft. (6) Relapse was defined as the magnitude of linear movement of the graft material toward the preoperative state. Vertical relapse was measured as inferior movement of the graft material with a negative sign convention; horizontal relapse was noted as posterior movement of the graft material with a negative sign convention. According to the measurements of the bone graft volume on lateral cephalograms, any alteration was absent. In the present study any resorption of the bone grafts has been observed.

Excellent postoperative stability and esthetics are clearly lofty goals of the orthognathic surgery. We believe these goals can be achieved with the assistance of bone grafts. Iliac crest is good of choice for the augmentation of the paranasal area.


PP35
Maxillary Advancement with Distraction Osteogenesis Using a Rigid External
Pınar DEMİR, Erhan ÖZDİLER
Ankara University, Faculty of Dentistry, Ankara, TURKEY

The importance of the dentition and contribution of the orthodontist to the care of cleft patients from infancy to adulthood are presented. Close communication between orthodontists and surgeons is emphasized. The orthodontic treatment plan is developed around the anatomic, functional, and developmental needs of the patient. It has allowed us to treat patients in all age groups.

We use rigid external distraction technique (external, adjustable, rigid midface distraction device) in 19-year-old patient with cleft lip and palate with severe maxillary hypoplasia. For the patient in the rigid external distraction group, the mean effective horizontal advancement of the maxilla was 10 mm. The patient had correction of their negative overjet.

For patients in the face mask distraction group, the results were disappointing. The mean effective advancement of the maxilla in this group was only 5.2 mm. In all face mask distraction patients, the initial maxillary hypoplasia was under corrected. Maxillary distraction osteogenesis with rigid external distraction permits full correction of the midfacial deficiency, including both the skeletal and soft-tissue deficiencies. (Figueroa et al)

Rigid external distraction in patients with severe maxillary hypoplasia allows full correction of the deformity through treatment of the affected region only. It offers the distinct advantage of correcting these severe deformities through a minimal procedure. Rigid external distraction has dramatically improved our treatment results for patients with severe cleft maxillary hypoplasia.

PP36
Treatment of Malocclusion with Midpalatal and Mandibular Symphysial Distraction
Timuçin BAYKUL, M. Hakan TÜRKKAHARMAN, M. Asım AYDIN, Yavuz FINDIK, Mehmet SARIOĞLU
Stileyman Demirel University, Faculty of Dentistry, Isparta, TURKEY

Moderate to severe occlusal discrepancies and dentofacial deformities in late adolescents and adults usually require combined orthodontic and orthognathic surgery to obtain optimal, stable, func-
tional and esthetic results. One of these surgical techniques include mandibular and maxillary widening with distraction devices and genioplasty procedures.

Female patient, 25 years old. The patient had very narrow maxilla and mandibular dental arches, severe incisor crowding and mandibular anterior border excess. The treatment plan was surgically assisted rapid maxillary expansion to expand the maxillary arch, symphyseal distraction to widen the mandibula anteriorly and genioplasty. First we performed surgically assisted rapid maxillary expansion with the help of hyrax orthodontic appliance. Then for widening the mandibular arch we placed a distraction appliance to the mandibular symphyseal region. Last for esthetics, we performed rhinoplasty and the genioplasty operations.

The basic goals of orthognathic surgery and orthodontics are to establish optimal functional outcomes, satisfy the patients' concerns and provide good esthetic results. In adults, with surgery and combined orthodontic therapy this goals can be easily established.

At the end of the combined surgical and orthodontic treatment, malocclusion was treated, function was replaced and esthetics of the patient was improved.

PP37
Alveolar Clefts
Rezzan GÜNER, Çiğdem ÇETİN, Behçet EROL
Dicle University, Faculty of Dentistry, Diyarbakir, TURKEY

Patients with cleft palate may not be regularly seen in general dental practice. However, this is a frequent congenital anomaly, 1 in every 800 live births results in a cleft lip and palate. The cause of cleft lip and palate is not known, but possible causes are malnutrition and irradiation during pregnancy, psychic stress, and inheritance, teratogenic and infectious agents (viruses). However, most clefts are caused by multiple genetic and nongenetic factors. This situation as named as multifactorial threshold model. Currently, due to the increased knowledge of craniofacial growth and development and advanced surgical and orthodontic treatment, cleft management is improved. Unilateral and bilateral alveolar clefts are associated with a variety of soft tissue problems that are usually the result of previous procedures cleft lip and plate repair. These residual soft tissue deficiencies include extensive labial and palatal scarring; dense tissue bands that cause tethering of upper lip with obliteration of the labial vestibule, and vestibular as well as palatal oronasal communications. The goals of cleft lip and plate surgery are directed toward achieving a normal facial appearance, as well as the ability to feed and speak and without significantly affecting the ultimate facial and psychic social development of the child. Individuals with clefts of the lip, palate or alveolous often require interdisciplinary treatment. In this study two residual alveolar cleft cases were presented. Also result of surgical intervention was discussed.

Case Report I: A 45 year-old man with residual alveolar cleft was examined in our clinic at the left side of the maxilla. The maxillary anterior incisors were in malocclusion. The patient had poor oral hygiene and gross caries. Maxillary arch was retrogenic position and apertognathy was seen (Fig 1). The patient reported difficulty in masticating and indicated concern with poor esthetics because of the teeth in malocclusion and maxillary deficiency. Liquids entered the nasal cavity while drinking. The patient was operated under the local anesthesia. Primery base of nose was closed primary suture than the alveolar defect was closed with the vestibular mucosal flap surgery (Fig 2). Maxillary left lateral incisor was extracted due to prosthetic indication. Six weeks after the closure, patient was refered to prosthodontic clinic. The prosthodontic treatment plan aimed to obtain acceptable occlusion and esthetics. The all maxillary teeth and mandibular right first premolar and first molar teeth and mandibular left first molar teeth were prepared to receive a 10-unit fixed dental prosthesis and an attachment-retained removable partial denture (Fig 3).

Case Report II: A 5 year-old girl with residual alveolar cleft was examined in our clinic (Fig 4). Exam-
nation revealed a alveolar defect which was approximately 1x1 cm dimension at the left side of the anterior maxilla (Fig 5). The patient was operated due to cleft lip previously. But the closure of the alveolar cleft was not achieved. The patient referred our clinic with the complaint of liquids enter nasal cavity while drinking and feeding. The child was operated under general anesthesia. First of all base of the nose was closed and sutured with absorbable suture materials than buccal mucosal technique was performed and alveolar cleft was closed (Fig 6). In long term defect was closed with successfully. And patient has no any complaint.

The surgical management of the maxillary/ alveolar cleft defect requires a through understanding of the regional anatomy. Facial growth and development, as well as the relevant outcome of data as it pertain to various surgical techniques and the timing of intervention. The cleft alveolar defect is complex and three dimensional, at once involving the maxillary arch, palate, the nasal base and septum, and the dentition. In addition to the typical nasolabial fistula, there are often persistent palatal fistulae, substantial scarring, and unrepaired or deficient perioral musculature in the face of several previous surgical procedures. These all have the potential to complicate the reconstruction of the cleft alveolar defect. The advantages of closure of alveolar clefts include: stabilizations of maxillary segments, closure of the oro-nasal fistula and better periodontal conditions of the teeth neighboring the cleft. These two cases show that flap techniques can be used successfully to close the residual alveolar defects. And also recent studies have indicated that contemporary surgical techniques and materials such as; tissue engineering approach, bone grafting may be supportive alternatives for alveolar cleft treatment.

Well-planned surgical therapy may result in satisfactory function and esthetics and coordinated interdisciplinary therapy is the basis of success and social integration of the persons affected.

PP38
Mandibular Transport Alveolar Segment Distraction: Case Report
Kağan DENİZ, Sina UÇKAN, Firdevs VEZİROĞLU ŞENEL
Başkent University, Faculty of Dentistry, Ankara, TURKEY

Introduction: Insufficient alveolar ridge width and/or height may impede the successful placement of dental implants. Autologenous bone grafting, distraction osteogenesis, guided bone regeneration, ridge splitting and bone spreading are commonly used surgical procedures to resolve this problem. Among all these techniques autogenous bone grafting and alveolar distraction osteogenesis are the most commonly applied procedures, generally with the aim of facilitating the placement of dental implants is another treatment option for defective alveolar ridges. Alveolar distraction osteogenesis (ADO) is effective for vertical ridge lengthening, autogenous bone grafting for horizontal widening. In ADO, minimum 4-5 mm of bone should be present above the osteotomy line for device fixation and for avoiding avascular necrosis of the transport segment. In this case report sagittal lengthening of the posterior mandible with distraction osteogenesis is presented.

Case Report: A 53 year old woman with severe vertically and horizontally atrophic, partially edentulous mandible referred to the clinic for dental implant insertion. The patient had no familial or systemic disease. Clinical and radiographic examination revealed that inferior alveolar nerve and mental foramen was so close to alveolar crest at the right mandibular posterior area and there was a periapical abscess on the right lateral incisor tooth (Fig 1). Lateral incisor was extracted and distraction was delayed for bone healing. Under general anesthesia with orotracheal intubation 2 cc ultracaine DS Forte (articaine, 1/100,000 epinephrine) supraperiosteal injection was performed. Following the vestibular sulcular incision, mucoperiosteum was released and unidirectional alveolar distractor (KLS Martin, 20mm Zürich ramus distractor, Tuttingen/Germany) was in-
serted. The vertical osteotomy line was designed parallel to the axis of lateral incisor and the horizontal osteotomy line was designed parallel to the alveolar crest on the same level with the mental foramen (Fig 2). After 1 week of latency period, sagittal distraction of the transport alveolar segment was initiated. The device was activated 0.50 x 2 times a day to achieve 1 mm of advancement. On the 20th day of the distraction period, alveolar segment was transported 20 mm posteriorly (Fig 2-3). After a 3 month period of consolidation the distractor was removed and a horizontal ridge augmentation with mandibular ramus graft was performed. Six months later, implants were inserted to augmented bone and mild sensitive damage in lower lip was also disappeared (Fig 4).

Discussion: Alveolar ridge is one of the most difficult areas of the human body to reconstruct, because both hard and soft tissues are missing in a wet and mobile environment. Alveolar distraction osteogenesis, autogenous bone grafting and guided bone regeneration are commonly used as surgical procedures to reconstruct the insufficient alveolar ridge height. The volume of the bone maintained in guided bone regeneration is restricted. Autogenous bone grafting is a widely accepted treatment modality for the surgical repair of alveolar defects. The technique requires a second surgical site and an adequate soft tissue, for the complete closure. Over the last 10 years the technique of distraction osteogenesis has been under development for vertical augmentation of the mandible and maxilla prior to implant placement.

However, if the bone over the anatomic structure is limited, performing the osteotomy lines and placement of the device is more difficult. Horizontal and vertical osteotomy lines (semicircular lined) was performed away from the mental foramen. A semicircular transport segment on a level with mental foramen was provided better vertical augmentation as the transport segment rises onto mental foramen. During distraction osteogenesis, new bone formation over the mental foramen and inferior alveolar nerve, was occurred and soft tissues were reshaped according to this new bone. Desired alveolar bone height was obtained, however the alveolar ridge width was still insufficient for implant insertion. Only bone graft harvested from right mandibular ramus was inserted 3 months after distraction period. Basa et al treated a mandibular defect using a Liou clef distractor and transported the dentosvelar segment in the sagittal plane from anterior to posterior. Acrylic splint was used to prevent lingual tilting of the transport segment. In the presented case the transport segment moved easily to desired location without any displacement during the distraction period.

Mandibular alveolar transport segment distraction is a convenient treatment modality for mandibular posterior alveolar defects.


PP39
Reconstruction of the Atrophic Maxillae
Utku DEDE, Emre ÇİMEN, Timur SONGÜR, Ayşegül Mine TÜZÜNER ÖNCÜL, Reha Ş. KIŞIŞÇİ
Ankara University, Faculty of Dentistry, Ankara, TURKEY

Introduction of dental implants by Branemark created a new era for oral surgery and prosthetics. However over pneumatization of the maxillary sinuses and physiological bone resorption in edentulous jaws disables dental implant procedures with regard to lack of sufficient bone. Thus, many authors
recommended many grafting ways to increase the amount of maxillary bone. Today, autologous bone grafting has became the golden standard for bone grafting which can be harvested from intra-oral areas such as maxillary tuberosity, simphysis, mandibular ramus or from extra-oral areas such as cranium, tibial plateau and anterior or posterior iliac crests. With respect to the quality and quantity of the harvested bone, anterior iliac crest is the most available choice in many conditions. In 1986, Bell recommended a new surgical grafting technique including Le Fort I osteotomy and interpositional autologous bone grafting for the condition of excessive vertical and horizontal bone resorption, where inlay or onlay bone grafting choices are insufficient. In this presentation we are going to describe the indications and contraindications, advantage and disadvantages of this technique with 3 case presentations.

3 Dimensional Virtual Orthognathic Surgery; Guidelines with Case Reports

Emre ÇİMEN, Ulaş ÖZ, Utku DEDE, Reha Ş. KİŞIŞİCİ
Ankara University, Faculty of Dentistry, Ankara, TURKEY

Orthognathic surgery is one of the most common procedures in oral and maxillofacial surgery. It is an important issue because it affects facial esthetics as well as function. Success of the surgery depends on some criteria such as detailed analyze of the deformity, precise planning of the occlusion with correct jaw relations, transferring the surgery plan to the OR with bite wafers. Predictability of the surgical procedure is also important because it affects facial aesthetics as well as function. Today, with the help of advanced softwares, these steps can be done virtually. Also these softwares simulates the final occlusion and facial ...

In this presentation we will expose the basic guidelines of the virtual orthognathic surgery planning with case presentations.

PP41

Application of Ankaferd Blood Stopper in Maxillofacial Major Surgery Operation: A Case Report

Özkan ÖZGÜL, Fatih Mehmet COŞKUNSES, Yasemin KARTAL, Doruk KOÇYİĞİT, Serkan DADAKOĞLU, Reha KİŞIŞİCİ
Ankara University, Faculty of Dentistry, Ankara, TURKEY

Ankaferd is a medicinal plant extract, which has previously been used in Turkish traditional medicine as hemostatic agent. Ankaferd comprises a standardized mixture of plants Thymus vulgaris, Glycyrrhiza glabra, Vitis vinifera, Alpinia officinarum, and Urtica dioica. Ankaferd Blood Stopper (ABS) as a medicinal product has been approved in the management of external hemorrhage and dental surgery bleedings. The safety and efficacy reports on the product have indicated its sterility and nontoxicity. The basic mechanism of action of ABS is through the formation of encapsulated protein network providing focal points for vital erythrocytes to aggregate on. The ABS induced protein network formation involving blood cells, particularly erythrocytes, without affecting the physiological individual coagulation systems. Each of these plants has some effect on cellular proliferation, blood cells, the endothelium and vascular dynamics. In the light of the above-mentioned data, this case aimed to investigate the clinical hemostatic effect of ABS in maxillofacial major surgery operation.

A young male patient with malocclusion and facial deformity was planned to operate with Le Fort I surgery. During the surgery, descending palatinal artery was damaged due to sphenoidal osteotomy and ABS was administered to the area topically. The duration and the amount of bleeding were measured to evaluate the hemostatic effect of ABS

ABS has clinical hemostatic actions that may provide a therapeutic potential for the management of patients with bleeding during the operation in maxillofacial surgery. Le Fort I osteotomies have higher risks of bleeding because of the anatomical position
of maxilla and proximity to the branches of the maxillary artery. Furthermore, difficulties of sphenoidal osteotomy increases the risk of trauma to the descending palatinal branch of the maxillary artery. During the operation, if any arterial damage occurs it may be difficult to find and clamp the descending palatinal artery or cardinal artery (maxillary artery). Compressing tampons may not be effective to stop bleeding because of the anatomical difficulties. Moreover, time is vital during huge bleedings for the patient’s vital stability so bleeding should be stopped as soon as possible. ABS application shortens the bleeding time. ABS administration is easier than clamping artery and more effective than tampon compress. In our case duration of bleeding and the amount of bleeding were decreased significantly. ABS administration shows very valuable results on bleedings of maxillofacial region during the surgery.

Topical ABS administration shortened the duration of bleeding markedly in bleeding area. The administration of ABS successfully effective on arterial bleeding.
radiograph (PR), (1) spiral computed tomography, (17) direct measurement during the surgery (24) or dissection in anatomic cadavers. (1, 17, 22, 25) Although few studies have evaluated MF with several parameters, (1) interforaminal region has not yet been evaluated in detail at panoramic radiographs in terms of differences with age. The aim of this study was therefore to investigate the quantity of surrounding bone, the position, shape and appearance of MF and the prevalence and the length of mental loop in panoramic radiographs of a large subject population at different ages, for to guide clinicians before immediate and conventional dental implant placement.

700 younger subjects under the age of forty (mean 32.37 ± 6.41) and 700 of older subjects over the age of forty (mean 58.76 ± 9.98) were randomly selected from the patient pool of Department of Periodontology and Department of Oral and Maxillofacial Surgery, Gulhane Military Medical Academy, who are the dental implant therapy candidates during the period 2006 to 2007. Of the 1400 subjects, 186 were excluded from the younger group and 195 were excluded from the older group due to various reasons. Panoramic images of the remaining 514 younger (235 female and 279 male) and 505 older (241 female and 264 male) subjects were included in the study. All standart panoramic images were taken by the same Panovra 10-C (Toshiba Panoramic X-ray Unit) orthopantomograph with CEA OGA screen film (CEA OGA AB, Strangnas, Sweeden). Radiographic measurement procedure A line was drawn tangential to the most inferior points at the mandibular angle and the lower border of the mandibular body. Horizontal and vertical lengths were measured parallel and perpendicular to this headstone tangential line, respectively. (12, 15) The horizontal measurements were evaluated at interforaminal region in panoramic radiographs (Fig. 1): 1-The most mesial point of mental foramen to the midline of symphisis menti (MF-S). If there was any loop, it was measured from the most mesial point of the mental genu. (2) 2-The most mesial and distal aspect of mental foramina was evaluated to measure its width (WMF). (2) 3-If an anterior loop was observed at PR, the shortest distance from the most anterior point of both the mental foramen and the mental canal (ML). (17) 4-If both bicuspids were present at the same side of the mandible (486 younger and 478 older patients), MF examined horizontally and situated mesial to the apex of first mandibular premolar or between apices of mandibular premolars or distal to the apex of second mandibular premolar. The vertical measurements were evaluated in interforaminal region in panoramic radiographs (Fig. 1): 1-The distance from the most apical border of alveolar crest immediately superior to the mental foramen, to the superior border of the mental foramen (MF-AC). (2) In dentate areas, the most apical portion of the alveolar crest was identified as the proximal root surface, where the periodontal ligament starts to be of equal width. (26) 2-The distance from the most apical border of the mental foramen to the apical border of lower cortex of the mandible immediately inferior to mental foramen (MF-LC). (2, 11, 13, 14) 3-The most coronal aspect to the most apical border of mental foramina was evaluated to measure its height (HM). (2) 4-If both bicuspids were present at the same side of the mandible (486 younger and 478 older patients), MF examined vertically and situated above, below or at the line that passes from apices of lower premolars. After the lines and points were marked manually with acetate pencil, intervals between the above mentioned landmarks were measured to the nearest 0.5 mm with a transparent plastic ruler graded with a lens displaying 4 x magnifications. The values obtained from the panoramic measurements were corrected for their magnification (divided by the enlargement factor 1.3) as defined by the manufacturers. Clinic measurements were made by the same transparent plastic ruler to the nearest 0.5 mm. The appearance of MF in panoramic radiographs (PR) of the same subjects was also classified according to Yosue and Brooks (5, 6) classification in both contralateral mental regions, by the same examiner. In each group 4 different MF appearances was classified: Continuous: Foramen has continuity with the mandibular canal. Separated: Foramen distinctly separated from the canal. Diffuse: Foramen has indistinct border.
Unidentified: Foramen cannot be identified. In each patient, both contralateral regions were checked for these anatomic structures. All examinations were performed on a standard radiologic light box, under standardized viewing conditions.

1-Distance between contralateral mental foraments (MF-S): The distance varied considerably, ranging from 20 to 33 mm, significantly longer in older subjects (p<0.001) (Table 1). 2-Width of mental foramina (WMF): The values ranged from 2 to 6 mm, there was a significant difference according to age, significantly wider in younger subjects (p<0.05) (Table 1). 3- Distance between superior border of the mental foramina and the most superior border of alveolar crest (MF-AC): The values ranged from 6 to 22 mm, being significantly higher in younger subjects (p<0.01) (Table 1). 4- Distance between the most apical border of the mental foramen to the outer lower cortex of the mandible (MF-LC): The values ranged from 9 to 20 mm, being significantly higher in younger subjects (p<0.001) (Table 1). 5- Height of mental foramina (HMF): The values ranged from 2 to 6 mm, there was a significant difference between younger and older subjects, being higher in younger group (p<0.05) (Table 1). 6-Vertical position of mental foramen: The vertical position of MF in relation to line between apices of bicuspid is shown in Table 2, the most frequent vertical position of the MF below this line (49%). In both groups the most frequent position was below this line as well. With advancing age, there was a significant increase in the prevalence of more inferior location of the MF (p<0.001) (Table 2). 7- Horizontal position of mental foramen: The most frequent horizontal position of the MF was between the apices of bicuspid (56%). With advancing age, there was a significant increase in the prevalence of more posterior location of the MF (p<0.01) (Table 2). 8-The prevalence and the length of mental loop (ML): The prevalence and the length of ML is 31% and 3.70±1.70 mm (range between 1 to 7 mm), respectively. The prevalence of mental loop in younger and older group was 32% and 30%, respectively, with no significant difference (p>0.05). The length of mental loop in younger and older group was 3.58±1.82 mm and 3.82±1.58 mm, respectively. There was no significant difference between the groups (p>0.05). 9-Radiographic appearance of mental foramen according to Yosue and Brook classification: The most common appearance of the MF was continuous with prevalence of 40% and 51% in younger and older groups, respectively, significantly higher rate in older subjects (p<0.001). Significantly higher rate of diffuse and unidentified MF appearance was established in younger group (p<0.01) (Table 3).

During the dental surgery at interforaminal region including dental implant placement, it is important to know the exact location of MF and the quality and quantity of surrounding alveolar bone. (1, 2) One of the purposes of this study is to determine the exact location of MF and examine the surrounding available bone in selected large population, utilizing PR for to help pre-surgical dental implant planning. Although MF-S has importance in order to determine the number and width of dental implants especially at edentulous interforaminal regions, it was evaluated scarcely in previous reports studied in dry skulls. (2, 14) We have found MF-S top be averagely 26.28 mm, show accordance with Nevia et al. (2) who found this distance 27.61 mm in Caucasian skulls. Aktekin et al.(14) found no difference in MF-S, between younger and older dentate Turkish skulls, contrary to our findings. We observed that interforaminal region is significantly longer in older patients. In previous reports it was observed that mental foramina moves distally in jaws continuing to atrophy, which is in keeping with the results of our study. (11,14,16) There is a wide range in MF-S can be related to age and herediter factors, effecting implant number and width especially in edentulous interforaminal region. In previous reports, there were clear differences in WMF and HMF, ranging from 0.75-6.5 mm (1, 4, 5, 7-9, 13). In this study, the mean WMF and HMF was found to be 2.86 mm and 2.90 mm, respectively, with significant difference related to age, slightly wider and higher in younger group. As far as we know, the size of MF has not yet been investigated related with age, only Gershenson et al. (4) examined the size of MF according to age without any comparison in a dry skull study.
Our results are comparable with most of the studies that measured the size of MF in PR, periapical radiographs and cadavers. (1, 2, 4, 7-9, 13) In previous studies, there was significant variation in MF-AC level, ranging from 0 to 15.5 mm. (4, 13, 15) Some studies stated that in older ages with edentulous mandible, it is situated closer to the alveolar crest owing to physiologic alveolar atrophy, sometimes on top of the alveolar crest, causing difficulties in denture wearing. (1, 4, 11) Karaagaçlioğlu & Ozkan (10) stated that the mandibular ridge decreases in older age (>60) with a significant difference and found that MF-AC can be affected by age, linearly decreasing with the elapsed period of edentulism, which is in agreement with the findings of our study. In the study of Nevia et al. (2), cemento-enamel junction (CEJ) superior to MF was selected as a landmark, not allowing the comparison of edentulous patients with dentate ones. Besides, alveolar crest around the extracted tooth is important to determine the length of immediate dental implant placement instead of CEJ especially in periodontitis patients; hence we used the most apical border of alveolar crest of the tooth instead of CEJ as a landmark. The mean MF-LC in our study was 14.21 mm, being significantly higher in younger subjects. Xie et al. (12) stated that the basal bone below the MF was not affected by dental status and age in men but it was found to be significantly smaller in old edentulous women when compared with old dentate or young dentate women. Soikonen et al. (11) found that MF was situated 3.8 mm lower in edentulous mandibles than in dentate ones and stated that the foramen moves through the lower cortex, which is in concordance with our study. In this study, the most frequent horizontal position of MF was between the apices of bicuspsids, which means that our results are in agreement with those of other studies on Caucasian populations, (1) but in studies on Malay, Nigerian, Chinese and Korean populations, it was situated more posteriorly. (1, 3) Some investigators stated that the age-related bone resorption begins at about forties. (10) In accordance with these studies the age groups in this study were planned as younger (&#8804;40) and older (>40). Al-Khateeb et al. (16) found that the MF was located more posteriorly and inferiorly with advancing age and stated that MF is positioned below the apices of lower premolars in Jordanian population as in the Caucasians, which is in accordance with our study. It can be concluded from the studies that MF is located more inferiorly and anteriorly in Westerners. (1, 3) The above location of MF according to the apices of bicuspid, is important especially during immediate dental implant placement, in order not to damage mental nerve, causing paresthesia in lower lip and chin. (1)

The continuous appearance according to Yosue and Brook (5, 6) classification was seen more frequently than others in both age groups, which is in keeping with Al-Khateeb et al. (16) Unidentified appearance was more often seen in younger group and the continuous type was seen more frequently in older subjects (Table 3). Kingsmill & Boyd (27) found a significant bone density increase in mandible with age especially in dentate individuals. In their other study, they found that the mineralization density of alveolar bone at the MF site is greater after third molar region in dentate and partially dentate mandibles, especially in lingual and inferior cortex. (28) Several studies stated that better corticalization can improve visibility in radiographic images. (29, 30) Further studies are required to answer the relation between the mineralization quantity and the radiographic appearance of MF region in different dental status and ages. There are clear differences among studies related to the prevalence and the length of ML. In various studies, the prevalence varied between none to 94% and the length varied from 0.5 mm to 1 cm (1, 17). In our previous report (17) and present study we found the length of mental loop was longer than 3 mm, which is in concordance with other studies. (2, 31) PR accuracy is limited owing to difficulty in controlling the distortion and magnification; (32) however, it has been commonly used before implant surgery to estimate the quality and quantity of the alveolar bone so that appropriate implant length and width can be chosen, to prevent inflicting damage on anatomic structures during the surgery. (1, 3, 9, 17) Jacobs et al. (29) found no difference related with age, gender or dental status, in
the appearance quality of anatomical landmarks at interferomedial region in PR. Phillips et al. (8) stated that the size of MF was larger and shifted distally in comparison to its actual size and location in PR. They stated that MF displacements were seen in PR when compared with anatomical measurements, mainly because of the position of the patient’s head (8).

Deficiencies related with patient position (projection geometry) (22, 23) and corticalization quantity can be seen (16, 17, 25) but in a recent study the reproducibility and repeatability of radiomorphometric indices was found high in digital PR. (33) Thayakam et al.33 observed that the magnification in PR is lower in mandibular bicuspid region, not constant even over the same image and also the shape of the jaw for each individual is different so the 1.3 magnification ratio informed by the manufacturer is not reliable for these measurements. (32) We contended to minimize distortion problem by positioning the head of each patient accurately during taking PR35 and making all the measurements according to the tangential line intersecting with the most inferior points at the mandibular angle and the lower border of the mandibular body due to oblique projection angle of x-rays. (12, 15) Wilding et al. (32) who compared dry mandible measurements with panoramic radiographs stated that the accuracy of measurements is limited by easily recognized mental foramen and inferior alveolar nerve in PR. They stated that PR is reliable to evaluate the mandibular alveolar bone resorption, obtaining similar results in mandibular direct measurements. MF is commonly located between and below the line passes from the apices of bicuspidis, situated more posteriorly and inferiorly, decreased in size and closer to alveolar crest and lower cortex of mandible with advancing age in PR. The results are in accordance with the findings of the studies on Caucasian (1) and Jordanian populations. (16) MF showed continuity with mandibular canal at most of the panoramic images and significantly higher rate of unidentified foramen was observed in younger subjects possibly because of undefined cortical borders with lower bone density when compared with older subjects. (27, 29) The results of this study can help to understand the changing morphometric changes and radiographic appearance properties related to age in interferomedial region, guiding clinicians during pre-surgical dental implant planning and quantitative radiomorphometric measuring on most routinely used radiodiagnostic image. According to findings of this study, longer MF-S, smaller size of MF and more prevalent continuous radiographic appearance of MF and inferior alveolar nerve, can give advantage to safely placement of more wider, longer and number of dental implants but these affirmative changes can negatively be affected by the prominence decrease of MF-AC and MF-LC in older patients.

Management of a Patient with Papillon-Lefèvre Syndrome with Short Dental Implants: A Case Report

Murat ULU, Zeynep Burçin ÜNAL, Osman A. ETÖZ, Erciyes University, Faculty of Dentistry, Konya, TURKEY

Papillon-Lefèvre syndrome (PLS) is an autosomal recessive disease which was first described by two French physicians, Papillon and Lefèvre. PLS is characterized by hyperkeratosis of the palms and soles, dural calcification, premature loss of the primary and permanent dentitions due to progressive periodontitis (1). This syndrome is thought to be caused by mutations in the Cathepsin C gene which generates a lysosomal protein implicated in host immune response, inflammatory mediation and extracellular matrix function with expression in the epithelium of the palms, soles and gingiva (2). The clinical features of PLS usually become obvious before the age of 4 years. After eruption of the primary teeth, the gingiva becomes inflamed. This is generally followed by a rapid destruction of the periodontium, and most affected children experience premature loss of their primary teeth (3). Conventional periodontal therapy (oral hygiene instructions, scaling and root planning, periodontal surgery) and systemic administration of various antibiotics usually fails in patients with PLS and the rapid progression of periodontitis often results in a severe loss of the alveolar bone. Early extractions of all permanent teeth have been recommended in order to preserve the remaining supporting bone (4). In addition to the dermatologic and oral findings, patients may have decreased neutrophil, lymphocyte or monocyte functions and an increased susceptibility bacterial infection, leading to persistent pyogenic infections of the skin (5). During the last two decades placement of dental implants have become a popular treatment option in management of edentulous jaws (6) and long term success rate has been well documented in periodontally healthy patients (7). The use of dental implants in patients with severe periodontitis has been reported and the results show that periodon-
tally compromised patients can be successfully treated with dental implants as well as periodontally healthy patients (3).

A 34 year old female patient with PLS was referred to our clinic by her practitioner for preprosthetic management of severely atrophic mandible. The patient was complaining of insufficient retention of her lower denture whereas she was doing well with her maxillary denture. The patient had lost her dentition due to progressive periodontitis and totally edentulous since the last 5 years. She had hyperkeratosis on her plantar, knee and ankle regions without any other systemic problem (Figure 1-2). Panoramic radiograph of the patient revealed generalized severe resorption of the alveolar bone within both mandible and maxilla (Figure 3). The radiographic height of the anterior mandible was quite shorter. The treatment plan comprised of placement of two dental implants at the canine regions of the mandible and fabrication of implant supported denture for her mandible (Figure 4). After 3 months of follow-up the abutment surgery was performed and osseointegrated implants were loaded with bar-retained prosthesis (Figure 5).

PLS is a rare autosomal syndrome characterized by palmar-plantar hyperkeratosis and periodontal disease. Immunologic, genetic and microbiologic factors may cause this syndrome but it is unclear (8). After eruption of the primary teeth, the gingiva becomes inflamed and followed by a rapid destruction of the periodontium. The diagnosis and treatment of the periodontal component of PLS are both very difficult. Lossing teeth in young ages has affected their social relationship at school and with friends. Therefore early dental evaluation is significant psychologic rehabilitation for children with. In PLS patients, primary dental care includes treatment of aggressive periodontitis but conventional periodontal treatment usually fails and the rapid progression of periodontitis often results in a severe loss of alveolar bone (9). Early extraction of teeth instead of long-term periodontal treatment would preserve alveolar bone height and facilitate further prosthetic rehabilitation including the use of osseointegrated implants. With respect to Vibeke’s study osseointegrated dental implants can be maintained in the majority of patients with a history of periodontitis. 10 year survival rates which were ranging between %97 and %78 depending on implant type (10).

Dental implants are becoming the only predictable alternative treatment for many clinical situations, and high clinical survival rate has led to a widespread acceptance and use of oral implants. The use of implants in patients with severe periodontitis has been reported and the results indicate that periodontally compromised patients can be successfully treated with osseointegrated implants (11).

PP44
Marginal Bone Loss at Implants: A 2-Year Retrospective Study with Nucleoss Implants
Cem ÜNGÖR, Timur SONGÜR, Hakan KURT, Onur İÇTEN
Ankara University, Faculty of Dentistry, Ankara, TURKEY

The long-term results of endosseous implants depend on the maintenance of bone support. Maintenance of osseointegration and stability of marginal bone levels are of fundamental importance for successful implant therapy.

The aim of this study was to report in a large patient group with different prosthetic restorations marginal bone level and its change as measured in radiographs obtained from prosthesis insertion up to a maximum 30 months in our department. All patients were treated with implant-supported (Nucleoss Dental Implant System) complete fixed, partial fixed, or single-tooth restorations. All patients received Nucleoss implants of various lengths using a well-defined one-staged surgical protocol.

To allow comparisons between different studies, it is vital that the same reference point is used for bone level measurements or described in a manner making comparisons possible.

The recorded success rate and marginal bone loss were similar to the values reported in the literature.

PP45
Patients’ Satisfaction Following Implant Therapy- A 6-Year Retrospective Cohort Study
Sertan ERGÜN, Alp SARUHANOĞLU, Ali ÇEKİCİ
Istanbul University, Faculty of Dentistry, İstanbul, TURKEY

Introduction: Implant supported fixed or removable prosthesis are being used for almost four decades with low frequency of failure. Plenty number of articles related to the success rate of dental implants have been published over the years but only a minority of these have dealt with patient-centered outcomes of implant dentistry. The aim of the present study is to analyse the patients’ perception of implant therapy and their satisfaction degree from a functional and aesthetic point of view, 6 years following installation of titanium oral implants.

Material and Methods: Hundred and four patients who were treated with dental implants with 100% survival rate until the study time were subjected to fill a questionnaire form with 12 statements (according to Pjetursson et al., 2004), 6 years after implant installation (Figure 1). The percentages of the given answers were calculated and graphics were formed. Results 104 patients (53 male and 51 female) with 339 installed dental implants of seven different brand (Swissplus®, TBR®, Frialit®, Astra®, MIS®, IT®, Biolok®) were involved in the study. Most of the patients (%45) were in the age group of 40-50. 83 (%79.8) participants had no systemic disease. 29 (%27.8) participants were smokers while 18 (17.31) were using alcohol. Only a small group of the patients (%4.8) did not brush regularly. Table 1 shows some demographical results related to the installed implants. Figure 2 shows the results of the questionnaire.

Conclusion: Almost half of the patients did not quite know if it is easier for them to clean their implants than their teeth and if the tissues around their implants bleed less than those around their teeth. Most of the patients who underwent implant therapy are completely or partially satisfied with the therapy although they complain about the costs of the therapy.

PP46
Nerve Transposition and Implant Placement in the Atrophic Posterior Mandibular Alveolar Ridge
Aysegül SİPAHİ, Altan VAROL, Onur ATALI, Serdar YILMAZ, Selçuk BASA
Marmara University, Faculty of Dentistry, İstanbul, TURKEY

Different osseointegrated implant-based rehabilitation techniques can be used for patients with limited vertical height of posterior alveolar crest in edentulous posterior mandibles. Placement of autogenous
onlay/inlay bone grafts in the alveolar crest, alveolar distraction osteogenesis, and inferior alveolar nerve transpositioning are among these techniques. Inferior alveolar nerve transpositioning in the atrophic mandible has been suggested to allow placement of longer implants while avoiding damage to the nerve. We present a case of severe mandibular atrophy in a young female patient whom was treated with LeFort I maxillary advancement, reduction genioplasty, inferior alveolar nerve transpositioning and immediate endosseous implant placement.

Analyses on OPTG and CT were made to evaluate the posterior height of mandibular ridge, distance between the alveolar ridge and inferior alveolar nerve. The surgery was performed under general anesthesia at two stages. LeFort I osteotomy and genioplasty were performed first. The inferior alveolar nerve transpositioning was performed after 5 months. The nerve was exposed via transoral approach. A cortical window upon the trajectory of inferior alveolar nerve was made and osteotomized with a great care. The nerve was transposed buccally to allow placement for dental implants. Under direct visualization, the 15-mm dental implants were positioned and fixed at crestal level and in the mandibular basal layer thereby affording important primary implant stability. In the immediate postoperative period the patient reported slight paresthesia of the left half of the lower lip that persisted for a few weeks. The control X-rays revealed implant osseointegration; definite prosthesis placement, good esthetic and functional results were obtained. The mean postoperative follow-up time is 23 months. Implants with functioning pontics remained stable, with no mobility nor signs or symptoms of pain and infection during the follow-up period. Postoperative radiographic evaluation disclosed minimal pathologic bone loss around the implants. Neurorsency evaluation was performed using the two-point discrimination test and the nerve functions were reported as normal by the patient.

The inferior alveolar nerve transpositioning procedure allows for the engagement of cortical bone at the mandibular basis to support implants and reduces the risk of nerve injury from direct implant placement. However, there are a number of possible complications associated with these procedures that must be considered during treatment planning. The most common complication is prolonged neurosensory disturbance due to manipulation of the neurovascular bundle. In rare situations, iatrogenic or pathologic fracture of the mandible and infection may occur. Lateralization of the inferior alveolar nerve offers the following advantages: 1-implants of greater length can be placed in the same surgical step; 2-greater primary implant stability is afforded with the help of bicortical mandibular fixation; 3-only a physical examination and radiological studies are needed; 4-increased protection of the dental neurovascular bundle is afforded during implant placement; 5-no bone grafting is needed, and hereby donor site morbidity is avoided.

Inferior alveolar nerve transpositioning allows implant placement in atrophic mandibles without the need for bone grafting in the same surgical step. Important primary implant stability is achieved as a result of fixation in the mandibular basal layer. However, nerve transpositioning is a complex procedure with a high risk of sensory changes. Careful nerve manipulation and mobilization is required in order to reduce the risk of neurosensory alterations. Implant-based rehabilitation of edentulous mandibular posterior sectors with inferior alveolar nerve transpositioning is thus a valid management option in selected cases, and despite the possible complications (e.g. lip numbness), the technique is usually well tolerated by the patients.

PP47

"NobelGuide Circle": A New Concept in Oral Rehabilitations

Davide FORNENGO, Bruno FORNENGO, Renzo RONCO

Alpignano – Torino, ITALY

The purpose of this study is to demonstrate the possible and successful use of a technique to guide fixtures insertion not only for implant placement but even to plan and to make the prosthetic rehabilitation.
69 partially or totally edentulous patients (38 female; 31 male) were treated since 2005 to 2008 with this procedure. After a mean loading period of 24 months (range 6 to 42 months) 99% of the implants were osseointegrated. Considerations according to implant size and bone quality were also drawn. All this procedure gives a reduction of challenges, costs, time of work, and the best satisfaction for all the technical-surgical-prosthetic equipe, including patient.

**POSTER PRESENTATIONS 1**

**Oral Surgery**

**PP48**

**Immediate Tooth Transplantation Following Cyst Enucleation: A Case Report**

Zeynep Burçin ÜNAL, Murat ULU, Kaşad PALA, Osman A. ETÖZ

Erciyes University, Faculty of Dentistry, Kayseri, TURKEY

Autotransplantation may be defined as the transplantation of impacted or erupted teeth one site to another in the same individual into extraction site or surgically prepared sockets.(1) Although it has been given up by most of the clinicians after popularity of dental implants; it has some advantages like avoidance of adjacent teeth preparation and comparative cost-effectiveness. Impacted or ectopic teeth, premature tooth loss, traumatic tooth loss, congenitally missing tooth in one arch with clinical signs of tooth crowding in the opposing arch, replacement of developmentally absent teeth, teeth with bad prognosis, developmental anomalies of teeth and related syndromes are some of the known indications for transplantation.(2,3) Successful transplantation is achieved when tooth has normal periapical healing with neither inflammatory pulpal changes nor progressive root resorption and remains in stable occlusion without discomfort. Successful tooth transplantation offers improved esthetics and mastication.

A 25-year-old patient with a radicular cyst associated with unrestorable upper first molar is presented. After clinical and radiographic examinations, dental management of the patient had been planned as to extract the unrestorable upper first molar and enucleate the radicular cyst. Then the prosthodontic treatment would be performed with a dental implant or a fixed prosthesis. However the patient denied the aforementioned treatment options due to the financial concerns. The patient had mucosal impacted right upper third molar and autotransplantation was suggested to patient for another treatment option. The patient
treated with extraction of the first molar following cyst enucleation. The impacted upper right third molar was removed and contact with root surface was avoided and placed into the alveolar bone adjacent to the cyst cavity and supported with combination of autogenous and allogenic bone grafts. (Figure-2 intra-operative view) The teeth was slightly left out of occlusion and bonded wire was used for 4 weeks for fixation. (Figure-3 Postoperative clinical view with bonded wire) Antibiotic and chlorhexidine mouthwash were prescribed. The patient was advised for soft diet after 1 month bonded wire was removed. (Figure-4 an OPG was taken before removing bonded wire) After 6 weeks of follow-up signs of infection was detected overlying mucosa of the transplanted tooth. (Figure-5 the radiography was taken with a gutta percha on fistula way) The transplanted tooth underwent the endodontic treatment. The postoperative healing was successful, masticatory function is satisfactory without discomfort; gingival contour and gingival color are within normal limits, the tooth is not mobile; a pathologic condition is not apparent on the radiographs except a slight external resorption, after 1 year follow-up. (Figure-6 radiographic view after 1 year follow up, Figure-7 clinical view after 1 year follow-up)

The success rate of tooth autotransplantation varies in the literature between 50%. (4) -90% (5) Patients who are aged from 15 to 19 years have been considered as more appropriate candidates (3) for autotransplantation and better results can be achieved when transplantation is done at a younger age, when the donor tooth is still developing. On the other hand, transplanted teeth with incomplete root formation have a 96% rate of pulpal healing, compared with 15% for transplanted teeth with complete root formation. (6) The other important point is diameter of the apical foramen. Teeth which apical diameter greater than 1mm has a diminished risk of pulpal necrosis (2, 3). In this case the mature tooth was transplanted and initially the endodontic treatment may be indicated. The American Association of Endodontists recommends that the pulp of teeth with closed apices be extirpated 7 to 14 days after transplantation; otherwise the necrotic pulp and subsequent infection may result in inflammatory resorption and decrease the survival time of the autografts. (2, 3) Another study showed all postoperative treatment should be done within 8 weeks. (7) The endodontic treatment and bone grafting may be considered as important factors for improving the success of the treatment. In another study the authors transplanted teeth into bone-grafted alveolar clefts, and they showed that the grafted bone undergoes resorption in the absence of occlusal load (8). In this case the alveolar bone defect was grafted after the cyst enucleation and bone remodelling may be stimulated by occlusal loads. Most reports advise flexible splinting for 7 to 10 days (3, 9) because this permits some functional movement of the transplant and stimulates periodontal ligament cellular activity and bone repair. (9) In the present case the bonded wire was used for 4 weeks due to existing inadequate periodontal support after the cyst enucleation. The tooth was also placed just slightly below the occlusal level to prevent postoperative trauma. The patient should be advised to eat a soft diet for the first few days after the transplantation. Infection at the host site and postoperative control of supragingival plaque adversely influence the success of tooth transplantation (3, 10). Patients should routinely rinse with chlorhexidine gluconate (0.12% in aqueous solution) for several days pericoronatively to reduce plaque and promote healing. (11, 12) Loss of pulp vitality, poor periodontal healing and root resorption are complications of autotransplantation. These complications may be minimized if mature transplants are root filled within 4 weeks of transplantation. A transplanted third molar also maintains natural space, with little root resorption, alveolar bone volume and the morphology of the alveolar ridge. A transplanted tooth provides functional stimulation.

Autotransplantation may be the most economic treatment choice for replacing missing tooth. Whenever unrestorable teeth need to be extracted, clinicians should make patients aware of other treatment options, such as tooth transplantation in addition to fixed or removable prosthesis or dental implants. To our knowledge the present case is probably the first
in which autotransplantation was performed immediately after a cyst enucleation in the literature. Autotransplantation of teeth should be kept in mind as an alternative treatment option and may be performed even for severely compromised alveoli as long as thorough fixation methods and early root canal treatment.


PP49

Treatment of the Refractory Trigeminal Neuralgia with Streptomycin and Lidocaine

Seyed Ahmad ARTA, Mohammad Ali GAVIMI
Tabriz University of Medical Sciences, Tabriz, IRAN

Trigeminal neuralgia is the most common facial neuralgia. The severe pain due to the disease affects patients quality of life remarkably. Treatment plans include pharmacotherapy, neurectomy, alcohol injection. Therefore a minimal invasive treatment method with lower side effects is desirable. The aim of the present study was to investigate the effects of Streptomycin and lidocaine injection in patients with trigeminal neuralgia resistant to carbamazepin pharmacotherapy.

The study was a retrospective experimentation. Subjects were 40 patients with trigeminal neuralgia resistant to carbamazepin. Streptomycin-lidocaine injection was performed in the site of trigger zone pain was measured before the treatment as baseline and 1 week, 1 month and 6 months after the treatment.

Results: The severity of pain reported by patients was significantly reduced one week, one month and six months after the treatment compared to the baseline. (p<0.001) In addition the severity of pain was significantly lower six months after the treatment compared with one month after. (p<0.001) There was no significant difference between male and female and also between age groups in pain reduction. There was a significant difference between patients who had a trigger zone in right side compared to others. The pain reduction was significantly lower in patients with history of the disease for more than five years.

The present study suggests that the streptomycin-lidocaine injection method is a useful and rather safe approach in trigeminal neuralgia.

PP50

The Effectiveness of Supraperiosteal Infiltration Anesthesia on Posterior Mandibular Surgery

Nilay ER, Ahmet E. DEMİRBAŞ, Osman A. ETÖZ
Erciyes University Faculty of Dentistry, Kayseri, TURKEY

Inferior alveolar nerve (IAN) block is a commonly used technique in dental surgery. It eliminates all somatosensory perception of the ipsilateral mandible, mandibular teeth, floor of the mouth and the tongue except buccal gingivae and in this technique buccal gingivae needs additional supraperiosteal anesthesia. There is no agreement on using inferior alveolar nerve (IAN) block or using only supraperiosteal infiltration anesthesia during dental implant surgery in the posterior mandibular region. In the literature,
whether IAN block or supraperiosteal infiltration should be used is controversial and depends on surgeon's preference. Although this useful technique is a common procedure, the issue about its complications is a well known challenge on dental surgery. The aim of this study was to evaluate the effectiveness of supraperiosteal infiltration anesthesia on posterior mandibular region during dental implant surgery and to assess whether a relationship exists among the distance between the apical ends of implants inserted at the posterior mandible and IAN with intraoperative sensitivity under mandibular supraperiosteal infiltration anesthesia.

Patients and Methods: Fifty-two dental implants were inserted at the posterior mandible (posterior to the mental foramen) of total 29 patients of 12 males and 17 females who were free of any painful and neurologic disorder under mandibular supraperiosteal infiltration anesthesia. All patients were informed about the procedure and ethical approval was obtained. 2 ml of articain including 0.010 mg/ml epinephrine was used as the local anesthetic agent. For each one of the implants total of 1 ml anesthetic solution was deposited at the buccal and lingual sides. After 5 minutes of latent period dental implants were placed at the posterior region of the mandible. The patients were instructed to warn the surgeon in the case of pain sensation. After the surgery, the patients were instructed to note their intraoperative pain on the visual analogue scale (VAS) of 0 to 100 mm, which was designed as 0 being no pain and 100 being the worst pain ever experienced. Pressure pain threshold (PPT) scores of the patients were also measured with a mechanical algometer on the hypothenar region of the left hand (Wagner Instruments Greenwich, CT) in order to evaluate general pain perception of the individual (2).

After surgery, standart panaromic radiographies were taken (magnification rate is 1.3) and the distance between the apical end of the implants and IAN was measured by using calipers on postoperative panaromic radiographies. Results of 52 dental implants in 29 patients, only two patients underwent inferior alveolar nerve block due to pain during implant surgery. Both of the aforementioned implants were placed at the mandibular second molar region and the distance between the apical end of the implants and IANs were relatively safe (2.9 mm and 6.7 mm). Remaining 27 patients (%93.1) reported that they had no bothering pain during the drilling procedure and implant placement and there was no need to use IAN block due to pain during implant surgery with the exception of two patients. Implants which were placed at the mandibular second premolar and first molar region had been able to place with free of pain with supraperiosteal infiltration.

There was no association between intraoperative VAS scores of the patients and PPT values (p>0.05). There was no correlation between the distance of the apical edges of implants with IAN and intraoperative VAS scores of the patients (Figure 1, p>0.05). Additionally, there was no association between intraoperative subjective pain scores of the patients in terms of gender and age (p>0.05). However, among the remaining 50 patients, VAS scores during implant placement at the second premolar region were relatively higher than at the first and second molar region and subjective pain scores were higher during the placement of dental implants at the second molar region than at the first molar region respectively (Table1, p<0.05).

IAN block is a useful and easy technique for management of posterior mandibular surgery. It allows a comfortable pain free environment for clinician because it assures anesthesia all of the structure that are mentioned above. Although this technique is used commonly in dental procedures, it has many complications well known in dental practice. Management of edentulous areas in the posterior region of the mandible with dental osseointegrated implants is usually made under IAN block. Three major postoperative complications may occur with the use of block anesthesia of the IAN when placing mandibular implants: (1) prolonged mandibular anesthesia, during which time the patient may injure his or her tongue or lip in a variety of ways; (2) systemic toxicity from iatrogenic, intra-arterial injection of local anesthetic solution; and, most importantly when placing mandibular implants, (3) injury to the inferior or mental nerves, unbeknown to the patient or doc-
ator until after the effects of the block anesthesia have subsided (1). In contrast, supraperiosteal infiltration technique is easier to practice, complication rate is lesser than IAN block, and its anesthetic effect is shorter and much more tolerable in terms of patient's pain suffrance and postoperative comfort.

Mandibular bone is considered as too dense and too compact and because of this dense structure, it is thought that local anesthetic can not be diffused into the medullary space of mandible by supraperiosteal infiltration. However it has been found that (2) 2449 accessory or unnamed foramina in 300 dried human mandibles. Madeira et al (3) reported the presence of accessory foramina in the human mandibular symphysis region in 87.3 to 96.2% of specimens studied. In addition, Pogrel et al (4) reported that branches of the mental nerve reenter the labial (lateral) surface of the mandible to supply lower incisors. In terms of these informations we thought that using infiltration anesthesia we could perform drilling procedure and implant insertion without feel pain under suprapерiosteal infiltration anesthesia. Many implant surgeons recommend that, to avoid mandibular nerve injury, a 2-mm radiographic space above the mandibular canal should remain after implant placement (5). In our study, results showed that there is no correlation with the distance between apical edges of the implants and inferior alveolar canal. Our results are consistent with thoughts of Flanagan (6).

Considering potential complications of IAN block, infiltration anesthesia can be used for management of posterior mandibular surgery especially at first molar region. Implants which were placed at the mandibular second premolar and first molar region had been able to place with free of pain with supraperiosteal infiltration. VAS scores during implant placement at the second premolar region were relatively higher than at the first and second molar region. According to the results of the present study, mandibular supraperiosteal infiltration anesthesia has a success rate of more than 90% and could be used safely for posterior mandibular implant surgery. Although supraperiosteal infiltration has been thought to permit the patient to inform the doctor if his or her surgical procedures were stimulating branches of the inferior alveolar plexus, (1) care should be taken in order to avoid possible damage to IAN under supraperiosteal infiltration as there was no relationship between the sensation of the patient and distance between the apical end of the implant with IAN.


PP51

Evaluation of the Effect of Low-Level Laser Therapy on Tooth Eruption Process in Wistar Rats: A Preliminary Study

Kemal Murat ÖKÇU, Necdet DOĞAN, Metin ŞENÇİMEN, Fevzi ERDEMİ, Aydın GÜLSES, Hasan Aybey ALTUĞ

Gülhane Military Medical Academy, Ankara, TURKEY

Therapeutic laser treatment, also referred to as low-level laser therapy (LLLT), offers numerous benefits.
Along with the primary benefit of being nonsurgical, it promotes tissue healing and reduces edema, inflammation and pain (1, 2). For more than 30 years, LLLT has been an interesting but not well-defined field among the medical, dental, physiotherapy and veterinary professions (2). LLLT is being applied extensively in medicine and dentistry to treat both hard- and soft-tissue injuries (3-5). Research needs to be done with the various wavelengths in creating different treatment effects and establishing a proper treatment protocol for each different situation. The first presented, working laser was a ruby laser. The ruby laser was also the first to be used in biostimulatory research (6). Among its successors was the HeNe (Helium-Neon) laser (7). The GaAs (gallium-arsenid) diode laser was developed in the early 1980s.

The GaAIAs (gallium-aluminium-arsenid) laser was developed in the later 1980s (8). The following are some suggested treatment dosages: 2 to 3 J/cm² two or three times a week on gingival tissues, 4 to 6 J/cm² two or three times a week on muscles, 6 to 10 J/cm² once or twice a week on a temporomandibular joint, and 2 to 4 J/cm² directly on the tooth or indirectly above the apex or osseous structure (2). Dentinal hypersensitivity (DH) is one of the most common causes of dental pain (9). There have been several studies of the effect of LLLT on DH. Most studies have used GaAIAs laser treatment and have demonstrated desensitization of hypersensitive cervical dentine, with an efficacy rate of approximately 90% (10, 11). With respect to bone, LLLT has been shown to modulate inflammation (12), accelerate cell proliferation (13) and enhance healing (14). Khadra et al. (15, 16) in their animal studies showed that LLLT enhances the functional attachment of titanium implants to bone and promotes bone healing and mineralization. The tooth movement is related to the response to applied occlusal and lateral forces that causes remodeling of the periodontal tissues, especially alveolar bone. The acceleration of bone regeneration by laser treatment has been a focus of research (17). If laser irradiation can cause the acceleration of bone remodeling, it may also affect the tooth extension. In the literature there are many study include the effect of LLLT on different tissue. But none of them mention the effect of LLLT on the tooth extension in animals.

The lower incisor tooth of the rat has a great potential rate of extension. The teeth of rodents (rat, rabbit, etc.) are different then those of dogs, cats, and people in that those continually throughout the animal's life. If the teeth are not aligned properly, they will not wear down at the correct rate, resulting in weight loss due to problems eating. This is not just a problem of the front incisors, as the back molars can overgrow as well (18). The teeth of the rat continue to grow throughout life. If incisors overgrow, they can actually grow into the nasal cavity. Rats need to chew to keep the teeth at a normal length (unless the teeth are misaligned, causing the overgrowth) (19). In the present study, we investigated the effects of low-level laser irradiation on tooth extension during natural tooth elongation. The effects of laser therapy were evaluated quantitatively by measuring the amount of tooth extension between the gingival edge and the incisal corner.

Material and Method: A total of 12 male Wistar strain rats at 6 weeks old (165 ± 10 g) were used randomly for the study. 12 rats were divided into two groups of 6 rats each to form the laser therapy and nonirradiation groups. The animals were kept in the animal center of Gulhane Military Medical Academy at Ankara, in separate cages, in a 12-hour light/dark environment at a constant temperature of 23°C. All operations were carried out under general anesthesia by using intramuscular injection of ketamine (alfamine) (60 mg/kg body weight). For premedication xylazine hydrochlorur (alfazine) was used intramuscular 4 mg/kg body weight. To measure the amount of tooth extension two points were identified in front of the right lower incisor in all rats. The measurements were performed between the gingival edge (Fig. 1A), and the edge of the cutted incisal part of the tooth (Fig. 1B) with a caliper. The tooth was cutted approximately until the half (Fig. 2). For the low-level laser source, a GaAIAs laser (BTL 2000 Powerlaser, Medic Tinedic, Denmark) was used (Fig. 3). The wavelength was 830nm and the output power was 25mW, variable. The laser beam was de-
livered by a 1.8mm-diameter optical fiber, by plac-
ing the end of the optical fiber tip in 10 mm away-
from the apex of the tooth (Fig. 4). Irradiation was
performed for 2.5 minutes once a day on day 0 to
day 3 (total 3 times). Total energy corresponding to
a 2.5 minute/day exposure was 9J. The first dose of
laser irradiation was performed just after the prepa-
ration of the teeth, and then successive applications
were realized at same time following two next days.

During the procedures of the measurements the rats
were premedicated with 4% isoﬂorane and the anes-
thesia maintenance was performed by lowering the
initial dose to 1%. For the statistical analysis
Wilcoxon signed ranks test and the independent-
samples T test was performed to evaluate the sig-
nificant or insigniﬁcant differences between the
values in two groups. A value of P < 0.05 was con-
sidered to indicate a signiﬁcant diﬀerence. Results:
The values of the measurements of two groups are
presented in Table 1. In the laser application group
the averages of the teeth length were 3.1, 4.0, 5.2,
and 7.08 at 0, 1, 2, and 3 days respectively. In non-
irradiation group these values were 3.11, 3.86, 4.65,
and 5.7 at 0, 1, 2, and 3 days respectively. To com-
pare the diﬀerences of the measurements in each
group the Wilcoxon signed ranks test was per-
formed. The diﬀerences were realized between the
averages of the measurements at day 0, 1, 2, and 3.
According to these results there were statistically
signiﬁcant diﬀerences between the all measure-
ments at each day in two groups. Although the
amount of tooth extension was statistically signiﬁ-
cant in both groups, but in the laser application group
compared with the nonirradiation group was more
quickly (Fig. 5). The increase of the teeth length av-
erages in laser application group were greater be-
tween the day 2 and 3 compared to the other group.
The independent-samples T test was applied to re-
veal the diﬀerences between the values of the
groups at day 2 and 3, and the p value was 0.02
(p<0.05). This result is explained that there was a
statistically signiﬁcant diﬀerence between the two
groups at day 2 and 3, and it’s concluded that the
laser application was eﬀective to tooth extension in
rats.

Discussion: The rats are the animals which have a
potential of extension in all tooth, but the incisive are
being more inﬂuenced by this feature. The mecha-
nism of the extension may describe as the cellular
activation in the apex region of the teeth. This cellu-
lar activation may increase the odontoblastic activity;
depending on an elongation in tooth length may pro-
duce. This circumstance provides a great advantage
in animals and, the fractured tooth attain the origi-
nal length and carry on its function. The mechanisms
underlying stimulation of bone healing are not well
understood, but may be multifactorial and include
promotion of angiogenesis, collagen production, os-
teogenic cell proliferation and differentiation, mito-
chondrial respiration, and ATP synthesis (16). LLLT
may also increase local blood ﬂow, enhancing the
supply of circulating cells, nutrition, oxygen, and in-
organic salts to the bone defect (20). During the
early stages of wound healing, the energy require-
ments of the cells are increased. For this purpose,
the appropriate dose for application of LLLT would
be the one which enhances growth factors such as
TGF-β1 production by osteoblasts (21). The dose (3
J/cm2) used in this study was similar to those in sev-
eral previous studies which indicated that 1-5 J/cm2
is effective for inducing positive eﬀects (4, 22). Sev-
eral laser systems are currently being applied for
stimulation of tissue regeneration. In selecting opti-
mal laser therapy for experimental or clinical appli-
cation, it is important that the properties of each
device are carefully evaluated (23). The present re-
results have demonstrated that LLLT using a GaAlAs
diode laser has a positive biostimulatory eﬀect on
osteoblast-like cells and does not cause cell dam-
age. Our hypothesis is that LLLT may enhance tooth
extension in rats. For this reason in this presented
study, the eﬀect of LLLT was evaluated quantita-
tively. To our knowledge, no such studies have been
previously reported.

The results of this quantitative study demonstrated
that the GaAlAs laser application cause an increase
in tooth extension in rats. In the future, we desire to
investigate the eﬀects of this type of laser on the cel-
lar activation with histomorphometrical parameters.

PP52

Impacted Premolars

Göksel ŞİMŞEK KAYA, Mehmet Melih ÖMEZLİ, Güney YAPICI, Ertuğrul DAYI

Atatürk University, Faculty of Dentistry, Erzurum, TURKEY

Objective: The aim of this study was to investigate the incidence of impaction and intraosseous migration of premolar teeth, the pathology related with them and to classify them. Materials and Methods: The retrospective cohort study was composed of 9000 panoramic radiographs that were taken on patients who presented to our Oral and Maxillofacial Surgery Services from January 1998 to January 2009. The panoramic radiographs and clinical data were reviewed. Observations were made on the status of missing maxillary and mandibular premolars, their number and number of missing maxillary and mandibular premolars, localization and number of intraosseous migrated premolars, sex and age of the patients, retained deciduous molars and any other associated pathologies as well as treatment methods employed. Results: In this study, 59 patients had 105 impacted premolar teeth (1.2%). The incidences of maxillary first and second premolars were 0.05% and 0.2% whereas the incidences of the mandibular first and second premolars were 0.1% and 0.64% respectively. 11 patients (0.1%) had intraosseous migrated mandibular second premolars. There were 5 odontomas and 3 cystic lesions associated with impacted premolars. Although not being related with any cyst or tumor 6 teeth were the sources of pain.
Furthermore one tooth led to root resorption of the adjacent tooth. Retained deciduous first molar teeth in 6 patients and permanent first molar teeth in 16 patients were extracted.

**Conclusion:** Mandibular premolars tend to remain impacted more than the maxillary premolars and only the mandibular second premolars tend to migration. The treatment for the impacted premolars should be specific for each patient depending on the status of the teeth, their association with the pathologic process, the age of the patient and the attitude of the patient towards treatment. Nevertheless as the migrated premolars can be sources of infection and pain they either have to be surgically extracted or be regularly followed up.

**Key words:** Impacted premolars, intraosseous migration.

**Introduction:** Failure in the development or the eruption of the teeth on their way to their proper functional localization may lead them to remain impacted. That's why the non-functional, abnormal or pathologic1 impacted permanent teeth that have an incidence between 5.6% and 28.3%, constituting a problem for all the branches of dentistry.2-4 All teeth can be impacted, however, the third molars, maxillary canines, maxillary central incisors and the premolars the most frequently involved.2,4-7 The impaction of the premolars may give rise to aesthetic problems, masticatory inefficiency or problems in the establishment of oral hygiene.4 The movement of a teeth to a an area far from its regular place of development is termed as “dental migration”.3,8-10 This definition has been used for the first time by Shields in 1908.8,11 The intraosseous migration of the teeth is a very rare dental anomaly which is encountered with only the permanent dentition in the lower jaw.8,9,12-14 Impacted mandibular canines commonly migrate mesiually sometimes presenting at the opposite site after passing the mental symphysis8,12,14 whereas mandibular permanent premolars migrate in the distal manner.3,4,8,10-12,14 The association of this phenomenon with other dental anomalies has been reported only once in a case presenting premolar migration in a patient with cleft lip and palate.11 The review of the literature revealed the lack of adequate data concerning impacted premolars as there are limited numbers of case reports and comprehensive scientific studies. In this study we attempted to determine the incidence of impaction and intraosseous migration of premolar teeth in a Turkish subpopulation.

**Materials and Methods:** We designed a retrospective cohort study composed of 9000 panoramic radiographs that were taken on patients who presented to our Oral and Maxillofacial Surgery Services from January 1998 to January 2009. Observation was made on the status of missing maxillary and mandibular premolars, side and number of missing maxillary and mandibular premolars, localization and number of intraosseous migrated premolars, sex and age of patients, retained deciduous molars, any other associated pathology or symptoms, as well as the methods of treatment. Radiographic and clinical data from this study are presented. One group of researchers examined the radiographs at the same time on standard light boxes to determine the number and types of impacted teeth, and the presence of associated pathologies. The impacted premolars were evaluated and classified according to their depths and angulations. The angulations of the impacted premolars were classified as mesioangular, distoangular, vertical, horizontal and inverted. The classification for the depth of these teeth was done as follows: Level A, the crown of the impacted premolar tooth is at the cervical line of the adjacent teeth; level B, the crown of the impacted premolar tooth is between the cervical line and root apices of the adjacent teeth; level C, the crown of the impacted premolar tooth is beneath the root apices of the adjacent teeth. Results: Among the 9000 panoramic radiographs 93 patients had 105 impacted teeth (1.2%). 48 of them were females (ages 13-57 years) and 45 were males (ages 13-58 years). The maxillary first premolars in 2 patients, maxillary second premolars in 2 patients, lower first premolars in 1 patient and lower second premolars in 7 patients were found out to be bilateral whereas the other teeth were observed to be unilateral. The incidences of
the maxillary and mandibular first and second premolars were found to be different (Table 1). The impacted maxillary and mandibular premolars have different depths and angulations (Table 2, 3). Retained deciduous first molar teeth were present in 6 patients (ages 13-19 years). Figure 1 and permanent first molar teeth were extracted from 16 patients (ages 19-57 years). In our investigation revealed migrated interosseous mandibular second premolar teeth in 11 patients which 7 of them (ages 22-57 years) were females and 4 of them were males (ages 21-41 years) (Table 4).

All of the migrated premolars were found out to be unilateral with 6 of them being right and 5 of them being left sided. Migration was observed to be distally in all the teeth. In three of the patients that presented with migrated premolars, extraction of the lower permanent first molar, in five of them extraction of both lower permanent first molars and lower permanent second and third molars were accomplished (Table 5). Figure 3, 4, 5 of the 105 patients had odontomas (ages 13-44 years). Four of these five odontomas were surgically removed and the eruption of the permanent teeth was monitored. The fifth odontoma which was embedded in a cystic lesion was removed by the related premolar (0.95%) (Figure 2). In addition to, 2 impacted lower premolar teeth were surrounded by cystic lesions and one of the cysts was infected. This tooth was extracted with the infected cyst while the other one was marsupialized in order to permit the eruption of the tooth. 2 teeth (1.9%) (ages 13-44 years) due to cystic lesion and 1 tooth (0.95%) (age 45 years) due to resorption at root of the adjacent tooth were extracted. Furthermore 6 teeth were also extracted as they were giving rise to pain without any association with a tumor or cyst. Three of these painful teeth were infected (ages 28-37 years) (2.85%) while the others did not present any symptoms of infection (2.85%) (ages 21-57 years). The rest of the teeth were asymptomatic. Surgical exposure and orthodontic traction was applied to 20 teeth (19%) (ages 13-21 years), 13 teeth (12.4%) (ages 13-22 years) and 11 teeth (10.5%) (ages 30-58 years) were extracted for orthodontic and prosthetic purposes respectively.

The remaining 28 asymptomatic teeth (26.7%) (ages 16-49 years) were surgically extracted while 23 teeth (21.9%) (ages 13-40 years) were solely followed up with no interventions. Moreover 6 retained primary molar teeth were extracted to permit the eruption of the permanent premolars. The investigation of the patients' records revealed that all of the interventions had been done under local anesthesia and that the intraoral approach has been used. In addition, none of the patients had a history of having maxillofacial or dento-alveolar trauma, operation or alveolar cleft.

Discussion: According to Bishara teeth can remain impacted due to local and general reasons. The abnormal position of the permanent tooth bud, prolonged retention or ankylosis of the deciduous tooth or early exfoliation, lacking of the sufficient area for the eruption of the permanent tooth, alveolar cleft, cyst and odontoma are among the most frequently encountered local factors. Furthermore other factors like being subjected to a centro-alveolar or maxillofacial trauma in the childhood, any reconstructive surgery regarding the facial skeleton, a low correlation between the development and maturation of the teeth and the development of the maxillofacial skeleton and eruption disturbances may also lead to the impaction of the teeth. The most commonly seen systemic factors for the impacted teeth are Cleidocranial dysostosis and Gardner's syndrome. Thilander and Myrberg reported that 26.9% of all the impacted teeth, excluding the molars is consisted of the maxillary second premolars and 23.8% is consisted of the lower second premolars. Moreover Chu et al. reported that their analysis of 7486 panoramic radiographs revealed that 20% of all the impacted teeth, excluding the molars, were consisted of the mandibular premolars and 12% were consisted of the maxillary premolars. Some authors have reported the incidence of the impacted premolars in the population to be between 0.1% and 0.3% for the maxillary premolars and 0.2% and 0.3% for the mandibular premolars. Chu et al. have reported the incidence for the maxillary and the mandibular premolars to be 0.1% and 0.2% respectively. This study showed that the incidences of the maxillary first and second premolars in the community were 0.05% and 0.2% re-
spectives. The incidences of the mandibular first and second premolars were found to be a little bit different from the literature; 0.1% and 0.64% respectively. The literature gave little knowledge about the intraosseous migration of the impacted teeth. The prevalence of the premolars is lower than the prevalence of the canines. In their study with the inclusion of 264 patients Matteson et al. reported prevalence of migration for mandibular second premolar to be 0.2%. In our study 11 teeth were undergone to migration. According to Matteson et al. the gender predilection of this phenomenon is higher in females than the males with a ratio of 1.7:1. Sutton has also reported the migration of the premolars to be more frequent in women than men. The ratio of the affected teeth in our study was in conjunction with the literature by being 1.8 females: 1 male. As the ages of the patients having migrated premolars were above 20 years the knowledge that describes this phenomenon to be in the adults over 20 years 23 of age is being supported. The mechanism of the intraosseous migration is not very well known yet. According to Matteson et al. attaining knowledge about the mechanism of tooth eruption will be helpful in the diagnosis, prevention and treatment of migration. Concordant with the literature in our study, the teeth were migrated only unilaterally.

In a review concerning 62 cases who had migrated premolars Sutton have reported the migration to be distally in 58 (93.5%) of the cases. Due to masticatory efforts lower premolars tend to move mesially however the migration eventuates distally and the mechanism of this is not yet fully understood. According to Logan and Kronfeld this situation is usually related with the gain of distal inclination of the second premolars after their roots start to form. Sutton however, proposed the importance of the initial angulations of the teeth and frequent loss of the primary molars for the migration of the teeth. Concurrently, Matteson et al. reported that the migration potential of the permanent second premolar was increased by 5-10% in times when the first molar is lost before the eruption of this tooth. In our study, 3 of the 11 patients who had migrated premolars, had undergone the extraction of the lower permanent first molar and 5 of them had undergone the extraction of both lower permanent first molar and the lower permanent second and third molars. As all of these patients were adults we were unable to estimate the exact time of extraction of the lower first molars. However if we take into consideration that the majority of the impacted mandibular second premolars had a distal inclination and migration have occurred in this manner only, we can deduce that in patients having impacted mandibular second premolars the extraction of the permanent first premolar will play an important role on the migration whatever the age would be. Nevertheless further studies are necessary in order to be able to understand the mechanism of migration.

Most of the mandibular premolars move only one cm away and migration ends when the tooth meets with an adjacent tooth or another anatomic structure. There are only a few articles reporting the migration of the teeth further like the coronoid notch, coronoid process, mandibular neck and mandibular ramus. In this study 4 of the impacted premolars were at the anterior of mandibular ramus, 5 of them were at the molar region and 2 was just beneath the mandibular permanent second molar. The treatment alternatives for impacted premolars that have sufficient space for eruption consist of periodic observation of the tooth, extraction of the primary teeth and monitoring of the permanent teeth, surgical exposure and exteriorization of the tooth either in combination with or without orthodontic traction, surgical reposition (autotransplantation) and surgical extraction of the tooth. In this study 6 retained primary molars and 62 impacted premolars were extracted. Andreassen have declared that surgical exposure in teeth that have no more than 45° tilting of the long axis from its normal position is usually successful. The impacted tooth may erupt spontaneously following the surgical exposure however sometimes a combined therapy with orthodontic alignment may be necessary. In this study the surgical exposure method in combination with the orthodontic traction have been applied to 20 teeth. The impacted teeth with pericoronal lesions are almost always extracted with the aim to prevent the
relapse of cystic lesion. An alternative to extraction of these teeth is the marsupialization of the cyst to help to preserve and accelerate their eruption. The first encountered cyst in our study was infected and the second was accompanied by an odontoma, hence enucleating have been the preferred method of therapy for them. Nevertheless the third cyst was not infected and the patient was young so the cyst was marsupialized.

Other indications for the extraction of impacted premolars are when they give rise to a resorption in the roots of the adjacent teeth, periodontal disturbances and neurologic symptoms. In this study one tooth caused resorption in the mesial root of the mandibular permanent first molar tooth and hence it was extracted. Extensive removal of the alveolar bone with surgical reposition in an effort to realign the deeply impacted teeth having abnormal axial inclination to the dental arch and the contraindication of this process to be applied for the teeth that have completed their root development is a disadvantage. Furthermore dwarfed roots, pulpal obliteration and loss of vitality for the impacted teeth are among the potential complications of this procedure.4 Treatment options for the teeth in ectopic positions are leaving the teeth in situ, prophylactic extraction of the teeth with intra-oral or extra-oral approach depending on the teeth’s positions in order to prevent pathologic consequences or alignment of the teeth to the dental arch by surgical exposure and orthodontic traction of the premolar that has migrated to the extracted adjacent permanent first molar’s space. Attempts to rescue the deeply impacted and migrated premolars carry a potential risk for the roots of the adjacent teeth. Moreover, the facial nerve can be injured during extra-oral tooth extraction and cosmetic sequelae may ensue due to non aesthetic skin scars. As for the intraoral approach there is the possibility of poor visualization and limited surgical area at the inaccessible areas like the angle of the mandible. In this study 7 migrated premolars were extracted.

In conclusion, mandibular premolars are more remains impacted than the maxillary premolars and the only migrating teeth are the mandibular second premolars. It is quite an interesting situation that the impacted mandibular second premolars generally complete their development distally and migrate only in this direction. The treatment for the impacted premolars should be specific for each patient depending on the status of the teeth, their association with the pathologic process, the age of the patient and the attitude of the patient towards treatment. Nevertheless, as migrated premolars can be the sources of pain and infection, these teeth should either be surgically extracted before accessing to the poorly accessible areas or the migratory movements of these teeth should closely and regularly be monitored with panoramic and occlusal radiographs.

**Figure Legends:** Figure 1: Impacted mandibular left second premolar associated with retained primary first molar. Figure 2: Impacted mandibular left second premolar associated with odontoma in a cystic lesion. Figure 3: Migrated mandibular right second premolar at the anteriors site of the mandibular ramus. Figure 4: Migrated mandibular left second premolar just below the mandibular permanent second molar.


PP53
Inverted Premolar Tooth: A Case Report
Çiğdem ÇETİN, Serkan AGAÇAYAK, Belgin Günsün GÖRGÜN
Dicle University, Faculty of Dentistry, Diyarbakır, TURKEY

Ectopic eruption is a broadly applied term that may indicate an abnormal of direction during tooth eruption and/or final tooth position. The exact nature and mechanism of ectopic eruption of teeth varies from case to case. The factors responsible for ectopic eruption may include abnormal displacement of the tooth germ in embryonic life, developmental disturbances such as cleft palate, displacement of teeth by trauma or cyst, infection, genetic factors, skeletal and dental anomalies, syndromes, crowding, dense bone, endocrine disorders and hereditary factors. It is reported that; ectopic teeth are most frequently seen in maxilla, maxillary sinuses, palate, mandibular condylar area, ascending ramus of mandible, coronoid process, orbit, nasal cavity or through the skin. Inverted teeth have been reported in both maxilla and mandible, and most of them are invertedly impacted third molars and premolars. Most cases of ectopic teeth are asymptomatic and are usually found during routine clinical and radiographic investigations. In the present case, we report a case of ectopic and inverted premolar on the left side of and at the inferior border of mandible.

A Case Report: A 16-year old boy admitted in our clinic. His presenting complaint was caries of his teeth. In his routine radiological graphs the inverted premolar was diagnosed spontaneously which was located at the inferior border of mandible (Fig 1). Extraorally the crown of the inverted teeth can be palpated. After the radiological evaluation (CT-panoramic) patient was presented with the treatment plan (Fig 2). The tooth was extracted under local anesthesia and our surgical approach was extrorally (Fig 3). Incision was applied through the inferior border of mandible. Muscular attachments were dissected and the bone around the inverted tooth was removed. After the extraction of the tooth the underlayer soft tissues sutured with absorbable materials and cutaneous tissues were sutured with 5.0 silk suture. In his postoperative 1 month control there is no scar formation and facial nerve disturbances (Fig 4).

The etiology of ectopic and inverted teeth are not yet been completely clarified. The methods of surgical removal include extraoral and intraoral approaches. The most commonly used extraoral approaches were submandibular access and preauricular access. The external access have the advantage of exposure of the surgical side but may result in complication such as extraoral scar formation, damage of joint components, facial nerve injury in the case of preauricular access, or damage of marginal branch of facial nerve in the case of submandibular access. The intraoral route may avoid these problems but provides a smaller surgical site. The risk of damaging the neuronal structures and the joint components, aesthetic concerns, defect reconstruction after the surgery, and the age of the patient should
be evaluated before treatment. The precise location of the ectopic tooth, sometimes with high-resolution CT scans, may provide direction in choosing the appropriate surgical method. In this case our surgical approach was extraorally. Incision was applied through the inferior border of mandible and after postoperative controls no scar formation and facial nerve disturbances were seen.

Ectopic inverted premolars are rare and usually found routine radiological graphs incidentally. The treatments should be carefully planned according to the position of the ectopic tooth and the possible trauma caused in the surgery. In the case reported there, an extraoral approach was adopted with more conservative and less traumatic destruction to the mandible. 2 months follow-up shows normal healing and any neuronal disturbances on the operation side.

**PP54**

**Unusual Cases of Impacted Inverted Teeth**

Beyza KAYA, İbrahim KÖSE, Hakan ÇAĞLI, Musa Can UÇAN

Dicle University, Faculty of Dentistry, Diyarbakır, TURKEY

**Introduction:** Inversion is defined as the malposition of a tooth in which the tooth has reversed and is positioned upside down. Eruption of an inverted tooth is a rare condition. The inverted eruption was most likely caused by a developmental abnormality with an inverted location of the tooth bud. The aim of these reports to present three interesting cases of inverted position of maxillary and mandibular right permanent third molars and maxillary first incisor, to review other inverted impacted teeth and discuss treatments of cases.

**Case 1:** An 11-year-old male referred to the Department of Oral and Maxillofacial Surgery of Dentistry Faculty at the University of Dicle with a complaint of pain in the upper front teeth place since two months. The medical history of the patient was unremarkable. No abnormalities in general growth and development or history of trauma were noted. On oral clinical examination 17, 13, 11, 23, 27, 33, 35, 43, 45, 47 were missing in oral cavity. Panoramic grape revealed an inverted impacted position of right upper incisor tooth and four impacted maxillary and mandibular canine teeth bilaterally (Fig 1). Further two mandibular second premolars were absent. The patient denied knowledge of similar abnormalities in other family members. Removal of this inverted right incisor tooth was recommended (Fig 2, 3).

**Case 2:** The patient was a 62-year-old man who attended our clinic complaining of right left cheek-pain. There was nothing remarkable in his medical or family history. On oral clinical examination 17, 43, 44, 45, 46, 47 were present in oral cavity. Panoramic grape revealed an inverted impacted position of right mandibular wisdom tooth and horizontally impacted mandibular third molar (Fig 4). Removal of impacted teeth were planned (Fig 5).

**Case 3:** A 50-year-old female patient was admitted for extraction of painful tooth at the Department of Oral and Maxillofacial Surgery of Dentistry Faculty at the University of Dicle. Her general medical history was not contributory. No abnormalities in general growth and development or history of trauma were noted. On oral clinical examination 16, 14, 35, 36, 44, 46 were missing in oral cavity. Panoramic grape revealed an inverted impacted position of right upper third molar and horizontally impacted upper third molar teeth. Further 34 was acute enflamed. Removal of impacted teeth were planned (Fig 6). In all cases impacted teeth were extracted surgically with conventional surgical techniques. They were extracted leaving clean alveolar sockets. The surrounding soft tissue was removed, curedt, closed and sutured.

**Discussion:** The teeth most commonly impacted are the mandibular third permanent molar, maxillary permanent canine and occasionally the premolars. This impaction can be horizontal, vertical, mesioangular, distoangular or inverted of which inversion is very rare. Factors responsible for ectopic eruption may include abnormal displacement of the tooth bud in embryonic life, anomalies during eruption, crowding, supernumerary teeth, endocrine disorders, hereditary factors, and trauma. 2-5. Inverted position might be influenced
by either genetic or environmental factors. The presence of an external force at some stage during tooth development may have inverted the first incisor. However, the anamnestic data did not mention any premature extraction of deciduous teeth or trauma. Therefore, a developmental abnormality with an inverted location of the tooth bud seems more likely. Inverted teeth have been reported in both maxilla and mandible, and most of them are invertedly impacted third molars and premolars. Inverted impaction has been observed for incisors, canines, premolars, and molars. Eruption of inverted teeth is extremely rare, but has been described for incisors and premolars. Very few cases of extraoral ectopic inverted tooth eruption have been reported. Shah reported a case in which extraoral eruption of a lower mandibular canine at the inferior anterior border of mandible was presented after 3 months following trauma to the chin. Dhoot et al reported a case of extraoral eruption of an upper primary canine from the lip 6 weeks following trauma. In the present first case, extraction had been advocated upon diagnosis at the age of 11. In the present other cases inverted impacted third molars were extracted surgically.

Results: Early removal of an inverted permanent tooth is recommended if it impedes the eruption of adjacent permanent teeth. Alternatively, such an inverted tooth could be extracted in an early stage of root development, and replanted with its follicle in the upright position.

PP55
Nifedipine Induced Gingival Enlargement
Ela TULES FIRAT, Beyza KAYA
Dicle University, Faculty of Dentistry, Diyarbakir, TURKEY

Introduction: Gingival overgrowth in response to antiepileptics (phenytoin), immunosuppressants (cyclosporine A) and calcium channel blockers (nifedipine, diltiazem, verapamil, nicardipine) is well recognized (1). Gingival overgrowth may occur as a side effect in 15-20% of patients receiving this drug (2). In the case of calcium channel blockers, gingival overgrowth is particularly with nifedipine (1). Gingival overgrowth is characterized by the accumulation of extracellular matrix in gingival connective tissues, particularly collagenous components with various degrees of inflammation. Although the mechanisms of these disorders have not been elucidated, recent studies suggest that these disorders seem to be induced by the disruption of homeostasis of collagen synthesis and degradation in gingival connective tissue, predominantly through the inhibition of collagen phagocytosis of gingival fibroblasts (3). Gingival overgrowth causes esthetic problems and aggravates oral hygiene, possibly resulting in an increased susceptibility to dental caries and periodontitis (4). The most effective treatment for drug-induced gingival overgrowth is the withdrawal or substitution of medication (5). In this case report is represented the treatment principles of nifedipine induced gingival overgrowth.

Case Report: A 42 years old woman patient who admitted to University of Dicle, Faculty of Dentistry, Department of Oral and Maxillofacial Surgery complained of bleeding and overgrowth in her gum. In the medical anamnesis we learned that she was hypertensive for 3 years and using 60 mg nifedipine (Adalat crono). A day for 2 years. In her clinical examination we determined inflammation and overgrowth in the upper and lower front gingiva (Figure 1). Also there are mixed pockets. Horizontal alveolar bone loss was seen in the panoramic radiography. Before the first session of scaling the patient received standard oral hygiene instructions. A subsequent non-surgical periodontal therapy composed of scaling and root planing was performed under local anesthesia. Two weeks after the periodontal therapy we obtained insufficient healing response in the gingiva. We decided to substitution of the nifedipine. For this reason according to the consultation result nifedipine was changed. 6 weeks after substitution of nifedipine, the gingival overgrowth was turned to normal (Figure 2, 3). After 3 months any pathological changings were not observed in her gingiva (Figure 4).

Discussion: The pathogenesis of nifedipine-induced gingival overgrowth condition remains unclear; it is thought to be multifactorial. Various risk
factors including drug variables, concomitant medication, periodontal variables and genetic factors have been associated with this unpleasant clinical condition. Moreover, age and gender have also been considered as important risk factors for drug-induced gingival overgrowth (6). Many studies have investigated the relationship between the extent and severity of gingival overgrowth and drug variables, such as dose, duration, serum and salivary concentrations. Gingival crevice fluid (GCF) is a complex mixture of substances derived from serum, leukocytes, structural cells of the periodontium and oral bacteria. It has been shown that several drugs like nifedipine, amiodipine, phentoin, tetracycline and ciprofloxacin can be detected in GCF. The relationship between the pharmacokinetic variables of nifedipine with the incidence and severity of gingival enlargement has been investigated in nine adult males. The results of this study suggested that there was no relationship between plasma/GCF nifedipine concentration and the degree of gingival overgrowth. It is speculated that there is greater inter individual difference in the degree of nifedipine induced gingival overgrowth. Not all patients taking nifedipine develop gingival overgrowth (7-10). Especially local inflammatuar status is important risk factors for developing overgrowth consistent with our patient. Heijl et al. showed that nifedipine induced gingival overgrowth is developed on only inflammatory sites.

**Result:** In conclusion, patients who have nifedipine induced gingival overgrowth, if contraindication is not present, of the drug; prevent the resivues and substitution repetitive surgical operations.

**PP56**

**Nonsyndromal Multiple Supernumerary Teeth (Two Case Reports)**

Beyza KAYA, Ibrahim KÖSE, Musa Can UÇAN, Yusuf ATALAY

*Dicle University, Faculty of Dentistry, Department of Oral Medicine and Surgery, Diyarbakir, TURKEY*

**Introduction:** Supernumerary teeth are described as the teeth formed in excess of the normal dental formula. The occurrence of multiple supernumerary teeth is a rare phenomenon and is often found in association with syndromes such as clef dysplasia, Gardner's syndrome, or cleft lip and palate. Only a few examples of nonsyndromal multiple supernumerary teeth have been reported in the literature. Single supernumeraries occur in 76-86% of cases, double supernumeraries in 12-23% of cases, and multiple supernumeraries in less than 1% of cases. The most common supernumerary teeth, listed in order of frequency, are the maxilla midline supernumeraries, maxillary fourth molars, maxillary paramolars, mandibular premolars, maxillary lateral incisors, mandibular fourth molars, and maxillary premolars. Although multiple supernumerary teeth without associated syndromes are rare, their occurrence can create a variety of clinical problems such as crowding, delayed eruption, diastema, rotations, cystic lesions, and resorption of the adjacent teeth. Hence, suitable treatment after proper clinical and radiographic evaluation is essential. Supernumerary teeth may occur singly, multiply, unilaterally, or bilaterally and in one or both jaws. Males were more affected than females, the sex ratio being 2:1. They are classified according to their form and location. Supernumerary teeth could formed as a normal tooth, also they could be as conical, rudimentary shaped or smaller than normal tooth. They usually do not erupt. Their presence may give rise to a variety of clinical problems. Detection of supernumerary teeth is best achieved by thorough clinical and radiographic examination. Treatment depends on the type and position of the supernumerary tooth and on its effect on adjacent teeth. The aim of this report is to document two rare cases of multiple supernumerary teeth which were in anterior mandible is presented with clinical and radiological finding occurring as an isolated nonsyndromic trait and to discuss the treatment modalities.

**Case 1:** A 22-year old female patient was referred to the Department of Oral and Maxillofacial Surgery Clinic of Faculty of Dentistry, Dicle University regarding delayed teeth eruption and pain in different regions. The family's medical history was noncontributory. General physical and extraoral examina-
tion did not show any abnormality. In intraoral examination permanent teeth 13, 23, 42, 43 were unerupted. Clinical examination also revealed retained deciduous teeth 63, 82 and 83. Roots of permanent four first molars were present (Fig 1). The panoramic radiograph revealed the presence of nine impacted teeth in all four quadrants (Fig 2). Three supernumerary teeth were present in mandibular mentum region. Permanent teeth 18, 13, 23, 28, 38, 48 were impacted. Patient was sent also to the Orthodontic Department to be examined for adequate space for the permanent canine teeth to erupt. But she denied orthodontic treatment in order to erupt of upper canines. The treatment of the patient began with the extraction of roots of permanent four first molars. Impacted wisdom teeth in each mandibular and maxillary quadrant, upper right and left canines and three supernumerary teeth in mandibular mentum region were surgically removed under local anesthesia in different sessions (Fig 3, 4, 5). Cystic materials were removed. After healing of the regions of operation patient were sent to other clinics to treatment of decays of teeth.

**Case 2:** A 20-year old male patient was referred to the Department of Oral and Maxillofacial Surgery Clinic of Faculty of Dentistry, Dicle University regarding delayed teeth eruption and pain in different regions. The family's medical history was noncontributory. General physical and extraoral examination did not show any abnormality. In intraoral examination permanent teeth 44, 42, 41, 31, 32 were unerupted. Clinical examination also revealed retained deciduous teeth 72, 71, 81, 82 and 84. The panoramic radiograph revealed the presence of eight impacted teeth in all four quadrants (Fig 6). Two supernumerary teeth 43, 33 and one supernumerary tooth 34 were present in mandibular mentum region. Permanent teeth 18, 28, 38 and 44, 48 were impacted. Impacted four wisdom teeth in each mandibular and maxillary quadrant, three supernumerary teeth 43, 33, 34 and impacted 44 tooth in mandibular mentum region were surgically removed under local anesthesia in different sessions. Cystic materials were removed. After healing of the regions of operation patient were sent to Department of Prostodontics.

**Discussion:** Surgical extraction of dislocated teeth was carried out in preceding cases because of painful symptoms and infection. Their presence may give rise to a variety of clinical problems. Detection of supernumerary teeth is best achieved by thorough clinical and radiographic examination. Their management should form part of a comprehensive treatment plan. Most authors recommend that supernumerary premolars and canines should be left in situ until further development allows for uncomplicated surgery with less damage to roots and adjacent structures. Moreover, it was stated that unerupted supernumerary teeth that are asymptomatic do not appear to affect the dentition in any way and those that are found by chance are sometimes best left in place and kept under observation. Literature reports the prevalence of supernumerary teeth within the mandible and maxilla varying from 0.2-0.9%. They may occur in any region of dental arch with a particular predilection for the maxilla. In our cases supernumerary teeth were present in mandible. They may occur singly, multiple, unilaterally or bilaterally, and in one or both jaws.

Supernumerary teeth were multiple and unilateral in first case. In the second case supernumerary teeth 33, 43 were occurred bilateral and 34 was placed unilaterally. The presence of single supernumerary teeth associated with the permanent dentition is usually seen in the anterior maxilla. Multiple supernumerary teeth are commonly associated with variable syndromes. There is predilection of non-syndrome multiple supernumerary teeth to occur in the mandible with predominance to occur in the premolar area, followed by the molar and the anterior regions respectively. In present cases supernumerary teeth occurred in the anterior regions. Many theories of etiology of supernumerary teeth are present. The tooth bud splits into two equal or different sized parts, resulting in two teeth of equal size or one normal and one dismorphic tooth respectively. This hypothesis is supported by animal experiments. Some researchers have also proposed that multiple supernumerary teeth are a part of post permanent dentition. A famil-
Tend to the implicit has been noted. Various authors have proposed different classifications of supernumerary teeth. Accessory teeth do not resemble the normal form and have a morphology that deviates from the normal appearance of the teeth. The term supplemental teeth however are used when the teeth are extra but have the shape and size of normal teeth. The presence of multiple supernumerary teeth is usually associated with problems of displacement, rotation, ectopic eruption of the adjacent teeth, reposition of the adjacent teeth and even the formation of primordial cysts. In the documented cases primordial cysts were formed. Usually supernumerary teeth are removed surgically, often due to retention of the permanent teeth in the region. In cases where the supernumerary teeth do not cause alterations in the eruption, position or integrity of the permanent dentition, a conservative approach is preferred.

Result: These cases show examples of how significant radiographic observation can be. Each case must be considered individually concerning its treatment taking into account untoward developments like malocclusion, retention of permanent teeth or tendency for cyst formation etc. Close observation with regular radiographic controls is recommended.

Case Report: Apparently good health aged seventeen days female baby came to our clinic with complaints of crying at the time of feeding. Parents had difficulty in feeding the baby. On oral examination, there was an expansion on mandibular alveolar arch (Fig 1). Penapagicaly showed unusual neonatal teeth in mandibular arch in the left and right deciduous first incisors region (Fig 2). Teeth were covered by mucosa with marked mobility. After thorough hematological examination, the neonatal teeth were extracted surgically under proper aseptic conditions (Fig 3). Extracted rudimentary small yellowish teeth exhibited short crowns with no roots (Fig 4). Nine months after the patient recalled to clinic for follow-up. Deciduous incisors were normal place and position (Fig 5).

Discussion: Teeth appearing in the oral cavity within 30 days of birth are known as neonatal teeth. Bodenhoff reported the incidence of neonatal teeth to be 0.3-0.5%. Prevalence was 1:700-1:30,000 depending on the type of study. Incidence is more in girls than in boys. The most commonly affected teeth are mandibular incisors. In most cases it is impossible to identify pathogenetic factors. Superior placement of the tooth germ resulting in premature eruption is a common explanation. Histologically the enamel in natal and neonatal teeth is normal for the age of the children, but when the teeth erupt prematurely the uncalcified enamel matrix wears off because mineralization is not complete. The teeth turn yellow-brown and the enamel continuously breaks down. Indications for extraction include hyper mobility, difficulties during breast-feeding, traumatic ulcerations on tongue, frenulum, lip (Riga-Fede's disease), inflammation. Extraction during the first days of life seems to be atraumatic. The aim of this report to present a case of mandibular anterior neonatal teeth which is a rare condition. Further present paper aims to evaluate means to prevent various complications occurring due to an unusual neonatal tooth in mandibular arch and in central incisors region in a seventeen days old female baby. Etiological, clinical, histological features, complications and treatment modalities are discussed.
pids and molars (3%), and maxillary cuspids and molars (1%) may be affected. The vast majority (90-99%) is primary teeth; only 1-10% is reported to be supernumerary teeth. Hereditary component or environmental factors, especially polychlorinated biphenyls (PCB) seem to increase the incidence of natal teeth. Various syndromes (Jadassohn-Lewandowsky-syndrome, Ellis-van Creveld syndrome, Hallermann-Streiff syndrome, etc.) correlate with neonatal teeth. Careful evaluation of infants with natal or neonatal teeth is recommended. Teeth that are stable beyond 4 months have a good prognosis. Esthetically they are not pleasing due to their discoloration.

Etiology of natal and neonatal teeth is still unknown. During initiation and proliferation stage excessive development causes formation of natal teeth. Hyperactivity of osteoblastic cells within tooth germ during initiation or proliferation stage of development of tooth may be the reason. The usually increased mobility causes histologic changes in the cervical dentin and cementum. Herwig's sheath may degenerate and root formation will be prevented. There are differing concerns about possible space loss after extraction. Hypothrombimemia should no longer be a concern, since newborns are routinely given Vitamin K to prevent this problem. Early eruption of neonatal tooth causes ulceration in the opposite arch, gum pad and tongue due to sharp edge of tooth. Crowns of these teeth are like those of normal teeth, without any radicular portion due to lack of root formation. Ground section of natal and neonatal teeth showed hypomineralized enamel, irregular arrangement of enamel rods, irregular dentino-enamel junction, dentinal tubules, more cellular and numerous vascular channels with endothelial cells and large pulp chamber. Mobile teeth do not seem to require the use of local anesthesia. Topical anesthesia can be used.

Results: If neonatal tooth is diagnosed as a tooth of the normal dentition, the maintenance of these teeth in the mouth is the first treatment option unless this would cause injury to the baby or mother. Mobile neonatal teeth should be extracted. Before operation to prevent hypothrombimemia in newborn babies, Vitamin K is given before the age of ten days. Periodic follow-up must be supplied. More divergent studies are necessary to confirm the etiology and nature of neonatal teeth.

PP58

Blood Pressure and Heart Rate Responses in the Dental Surgery

Elif ÖZEN SANDIKÇI, N.Tuba TELCİOĞLU, Mahmut SÜMER, Leman TOMAK

19 Mayıs University, Faculty of Dentistry, Samsun, TURKEY

Introduction: Hypertension is one of the most common medical problem in patients who visit dental clinics. Blood pressure and heart rate might be greater in hypertensive patients than in normotensive patients during dental treatment. Additionally the blood pressure and heart rate responses seemed to be influenced by psychological and physical stress. The purpose of this study was to evaluate the blood pressure and heart rate on hypertensive and normotensive patients in the dental surgery.

Materials and Methods: The study included 46 patients (29 women [53%], 17 men [37%]), 35 to 76 years of age (mean age 55.5 years) who underwent surgical removal of third molar. 22 (47.8%) of patients were hypertensive patients under medical therapy and 24 (52.2%) of patients were normotensive patients. Blood pressure and heart rate were measured before administration of local anesthetic, after anestheisa and at the end of the operation by an electronic device (Omron, Matsusaka Ca Ltd, Japan) in each patient. All patients received local anesthetic containing vasoconstrictor as epinephrine. Statistical analysis was performed with Friedman test, Wilcoxon Signed Ranks nonparametric test and repeated measures variance analyses. These analyses were performed using a statistical software program (SPSS version 13.0 SPSS, Chicago, IL). Results: There were 46 patients, 22 of which were hypertensive patients and 24 were normotensive patients. For total of the subjects, the systolic blood pressure values after anesthesia and at
the end of the operation were statistically different (p<0.001). There were no significant differences between diastolic blood pressure values measured before administration of anesthetic solution, after anesthesia and at the end of the operation (p>0.05). The heart rate values were significantly different in all measurements (p<0.05). Table 1 shows the mean blood pressure and heart rate before administration of local anesthetic, after anesthesia and at the end of the operation in hypertensive and normotensive patients. In hypertensive patients, there were no significant differences between systolic blood pressure values in all measurements (p>0.05). The diastolic blood pressure values after anesthesia and at the end of the operation were significantly different (p<0.05). The heart rate values before administration of anesthetic solution, after anesthesia and at the end of the operation were significantly different (p<0.05). In normotensive patient group, the systolic blood pressure values after anesthesia and at the end of the operation were significantly different (p<0.05). Diastolic blood pressure values before administration of anesthetic solution and after anesthesia were significantly different (p<0.05). The heart rate values after anesthesia and at the end of the operation were significantly different (p<0.05).

Discussion: The blood pressure and heart rate responses to dental surgery is considered to be influenced by many factors, including psychological and physical stress induced by painful stimuli. In the present study the blood pressure and heart rate responses to dental surgery were evaluated. Previous studies evaluating the blood pressure response to dental treatment showed conflicting results. Vanderheyden et al. reported that blood pressure did not change significantly during dental treatment using local anesthesia while Abraham-Inpjin et al. showed that the increase in systolic blood pressure during tooth extraction varied from 10 to 70 mmHg in normotensive and hypertensive subjects. Previous studies have suggested that the increment of blood pressure during dental procedures is greater in hypertensive patients than in normotensive patients. In the present study, the blood pressure and heart rate rose after anesthesia and decreased at the end of the operation in hypertensive and normotensive patients. Increases in blood pressure and heart rate after anesthesia might be attributable to administration of local anesthesia and pain-related stress.

Conclusion: In the present study, the changes in blood pressure and heart rate during surgery were not seemed to be correlated with the history of hypertension. Limitations of the present study included a small number of patients examined. Further studies are necessary to establish the cardiovascular responses during dental surgery.


PP59
Replantation Two Days after Trauma: A Case Report
Ayşe SELÇUK, Hanife ATAOĞLU
Selçuk University, Faculty of Dentistry, Konya, TURKEY
Avulsion is the total displacement of a tooth from its socket. Usually the maxillary anterior teeth are the most affected. Avulsed permanent teeth statistically represent 1% to 16% of all traumatic injuries that are more likely related to car accidents, fights, and sports. The traumatic extraction of a tooth from its respective socket produces breakdown of the periodontal ligaments and the blood supply to the pulp tissue. In consequence, the dental pulp undergoes necrosis and periodontium is severely damaged. The most important points to consider in the first, emergency visit for avulsion are the dry time and whether the apex is open or closed. Treatment is often com-
plex, time consuming, and expensive and requires multidisciplinary approaches such as endodontic and periodontal treatments, surgery, orthodontic movements, as well as esthetic coronal restoration.

A 17 years old male patient with an avulsed maxillary left central incisor was referred to Selcuk University Dental Faculty Department of Oral and Maxillofacial Surgery (Fig.1). The tooth was found two days after trauma and it was brought in milk. We rinsed the affected area with sterile saline to remove any contaminated coagulum. We evaluated the socket for any socket collapse or fracture. There weren't any hard and soft tissue damaged. Under local anesthesia (Ultracein D-S Fort) the tooth was replanted very gently in the dental socket with a light digital pressure after two days extra-alveolar period (Fig.2). We verified the correct reposition of the tooth radiographically. Five days after replantation the root canal was completely instrumented and obturated with gutta percha (Fig.3). The tooth was immobilized with a semirigid splint for four weeks (Fig.4). We prescribed antibiotic therapy to avoid the onset of infection during the first week after replantation (Amoxicillin- klavulanic acid 1000 mg x 2/day for 7 days). The patient also used analgesics and chlorhexidine rinses. Soft diet was recommended during the days following the replantation. Then we performed a clinical and radiographic follow-up examination at 1 week, 1 month and then every 6 months.

An avulsed tooth presents many questions to the treating dentist. The time limit for replantation to be considered immediate is in 30 minutes. Two factors that have a profound effect on the prognosis of replanted avulsed teeth are extraoral time of the avulsed tooth and the medium used to preserve the tooth before replantation. If the tooth cannot be immediately replanted, the viability of periodontal ligament (PDL) cells on the surface of the root can be maintained in a suitable transport medium which will lead to a decreased incidence of root resorption. However, use of an inappropriate storage medium can increase the rate of cell necrosis and result in ankylosis or resorption of dental root. Storage media such as milk, saline, water, saliva, culture media and Hanks’ Balanced Salt Solution (HBSS) have been suggested to preserve the viability of PDL cells. General therapy includes root canal treatment and tooth immobilization. PDL maintenance is essential for long-term success. The PDL cannot survive if the tooth is out of the oral cavity and in a dry environment for more than 30 minutes. Osseous replacement resorption is likely if such a tooth is replanted, leading to ankylosis and eventual loss. Damage to the socket during the replantation is directly related to the long-term success of the treatment. The socket should be rinsed with sterile saline or chlorhexidine. The splint should not interfere with the patient’s capability to perform correct hygiene and should allow a physiological movement of the tooth. The administration of systemic antibiotic prevents the development of external root resorption. The antibiotic of choice is Amoxicillin, although many studies showed the advantage of the use of Doxycycline in cases of avulsion. Chlorhexidine rinses must be prescribed and strict hygiene instructions given, during the entire splinting period. In case of pain, analgesics can be prescribed.

In our case during the follow-up examination (20 months) there was no pathologic clinical or radiographic findings such as root resorption, ankylosis and change of the teeth’s color (Fig.5). The tooth was replanted two days after trauma but during a follow-up period there was no complications although the critical limit for dry time appears to be more than 30 minutes.

PP60
Autotransplantation of Lateral and Bilateral Maxillary Impacted Canines; Case Reports
Özgün ŞENYURT, Ugur MERCAN
Ondokuz Mayis University, Faculty of Dentistry, Samsun, TURKEY

Autotransplantation was first appeared in the 1950’s when decayed first molars were replaced with transplanted immature third molars. Since then, autotransplantation has been used in repositioning of impacted teeth, replacement of congenitally missing teeth, or teeth lost because of trauma or dental disease, and in replacement of teeth with poor prognosis. The reported long-term success rate of autotransplantation varies between 74% and 98%.1,2

Case Report 1: A 24 years-old woman came to our clinic complaining of poor esthetics at maxillary anterior region. In clinical examinations bilateral maxillary canines were seen at palatina. Radiographic evaluation revealed that the maxillary bilateral canines impact at anterior region. Maxillary impacted permanent canines were extracted atraumatically under local anesthesia; the permanent canines’ root sizes were measured for adequate drill size; maxillary deciduous canines which were in occlusion extracted. Maxillary extraction region have enough bone volume for putting in permanent canines. Cavity was prepared for canines root size by using implant drills. Permanent teeth were put in alveolus by condensing. After surgical procedure completed, teeth splinted from maxillary first premolar to maxillary central by adhesive resin for stability of teeth. Then occlusion was controlled. The splint was removed at the third week.

Case Report 2: A 16 years old woman, who had maxillary right permanent impacted canine, was evaluated clinically and radiographically. Due to cost of orthodontic treatment patient didn’t accept to this protocol; so maxillary right impact canine extracted then put in alveolus of maxillary deciduous canines by condensing. We didn’t apply splint because of having primer stability for autotransplanted tooth.4

Endodontic treatment therapy did not apply both of cases, because there is no complain such as pain, infection, external resorption or internal resorption.4

Discussion: Autotransplantation involves the transplantation of embedded, impacted or erupted teeth from one site to the another site at the same individual.2 Autotransplantation provided the fastest and most economically feasible treatment option. Extended extraoral time of the donor tooth significantly affects the viability of the periodontal ligament cells, which leads to unfavorable results such as inflammation or root resorption. Optimal contact with the recipient site can improve the blood supply and the level of nutrition to the periodontal ligament cells, which can increase the success rate of autotransplantation.5 Careful manipulation of the root and socket, and proper stabilization of the donor tooth are other important factors affecting the success of autotransplantation.6 Various techniques have been described to stabilize transplanted teeth, including fixation with orthodontic brackets, ligatures, sutures, composite resins, and in selected cases, with frictional stabilization between the adjacent teeth.4,7

Results: We followed 6 month and were observed during the recall visits without any radiographic sign of root resorption.


PP61
Treatment of Masseteric Hypertrophy with Botulinum Toxin A: Report of Two Cases
Burcu BAŞ, Bora ÖZAN Mehtap MUĞLALI, Nükhet ÇELEBİ
19 Mayıs University, Faculty of Dentistry, Samsun, TURKEY

Masseteric hypertrophy (MH) is recognized as an asymptomatic enlargement of one or both masseter muscles. The enlargement usually represents a work hypertrophy whose most frequent cause is clenching, an unconscious habit. A congenital variety also exists, but acquired MH is by far most frequent. Acquired MH can be seen at any age, with its highest incidence in the second, third, and fourth decades of life. It is not often seen in the elderly, probably because dental deterioration inhibits the ability to forcefully clench or grind. Most cases of MH are bilateral and symmetric, but asymmetry is not unusual. Unilateral occurrence also can be seen when patients chew or clench primarily on one side. Varying degrees of success have been reported for some of the treatment options for masseter hypertrophy, which range from simple pharmacotherapy to more invasive surgical reduction. Injection of botulinum toxin type A into the masseter muscle is generally considered a less invasive modality and has been advocated for cosmetic sculpting of the lower face. Botulinum toxin type A is a powerful neurotoxin which is produced by the anaerobic organism Clostridium botulinum and when injected into a muscle causes interference with the neurotransmitter mechanism producing selective paralysis and subsequent atrophy of the muscle 2, 3.

Report of Cases: Case 1: A 26 year-old woman was referred to our department for a complaint of swelling on her left masseteric region with duration of 2 years. The patient has no history of systemic disease. Extraoral examination showed an obvious unilateral swelling centered over the mandibular angle (fig 1a). Palpation indicated that the swollen tissue was normal in tone and nontender. When the patient was asked to clench, the swelling became accentuated and firm. Intraoral examination revealed a missing maxillary molar tooth at right side. The patient revealed that she uses the left side while chewing. Magnetic resonance imaging (MRI) showed no underlying pathology. Botulinum toxin A injection into the masseter muscle was planned for the patient.

Case 2: A 28 year old man referred to our clinic with a complaint of swelling in his both sides of masseteric region (fig 2a). He was in good health. Extraoral examination revealed bilateral hypertrophic masseter muscles. No abnormality was seen in intraoral examination and there wasn’t any potential etiologic factor in patient’s history. Before the procedure the nature and the established use of Botulinum toxin A as well as its potential side effects were explained and signed informed consent was obtained from each patient. Botulinum toxin A (BOTOX®) was supplied a freeze-dried powder of 100 units and was reconstituted with 2 ml of sterile saline solution, giving a concentration of 50 units ml-1. In the first case, percutaneous intramuscular injection of the Botulinum toxin A was performed to the hypertrophic muscle using 2 ml syringe with 25 G needle. 75 units Botulinum toxin A was injected equally into three points at the center of the lower third of the masseter muscle which were located 1 cm from each other. In the second case, percutaneous intramuscular injection of the Botulinum toxin A was performed to the hypertrophic muscle bilaterally using 2 ml syringe with 25 G needle. 50 units Botulinum toxin A was injected each side, equally into three points at the center of the lower third of the masseter muscle which were located 1 cm from each other. Facial paralysis was seen in case 1 that improved in 2 weeks. There wasn’t any postoperative complication in case 2. The patients were seen for follow-up examination, and within 3 months satisfactory masseter muscle atrophy occurred in both patients (fig 2a, 2b).

Discussion: The aetiology of masseter muscle hypertrophy has been attributed to a number of factors: emotional stress, chronic bruxism, masseteric hyper-function and para-function, and microtrauma 4-7. In our first case the etiologic factor was probably unilateral chewing habit of the patient. However, there was no history of any aetiological factors in the second case. The possible complications of this pro-
cEDURE are external scar and damage to the mandibular branch of the facial nerve. In our first case temporary marginal mandibular nerve paralysis was occurred and improved in two weeks. In conclusion, we recommend the use of Botulinum toxin in the treatment of masseter hypertonphy. Nevertheless, the possible underlying pathological factors should be assessed with imaging techniques.


**PP62**

**Odontogenic Peritonsillar Abscess: Diagnosis and Treatment**

Murat GOMEL, Cemal AKAY, Erdem KAYA

*Ege University, Faculty of Dentistry, Izmir, TURKEY*

**Abstract:** Peritonsillar abscess, the most common deep infection of the head and neck that occurs in adults, is typically formed by a combination of aerobic and anaerobic bacteria. The presenting symptoms include fever, throat pain, and trismus. Ultrasonography and computed tomographic scanning are useful in confirming a diagnosis. Needle aspiration remains the gold standard for diagnosis and treatment of peritonsillar abscess. After performing aspiration, appropriate antibiotic therapy (including penicillin, clindamycin, cephalosporins, or metronidazole) must be initiated. In advanced cases, incision and drainage or immediate tonsillectomy may be required. Although these abscesses are common, odontogenic etiology is infrequent. In this case report we have presented diagnosis and treatment of an odontogenic peritonsillar abscess. 45 years old man has symptoms include fever, throat pain, and trismus due to infected left mandibular third molar. Three main surgical procedures are available for the treatment of peritonsillar abscesses: needle aspiration, incision and drainage, and immediate tonsillectomy. In these case we had prefered needle aspiration and influential antibiotic therapy (clindamycin,metronidazole). We have performed extraction of infected left third molar after one month of aspiration and antibiotic therapy.

**PP63**

**Effects of Impacted Third Molar Surgery on the Temporomandibular Joint Disorders**

Hakan TÜZ, Umut TEKIN, Ismail Doruk KOÇYILĞIT, Alper TAŞKALDIRAN, Yunus Emre ALP

*Kirkkale University, Faculty of Dentistry, Kirkkale, TURKEY*

Musculoskeletal disorders, occlusal problems, chronic irritations due to detrimental habits and trauma may act a role on the etiology of the temporomandibular joint disorders (TMD). In the practice of oral surgery, TMJ is affected from a long time period of the mouth opening, mouth stretching. Impacted third molar surgery is a routine procedure in the oral and maxillofacial surgery departments. After the impacted third molar surgery many patient recourse the clinics because of different discomforts. The impacted molar surgery causes excessive forces on the muscles and ligaments related to the TMJ. Because of that this tissues stretch excessively and this excessive force cause pain at TMJ. The aim of this study is determine the effect of surgical removal of impacted mandibular third molars on sign and symptoms of TMJ. Impacted mandibular third molar surgery patients TMJ was evaluated preoperatively and post operatively. The test consists of maximum mouth opening, lateral movement, TMJ sounds, and muscle precision during palpation in time of one week, first month, third month and six
month examinations. All data’s evaluated and compared with each other after the surgery.

Key Words: TMJ, pain, third molar surgery,

PP64

Application of Platelet-Rich Fibrin (PRF) in Maxillofacial Surgery

Yasemin KARTAL,İsmail Doruk KOÇYILGİT,Özkan ÖZGÜL, Barış Eren ORAL,Reha Ş. KİŞİŞİÇI

Ankara University, Faculty of Dentistry, Ankara, TURKEY

Platelet-rich fibrin (PRF) is a second generation platelet concentrate, described in the beginning of 2000. An autologous fibrin matrix charged in platelet and leucocyte growth factors can be obtained in this special technique. PRF is not only a simple fibrin membrane, it also contains molecular and cellular matrix permitting optimal healing. From that in the maxillofacial surgery PRF can be used several applications such as bone reconstruction, cyst cavity filling, oral antral fistulas closing etc. We used PRF in the different fields of oral and maxillofacial surgery such as in 25 sinus lifting operations, 3 ora-antral fistula closure, 14 alveolar bone defect reconstruction, 3 peri-implant defect treatments and 2 eminoplasty operation as a membrane. There were no complications and failure in our operations.

The results were satisfactory. PRF acted as a resorbable membrane and in addition increased wound healing.

Key Words: PRF, autologous, membrane, bone

PP65

The Piezoelectric Versus Rotary Instrument Osteotomy Technique in Impacted Mandibular Third Molar Surgery

Umut TEKİN, Dr. Hakan TÜZ,İsmail Doruk KOÇYILGİT,Yunus Emre ALP,Alper TAŞKALDIRAN

Kirikkale University, Faculty of Dentistry, Kirikkale, TURKEY

The piezoelectric surgery systems use ultrasonic vibrations to create an osteotomy site. These micro vibrations make selective bone cuts and does not harm on the soft tissues. In maxillofacial surgery, piezoelectric surgery has been used for many intra-oral and dental procedures like harvesting autogenous bone blocks and preparing the lateral wall window for sinus lifting procedure. Rotary instruments commonly used for creating osteotomies in impacted mandibular third molar surgery. The rotary instruments cut bone effectively; but sometimes they may cause important complications such as soft tissue damage, lacerations or bone burns during the surgery. The piezoelectric device causes little or non soft tissue trauma due to tissue selectivity. Because of this reason it is thought that in mandibular third molar surgery piezoelectric surgery makes less complication in comparison to rotary instrument osteotomy technique. In this study we evaluate the patients whom we operated for their impacted third molars. We used the piezosurgery technique for creating the osteotomies in surgery. We evaluate the patients on pain, swelling and trismus after third molar surgery. The results were compared with the rotary instrument osteotomy technique.
PP66
Efficacy of Sodium Hyaluronate in the Treatment of Internal Derangements
Burcu BAŞ, Nergiz YILMAZ, Nükhet ÇELEBI
Ondokuz Mayıs University, Faculty of Dentistry, Samsun, TURKEY

Several lines of treatment have been described in the literature for temporomandibular joint (TMJ) dysfunction (1). The infiltration of the TMJ with sodium hyaluronate (SH) provides a less invasive method of treatment, with effective results (2). The objective of our study was to investigate whether a single SH injection would significantly reduce pain and improve function in internal derangements.

The study included 21 joints of 14 patients with reducing (n=15) and non-reducing (n=6) disc displacements which diagnosed clinically and with ultrasound imaging. Non of the joints responded to the conservative therapies. The patients received 1 ml of SH (Orthovisc, Anika Therapeutics Inc., Woburn, MA, USA,) injection into the upper joint space. All patients took anti-inflammatory drugs for one week, and used stabilization splint 24 hours for two weeks and only at nights for the next two weeks. Visual analog scale (VAS) pain, maximal mouth opening (MMO) and lateral movements (LM) were measured before and after the SH injection, and on the 1st, 3rd and 6th months follow ups. The statistical analyses were carried out by using the Wilcoxon Signed Ranks test. Results were considered statistically significant at P less than 0.05. RESULTS VAS decreased at 1st, 3rd and 6th months (p<0.05). MMO increased immediately after the SH injection, and at the 1st and 6th months (p<0.05). It was not statistically different from the pretreatment measurements at 3rd month (p<0.05). LMs were increased at 1 st, 3rd and 6th months, but not significantly changed immediately after the SH injection (p<0.05).

SH injection was reported to be superior from the conservative therapies when the TMJ function and pain were assessed (1). A single intra-articular infiltration provided best results in disc displacements with reduction (3) and also provided a decrease in pain and subjective improvement of symptoms in disc displacements without reduction (4) In our study the injection of SH produced an improvement in function and reduced pain in reducing and non-reducing disc displacements.

A single SH injection provides a satisfying outcome in patients with reducing and non reducing disc displacements.


PP67
Eminectomy for the Treatment of Chronic Recurrent Dislocation: A Case Report
Ümit KARAÇAYLI, Ramazan KÖY MEN, Aydin ÖZKAN, Yilmaz GÜNAYDIN
Güllhane Military Medical Academy, Ankara, TURKEY

Temporomandibular joint (TMJ) dislocation can be defined as the complete loss of articular relationships between the articular fossa of the temporal bone and condyle-disk complex (1, 2). Classifications of TMJ dislocations are based on the number of affected side (unilateral or bilateral), the direction of the displacement (anterior, posterior, medial, lateral) (3, 4), and the duration of dislocation as acute, chronic or recurrent (5). The etiopathogenesis of chronic recurrent dislocation (CRD) of the TMJ has been attributed to trauma, abnormal chewing movements, TMJ liga-
ments and capsule laxity, and masticatory muscles disorders (6). Shallow glenoid fossa, flat articular eminence, flat or short condyle, rarely systemic diseases such as Marfan’s and Ehlers-Danlos syndrome are also aetiological factors for CRD (7). Various surgical and non-surgical techniques have been advocated for the treatment of CRD. Conservative treatment of CRD include intermaxillary fixation, injection of sclerosing agent, (8) injection of autologous blood (9) and botulinum toxin injection into the lateral pterygoid muscles (10). Conservative treatment methods are not always successful. Surgical treatments of various types are reported. Multiple surgical interventions were developed including eminectomy (11), capsular plication (12), temporalis tendon scarification (13) and lateral pterygoid myotomy (14, 15). Eminectomy was firstly introduced by Myrhaug in 1951 as a new treatment technique for chronic dislocation of the mandible (11). The purpose of this study was to evaluate the efficacy of surgical procedure (eminectomy) for CRD.

A 25 year-old-male patient was referred to our clinic with severe pain and noises on the TMJ region. The diagnosis of chronic recurrent TMJ dislocation was confirmed with clinical and radiographic examination findings. The clinical examination consisted of bilateral TMJ palpation and measurement of the distance between maxillary and mandibular incisal edges. Radiographic magnetic resonance imaging (MRI) showed bilateral condyles to be anterior to the articular eminence (Fig. 1). Bilaterally eminectomy was carried out under the general anesthesia. An Alkayat and Bramley’s (16) modification of preauricular incision was used to expose the eminence and TMJ (Fig. 2). A fissure burr and chisel were used to mark the part of the eminence to be resected. The rough bony edges were smoothened by a vulcanite burr (Fig. 3). TMJ movements were checked, hemostasis achieved and the wound was sutured in layers (Fig. 4).

Anterior dislocation is caused by dysfunction of components of the TMJ, including abnormal articular eminence, glenoid fossa or condylar head relaxation of the ligaments and the capsule or dysfunction of the muscle of mastication (17). CRD treatment still remains a challenge. Many treatment modalities are considered in the resolution of pain and dysfunctions of chronic recurrent TMJ dislocation. In many cases, conservative methods promote some temporary relief of symptoms and recurrance is common. Surgical interventions are normally more effective for definite treatment (18). Many surgical procedures have been proposed for the treatments of CRD. The most commonly used method for removal of mechanical obstruction from the condylar path is articular eminectomy. Since then it has been performed with satisfactory results and confirmed efficacy in the literature (19–22). In TMJ CRD, once the condylar head translates out of the glenoid fossa, the steep slope of articular eminence prevents it from going back into the glenoid fossa resulting in dislocation of the joint. The rationale behind eminectomy is this that if the articular eminence is resected, the condylar head can move freely in and out of the glenoid fossa without the risk of dislocation (22). In addition to the standard open eminectomy, reports describing the use of the arthroscope for this purpose have recently appeared in the literature (7). The advantage of this method is that it is less invasive, has a short operative time, there is no need for post operative inter-maxillary fixation, bone transplantation or placing any kind of foreign body in the form of plate.

Chronic dislocation of temporomandibular joint is usually treated with conservative approaches, but in some cases, surgery is needed to avoid recurrences. Eminectomy procedure performed using preauricular approach is effective for the treatment of recurrent dislocation of mandible.

Abstract Book of ACBID 2009


PP68
Mandibular Condylar Hyperplasia: Clinical and Stereological Evaluation of Osteochondroma
Ümit KARAÇAYLI, Ayper KAYA, Ramazan KÖYİMEN, Ayclin ÖZKAN, Yılmaz GÜNAYDIN
Gülhane Military Medical Academy, Ankara, TURKEY

Osteochondroma (OC) is the most common benign tumor of the axial skeleton, though it is rarely found in the craniofacial regions (1). OC is a very slow growing, asymptomatic, usually solitary lesion. OC oc-
curing in the condyle or condylar process may result in morphologic and functional disturbance, including facial asymmetry and temporomandibular joint (TMJ) dysfunction (2, 3). The traditional treatment of OCs includes total condylectomy or local resection of the lesion and condylar replacement, usually with a costochondral graft or total joint prosthesis. In consideration of the benign nature of the lesion and its extremely low likelihood of recurrence, immediate reconstruction after extirpation of condylar lesions is usually advocated (1). The purpose of the present study is to show the advantages and disadvantages of solid model and stereological measurement for preoperative surgical plan; and also to emphasize the importance of stereological technique how it affects the treatment planning, operation time and prognosis.

A 35-year-old man was brought to our clinic with complaint of swelling and tender in his right temporomandibular joint-cheek region which started 8 months ago. In his history it was revealed that he had a sport accident with a ball and from that time on a slowly progressing facial asymmetry and limitation in the mouth opening began. In his physical examination it was seen that there was approximately a 3 mm deviation of midline to the right side, pain at the rest position and hearing clicking during the mouth opening (Fig. 1). 3D CT images clearly showed that the lesion was developed from the condylar head. Raw data obtained from computed tomography scanning was processed with a Mimics 9.22 Software (Materialise's Interactive Medical Image Control System, Belgium). Fabrication of three-dimensional medical models was obtained through a process called powder depositional modeling by use of a Spectrum Z 510 3D Color Printer (Z Corporation, Burlington, MA) (Fig. 2); Surgical treatment was carried out via removing of the formation through the preauricular approach. After arch bars were applied, a hockey sticks incision, which extended anteriorly was made. The lesion was seemed to be developed from the posterior portion of the condylar neck, and extended to the posterior aspect of the zygomatic arch. The stalk of the lesion was cut with a Lindemann bur and the mass was freed
from the condyle with an osteotoma. The irregular part of the condyle was smoothed with a rasp. A suction drain was placed and all tissue layers were closed primarily. Histopathologic examination confirmed the diagnosis of OC. Staining was done with hematoxylin-eosin and photographed with X100 original magnification (Fig. 3).

However the mandibular OC is rare, it is usually seen in cranoid process and condyle of the mandible (1). OCs are easily visualized on plain radiography and computerized tomography (CT) because of the distinct borders (4, 5). Traditional treatment of almost all reported cases of OC was included radical resection of the mass, including the excessive or complete condylar process (6). Routinely, oral surgeon used to build a 3D solid model to determine location and borders of the lesions. This stereo-lithographic skull prototype model is obtained using the patient’s 3D CT images (7). Many surgeons claimed that a stereo-lithographic solid model was produced to aid the planning of the surgical procedure, for understanding the anatomy of the region, and for determining the margins of the tumor (7, 8). For that aim and to plan a condylar resection, we decided to measure size of the mass both solid model and stereological technique on CT images regarding to cost effect and time.

The stereo-lithographic modeling used to generate solid plastic replicas of the anatomic structures but stereo-lithographic modeling has much more disadvantages such as material, time, cost rather than stereological method. We think that the stereological measurement technique was also independent in terms of surgeon time, patient time, and material costs. Preliminary results indicate that it is precise, cheap and reliable as well.


PP69

Osteochondroma of the Zygoma: An Unusual Cause of Mandibular Hypomobility

Ümit KARAÇAYLI, Aydın GÜLSES, Ayper KAYA, Ramazan KÖYMEN, Yılmaz GÜNAYDIN

 Gülhane Medical Academy, Ankara, TURKEY

Osteochondroma is considered to be the most common tumor of skeletal bones, and usually seen around the epiphysis of long bone, flat pelvis, scapula and transverse process of vertebra, but seldom in the head and neck region (1). The structure of the tumor consists of central core of bone marrow, which is identical to and continuous with the marrow of the underlying bone (2). It usually comes to attention in childhood or adolescence, the greater majority in the second decade of life. The incidence in the maxillofacial bones and skull was found to be 0.6% of all of these lesions (3). Reported regions of occurrence in the craniofacial skeleton include the skull base, maxillary sinus, zygomatic arch, and mandible (4). This is because they are the areas of the facial skeleton that develop by endo-chondral ossification in which cartilage is converted into bone (5). Osteochondromas rarely display symptoms. The most common symptom related to osteochondroma is a non-tender, painless cosmetic deformity related to the slowly enlarging exophytic mass. When the tumor is proximate to the coronid or condylar processes of the mandible and big enough to interfere with the activity of the jaw, it may inhibit
mandibular movement and lead to restricted mouth opening.

A 26 year old man was referred to the Department of Oral and Maxillofacial surgery at Gülhane Military Medical Academy Ankara with a 4 years history of pain in the right TMJ region on opening the mouth and restricted mouth opening. His face was symmetrical, with mild trismus. The mouth opening was 6 mm and the midline of the mandible was deviated slightly to the right (Fig 1). Panoramic radiograph revealed the presence of an exophytic, sclerotic mass on the right zygoma (Fig 2). Computerized tomography confirmed that a high-density mass inferior to the base of the right zygoma and adjacent to the coronoid process of the mandible (Fig 3 a and b). The size and the location of the mass were suspicious to play a role in inhibited mandibular movement. A provisional diagnosis of an osteochondroma of the zygoma was made. Exploration of the zygoma was performed under general anesthesia. An introral approach was selected. The lesion was easily identified and appeared to be composed of dense bone covered with synovial tissue and fibro cartilage. Small osteotomes were used to define a cleavage plane in a horizontal manner. The lesion cleaved from the fossa as a single unit. It appeared to be attached at the central portion of the zygoma by a 3 to 4 mm bone pedicle. The total size of the lesion was 3,5cm by 1,5 cm by 2 cm (Fig 4). Additional bone was then removed from the zygoma with a round bur in an effort to remove any potential residual tumor from the surface of the zygoma. Histological examination revealed that the tumor body was composed of bone and cartilage and confirmed the diagnosis of the osteochondroma of the right zygomatic bone (Fig 5). The patient has remained asymptomatic and experienced no recurrence for the one year since the operation. At the 8 months follow-up, the patient presented with good mandibular function with a maximal incisal opening of 38 mm (Fig 6). A computerized tomography revealed a good symmetry and a favorable zygomatic shape (Fig 7).

Osteochondroma is defined by WHO as a "cartilage-capped bony protrusion on the external surface of bone (6). It represents approximately 35% to 50% of all benign tumors and 8% to 15% of all primary bone tumors (7). Osteochondroma of the craniofacial region is rare, with the most common sites of occurrence being the coronoid process of the mandible and the mandibular condyle. Laws (8) presented the first reported case of an osteochondroma on the zygoma. Seguin et al. (9) added the second case of the zygoma osteochondroma to the literature and suggested that the zygoma osteochondroma can cause limitation in the range of motion of the mandible. The pathological features include benign looking proliferating chondroblasts and hyaline cartilage tissues with areas of endo-chondral ossification (10). By calcification and ossification, soft bone can be converted into tumor-like sponge bone. It is believed that stress in the regions of tendinous insertion where focal accumulations of cells with cartilaginous potential exist leads to formation of these tumors (11). Cuitili and Quinn also suggested that trauma may play a role in the formation of these lesions (12). The growth of osteochondromas is usually slow. The lesion becomes symptomatic when function is affected. As in the presented case, extra-articular lesions such as those found on the coronoid process or zygoma may also interfere with limited mandibular movement (13). Lesions proximate to or involving the TMJ may initially manifest as facial deformity, malocclusion, swelling, pain, ankylosis and joint dysfunctions (14, 15). Advanced imaging studies like CT or MR must be used to define clearly the margins of the tumor, thus facilitating the surgical procedure planning. The differential diagnosis can include osteoma, osteoblastoma, chondrosarcoma, osteosarcoma, and myositis ossificans. The evidence of a cartilaginous cap on MRI can help confirm the diagnosis of osteochondroma (16, 17). Traditional treatment of almost all reported cases of osteochondroma has included radical ablation. Recurrence has been reported but is unusual (18-20). Osteochondroma of the craniofacial bones is not uncommon. Such isolated development originated from zygoma, however, is rare. This case report briefly highlights the presentation and surgical treatment of a zygoma osteochondroma, adding a fifth such case to the dental literature.
PP71

Hyper Plasia of the Condyl in the Patient with Ankylosing Spondylitis

Celal ÇANDIRLI

Dental Park Ağız Ve Diş Sağlığı Merkezi, Kayseri, TURKEY

Ankylosing spondylitis (AS) is a rheumatic disease characterized by inflammatory stiffening of the spine and arthritis of the sacroiliac joints. AS has a tendency to affect fibrocartilaginous structures like Temporomandibular joint. A male patient with ankylosing spondylitis suffered from an asymmetric face and limited mouth opening has met our clinic. Computed Tomography examination showed a hyperplasia of anteriorly displaced condyle. We performed Temporomandibular joint reconstruction by deep subfascial approach with transpositioning of temporalis muscle fascial flap.

PP72

Otoplogic and Audiological Evaluation of Ear Symptoms Accompanying Temporomandibular Joint Dysfunction

Müzeyyen YILDIRIM, Beyza KAYA

Dicle University, Faculty of Dentistry, Diyarbakır, TURKEY

Objectives: The cause of secondary otalgia is often difficult to determine because the innervation of the ear is complex and there are many potential sources of referred pain. The most common causes are temporomandibular joint disease (TMD). If the diagnosis is not clear from the history and physical examination, options include a trial of symptomatic treatment without a clear diagnosis; imaging studies; and consultation with an otolaryngologist. We investigated the clinical and audiological features in patients with temporomandibular joint diseases who have ear symptoms.

Methods: The study included 54 patients with temporomandibular joint disease (TMD). The 12 of these patients with ear symptoms were evaluated by otoscopic and audiological. Hearing threshold of patients with ear symptoms were evaluated by clinical audiometer AC33. Hearing loss levels were divided into four groups as slight, mild, moderate and severe. External ear canal volume, membrane compliance, gradient and pressure was recorded by Clinical Impedance audiometer AZ25. Tympanometry results classified according to Liden and Jerger as Type A, Type B and Type C. While Type A tympanogram was evaluated as normal, Type B and Type C was considered pathologic.

Results: The study included 54 patients (32 females, 22 males; mean age 36±10.7 years; range 21 to 58 years) with temporomandibular joint disease. Twelve of 54 patients (11 female, 1 male; mean age 25, 6±5.9 years,) were sufferer of ear pain and tinnitus. Two of 12 patients were also sufferer of hearing loss. We determined soft tissue herniation into the external auditory cana and pure-tone audiometry revealed no hearing loss in both patient. Bilateral retraction pocket was determined in one patient who has ear pain and tinnitus. We also determined slight conductive type hearing loss (25-30db) especially at high frequency in between 2000 and 4000 (picture 1). Type B tympanogram was also determined in this patient (picture 2).

Discussion: Wright TMD hastalarda başarılı tedaviyi sağlamak için otologik symptomlarının da sorgulanması gereklidir. Wright (2007) indicated that asking specific questions to TMD patients with coexisting otologic symptoms will help practitioners to identify which otologic symptoms have a high probability of benefiting from TMD therapy. Toller et al (1993) determined minor dysfunction at middle ear by audiological assessment in patients with TMD. Hakan et al (2003) found that otalgia in TMD patients was higher than in the control group. They also mentioned that tinnitus and vertigo were significantly higher in the symptomatic TMD patients than in the control group. Kaygusuz and et al (2006) suggested that otologic symptoms may accompany temporomandibular joint diseases, requiring that patients presenting with otologic symptoms must be investigated for temporomandibular joint diseases. In the present study ear symptoms
were determined in 12 of 54 TMD (22 %) patients. One of twelve (8,5%) TMD patients with ear symptoms were coexist with ear pathology.

Conclusion: Our findings suggest that otologic symptoms may accompany temporomandibular joint diseases. So patients with temporomandibular joint diseases must be investigated for otologic disease.

PP73
Effects of Occlusal Splint on Salivary Flow Rate
Sinan TOZOĞLU, Bedri SEVEN, Hasan GÜNGÖR, Erhan VAROĞLU, Ertuğrul DAYI
Atatürk University, Faculty of Dentistry, Erzurum, TURKEY

Temporomandibular disorders (TMDs) are a collective term for the condition of disordered function of the TMJ and/or masticatory muscle. They may be accompanied by orofacial pain, recurrent headaches and restricted movement of the mandible. Clinical signs are determined by manual and instrumental functional analysis, based on diagnostic symptoms and the patient's case history. The most frequent symptom of TMD is a pathological sound. Clicking is associated with disc derangement, and crepitation with degenerative arthritic changes in the functional joint surfaces. Prosthetic initial treatment includes gradual elimination of pain, sounds in the jaw joint and reduced movement of the mandible. Treatment is empirical, as it is based exclusively on the elimination of signs and symptoms of dysfunction. Indications for treatment with an occlusal splint are painful sensation in the area of the bilaminar zone, confirmed by passive compression, palpable sensitivity and pain in the masticatory muscles and the symptom of clicking in the temporomandibular joint (TMJ), confirmed by dynamic manual procedures. Treatment with a splint is a form of conservative treatment of disc derangement, degenerative changes of the joint surfaces and myalgia of the masticatory muscle, with the aim of deprogramming muscle activity by excluding the influence of disrupted occlusal relations, i.e. occlusal instability of the dental arches and in cases of excessive wear of hard dental tissues due to parafunctional movements - bruxism. As a diagnostic tool to evaluate salivary flow rate, [99mTc] pertechnetate salivary gland scintigraphy is an easy, readily available, safe and non-invasive method. It is well tolerated by patients because it has a low dosimetry and does not interfere with the normal physiology. In addition, using this method, quantitative data about the major functions of salivary glands can be obtained. The aim of this study was to evaluate the effects of an occlusal splint on salivary flow rate in patients with TMD using [99mTc] pertechnetate salivary gland scintigraphy.

Patient and Methods: A female (23 years old) patient with TMJ disc displacement with reduction was referred to our clinic. She had no history or signs of medical disorders. She was no: taking any medication influencing gastric acid secretion or salivary secretion and had not GER disease symptoms, such as heartburn. The patient participated after giving their informed, written consent according to a protocol that had been reviewed and approved by our institutional review board. A simple, full-occlusal-coverage maxillary splint was used for the treatment of the patient. To evaluate the salivary flow rate before and after splint therapy in the patient with TMJ, dynamic salivary gland scintigraphy was performed. Salivary gland scintigraphy Dynamic salivary gland scintigraphy was performed after the intravenous administration of 185 MBq (5 mCi) of [99mTc] pertechnetate using a single-head gamma camera with a parallel-hole, low-energy, high-resolution collimator (GE-Starcam 4000 XRT, St Albans, Hertfordshire, UK). The photopoint was centered at 140 keV with a 20% window. 25 frames of 60 s each were acquired in the anterior position of the head and neck during the 25 min study with a zoom 1.33, matrix of 128 x 128. Salivary gland secretion was stimulated with 3 ml oral concentrated lemon juice instilled with a syringe at 20 min. Semi-quantitative analysis For semi-quantitative analysis, regions of interest (ROIs) were drawn around the right and left parotid glands and the right and left submandibular glands on summation images of dynamic scintigraphy (Fig. 1). A background ROI was placed in the temporal region.
A time-activity curve of each salivary gland was created (Fig. 2). The following points were designated on the time–activity curve: point a, initial shoulder, representing a vascular perfusion, or, in cases of an unclear shoulder, at 1 min; point b, the maximum count before stimulation; point c, the background count at the time of peak activity; point d, the minimum count after stimulation. The following glandular function parameters were calculated using the time-activity curves for each salivary gland: Uptake ratio \( UR = b / c \), Maximum accumulation \( %MA = (b - a) / b \), Ejection fraction \( %EF = (b - d) / b \). Results Scintigraphic parameters (UR, %MA and %EF values) before and after splint therapy are summarized in Table 1. UR, %MA and %EF values for bilateral parotids and submandibular glands in patient were increased after splint therapy.

**Discussion:** Occlusal splints are used in the initial treatment of TMD. In this study, we investigated the effect of stabilization splint on salivary gland functions using [99mTc] pertechnetate salivary gland scintigraphy. It was found that the splint provoked and increased secretion of saliva. This may affect the patients' comfort and oral hygiene. Because saliva has some functions such as antibacterial action, buffering ability, a cleansing effect, and maintenance of a saliva supersaturated in calcium phosphate, increase of salivary flow rate might be good conditions for the patients using splint. Nevalainen et al. reported that subjects with removable prostheses had higher levels of salivary microbes and higher root caries incidence than those with natural teeth. Therefore, the patient should be informed about the importance of oral health and hygiene of the splint. Katayama et al. investigated the effects of an occlusal splint on salivary flow rate, acid reflux, and sleep bruxism. They suggested that the increase in salivary flow rate caused by splint application may be an important treatment mechanism for sleep bruxism in relation to acid reflux. Miyawaki et al. showed that the diurnal salivary flow rate with splints is higher than that without splints, particularly during chewing-like movement, both in bruxism patients and normal subjects. Although the results were parallel, they measured the salivary flow rate with different method. The subject spat every 60 seconds into a preweighed cup for 5 minutes just after saliva swallowing and the measurements were done. The salivary glands can be evaluated through computerized tomography and sialography. However, the effectiveness of these methods have been debated because they do not reflect structural abnormalities in most cases. On the other hand, salivary gland scintigraphy enables a functional evaluation of the salivary glands, making it a valuable tool. Salivary gland scintigraphy can be performed easily and quickly, and is non-invasive. It is well tolerated by patients because it has a low dosimetry and does not interfere with the normal physiology. Salivary gland scintigraphy, used in this study to evaluate the salivary glands, can provide quantitative data about glandular function as percent uptake and concentration and excretion fractions.

This study demonstrated that splint application may cause the increase in salivary flow rate and that this condition can easily be evaluated by [99mTc] pertechnetate salivary gland scintigraphy.

**PP74**

**Comparison of MRI and Bone Scintigraphy for TMJ Joint**

Beyza KAYA, Hakan ÇAĞLI, Halil KAYA, Faruk ÖNEN

Dicle University, Faculty of Dentistry, Diyarbakir, TURKEY

Clinical problems involving the masticatory musculature, the temporomandibular joint (TMJ) and its associated structures or both are embraced in the term temporomandibular disorder (TMD). The major reason for TMD patients to seek treatment seems to be persistent orofacial pain. To treat these patients, it is important to have accurate diagnostic methods. Magneticresonance imaging (MRI) is the most reliable procedure for highlighting soft tissues without using ionizing radiation for the classification of TMJ internal derangements. MRI has been used for the diagnosis of the TMJ pathologies since 1980, MRI stands as a tool for the diagnosis, postoperative
evaluation of TMJ disorders as well as its major role in determining the TMJ disc. For these reasons, MRI has found an indispensable use for its routine application in patients presenting with TMJ symptoms. Physicians using MRI should have a good command of MRI knowledge, as well as TMJ anatomy and physiology. MRI will then become a major and first diagnostic method to evaluate TMJ pathologies. The use of bone scintigraphy (bone scan) in the diagnosis of temporomandibular joint (TMJ) disease has been infrequent, as compared with traditional radiographic techniques. Bone scans have the potential to detect active bone remodeling. Traditional radiographic findings and relevant clinical signs and symptoms correlated with bone scans may aid in the diagnosis of TMJ disease and possibly affect treatment and prognosis of individual cases. The use of bone scans as an additional tool in diagnosing TMJ disease was assessed in this series of patients.

The purpose of this study to compare TMJ Magnetic resonance images (MRI) with TMJ bone scans and to investigate the association between the degrees of pain according to visual analog scale (VAS) with bone scans of patients. With this purpose 10 patients who referred to Department of Oral and Maxillofacial Surgery of Dental Faculty of University of Dicle with the complaints of TMJ, had clinical examination. Findings and degrees of pain according to VAS were noted. TMJ MR images of patients were obtained with spin echo technique in the sagittal and coronal planes at the open and closed mouth positions. Bone scans were performed at Department of Nuclear Medicine of Medical Faculty. Patients received 20m Ci of 99m Tc- labeled MDP (i.v). 3 hours later images of TMJ’s were obtained with gamma camera in lateral position. Patients who had severe pain according to VAS and complaints clicking had MRI reports that were reported anterior disc displacement with reduction. In addition to this scintigraphy results were showed increased osteoblastic activity on the affected sides. MRI reports which were anterior disc displacement with reduction were similar as TMJ scintigraphy results. In all patients who had anterior disc displacement with reduction, the affected TMJs showed an increase in accumulation of radiophar-
maceutical activity compared with the nonaffected side on images.

MRI is suitable for use as a high sensitivity noninvasive screening test to establish the presence of an abnormal anteriorly displaced disc. The sensitivity of bone scintigraphy is nearly as MRI. The bone scintigraphy is usually used for the diagnosis of metabolic diseases such as Paget.

In all patients, the affected TMJs showed an increase in accumulation of radiopharmaceutical activity compared with the nonaffected side on images. MRI or bone scintigraphy is suitable for noninvasive confirmation of the clinical diagnosis of TMJ derangement and, when both techniques are employed, the joint diagnostic sensitivity is well.

PP75
Limited Mouth Opening Due To Coronoid Hyperplasia: Report of a Case
Timur SONGÜR, Utku DEDE, Emre ÇİMEN, Ayşegül Mine TÜZÜNER ÖNCÜL, Reha Ş. KİŞNİŞÇİ
Ankara University, Faculty of Dentistry, Ankara, TURKEY

Bilateral hyperplasia of the coronoid process is infrequent. It consists of an elongation of the coronoid process of the mandible and causing mouth opening limitation.

32 year-old male referred to our Oral and Maxillofacial department with significant mouth opening limitation complaints secondary to bilateral hyperplasia of the coronoid process.

The satisfactory result of the procedure is marked by the stable recovery of the mouth opening, achieved by a good combination of surgical and physiotherapeutic techniques.
POSTER PRESENTATIONS 6
Reconstruction

PP76
Ex Vivo Produced Oral Mucosa Equivalent (EVPOME) Preliminary Report
Gürkan Raşit BAYAR
Turkish Air Force, İzmir, TURKEY

The aim of this study was to produce of ex vivo oral mucosal equivalent. The continuous stratified layer of human oral keratinocytes was tried to grow on a cadaveric human dermal matrix (AlloDerm®) in a defined culture medium without a feeder layer.

Human oral keratinocytes from a keratinized oral mucosa biopsy specimen were enzymatically dissociated and cultured in a serum-free defined culture medium, containing a low calcium concentration of 0.06 mM. Oral keratinocytes were expanded one passage. Once a sufficient population of keratinocytes was reached (figure 1), they were seeded onto the type IV collagen coated acellular nonimmunogenic cadaveric human dermis (AlloDerm®), at cell densities of 1,8x105. To form a continuous epithelial monolayer, and to enhance keratinocyte differentiation, oral keratinocyte-AlloDerm composites were cultured while submerged in a high calcium concentration of 1.2 mM medium for 4 days. After 4 days, AlloDerm-keratinocyte composites were raised to an air-liquid interface to encourage stratification of the epithelial monolayer. After additional 7 days, they were taken for histologic examination at 11 days postseeding of the keratinocytes on the AlloDers.

The ability to produce ex vivo oral mucosa equivalent from a punch biopsy composed of an epithelial and dermal component within 1 to 2 months will make available an unlimited supply of oral tissue that will have similar characteristic to native mucosa. Histologically, an ex vivo produced oral mucosa equivalent (EVPOME) that consisted of a stratified epidermis on a dermal matrix was successfully developed by the method used (figure 2). The epithelial architecture of EVPOME’s resembled that of a normal oral mucosa (figure 3).

PP77
Rat Connective Tissue Reaction to Mineral Trioxide Aggregates and Portland Cements as Root-End Filling Materials
Shahriar SHAHI, Khalil Baradaran MAKSoudI
Tabriz Dental School, Tabriz, IRAN

The purpose of the present study was to evaluate subcutaneous connective tissue reaction to gray MTA, white MTA, gray and white Portland cements in rats.

Study Design: Fresh mixtures of gray MTA, white MTA, gray and White Portland cements with distilled water were placed in polyethylene tubes, which were implanted in the dorsal subcutaneous connective tissue of 60 Sprague-Dawley rats. Tissue specimens were collected after the rats were sacrificed after 7, 15, 30, 60 and 90 days. The specimens were fixed, stained, and histologically evaluated. Data was analyzed using one-way and multi-variate ANOVA and post hoc Tukey test.

Results: All the materials tested were completely biocompatible after 90 days except for gray Portland cement, which had a significantly higher mean of inflammation grade.

We believe that if the process had been followed up to 120-day interval we might have witnessed the same trend in the gray Portland cement group, too. However, further studies are required to gather more accurate data in this respect.

Conclusion: In the conditions observed in the present study no statistically significant differences were observed in the connective tissue reaction of MTA and Portland cement, and Portland cement appears to be a good alternative to MTA. However, further studies are recommended before this material can safely be used in clinical situations.
PP78
The Effect of HECBMG on the Repair of Bone Defect Sites
Hossein SHAHOON, S. SHAHAB, M. HEYDARI
Shahed Medical University, Tehran, IRAN

Autogenous bone graft is usual for the prevention of bone loss. Because of the important of the issue and the need of the world health care requirements, this study was conducted in adjacent teeth socket in order to evaluate and compare the effect HECBMG and without any graft on the repair of bone defect sites.

After preparation of HECBMG and sterilized, we choose 20 patients who are systemically health. The next step we put about 2 mg HECBMG in one of the socket and another socket as a control site. In continue we did series radiography in period of 0,1,2,4 months with the aim use kodak E speed film and digital method at the end of we use subtraction software for analytic study.

In the sockets which we had put HECBMG had been observed about fill of bone within 30 days and their density within about 55%, 60 days 65% and 120 days 85% of socket became filling up of bone.

In the sockets which we had put HECBMG had been observed about fill of bone within 30 days and their density within about 55%, 60 days 65% and 120 days 85% of socket became filling up of bone.

PP79
The Subperiostal Tunnel Technique for Autogenous Bone Block Graft Applications
Yaşar ÖZKAN, Altan VAROL, Caner ŞAHIN
Marmara University, Faculty of Dentistry, Istanbul, TURKEY

The main factor in achieving long time success of dental implants is to have an efficient quality of bone. Bone deficiencies occur by several reasons and bone augmentation is an obligation in treatment area if the bone is inadequate. Different kinds of augmentation techniques and graft materials are used at implant surgery stage or before the placement of an implant. Block autogenous grafts are preferable when bone volume and quantity is not acceptable for implant treatment. Especially, in these cases, intracranial autogenous block grafts must be an option. The most seeming complication is to lost the graft fully or partially, due to opening of scar on sides. Subperiostal tunnel technique has the advantages against these complications that effects the success of grafts application. This article presents two cases that are augmented horizontally with subperiostal tunnel technique.

PP80
Rat Connective Tissue Reaction to White and Gray Mineral Trioxide Aggregate Mixed With Distilled Water and 0.12% Chlorhexidine Gluconate as Root-End Filling Materials
Hamid Reza YAVARI, Amir Ahmad AJAMI, Shahriar SHAHI
Tabriz Dental School, Tabriz, IRAN

The purpose of this study was to compare the histocompatibility of white (WMTA) and gray (GMTA) Mineral Trioxide Aggregate mixed with chlorhexidine 0.12% and distilled water (DW) in subcutaneous connective tissues of rats.

The freshly mixed WMTA and GMTA with CHX 0.12% or DW were placed in polyethylene tubes and implanted into dorsal subcutaneous connective tissue of 50 Wistar Albino rats, tissue biopsies were collected and histological examined 7, 15, 30, 60 and 90 days after the implantation procedure. The data was analyzed by one – way, multiple – way ANOVA and post hoc Tukey test. All of the materials were well tolerated by the tissues after 90-day evaluation period, except for the WMTA + CHX group that had significantly the most mean inflammatory score (P<0.001).

Tissue reactions are affected by the shape and size of the implanted material in histopathological studies. It seems that CHX is a suitable substitute for DW in combination with GMTA; however, more research is necessary to prove this finding.
PP81

Congenital Maxillary Double Lip: A Case Report

Altan VAROL, Fevzi ERDEMCI, Aydin GÜLSES, Metin ŞENÇİMEN

Gülhane Military Medical Academy, Ankara, TURKEY

Double lip is a term used to describe an infrequent deformity of the upper or lower lip, which consists of an accessory fold of redundant mucous membrane inside the vermillion border.(1) It is an unusual oral anomaly that may be acquired or congenital. The upper lip is involved more often than the lower, although on occasion both may be involved. (2) Double lip is caused by excessive areolar tissue and non-inflammatory labial mucosa gland hyperplasia of the pars villosa. The condition may require surgical correction due to the aesthetic expectations of the patient and can be corrected by surgical removal of the hypertrophied glands and labial mucosa.

A healthy 42 year-old man was seen at the oral and maxillofacial clinic of the Gülhane Military Medical Academy, Ankara, Turkey with the complaint of a disfigured upper lip. Unilateral extra fold of tissue was visible during physical examination (Fig 1). The overlying mucosa was intact and appeared normal. There were no other associated congenital abnormalities and no history of trauma. The patient stated that he occasionally “sucked in” the extra tissue during times of stress. A provisional diagnosis of congenital unilateral upper double lip was made, and surgical excision was suggested to the patient. Removal of the accessory lip was performed via a transverse elliptical incision under infraorbital and ring block. (Fig 2 and 3) Closure was by running 4/0 polygactin 910 (Vycril) suture. (Fig 4) Postoperative recovery was uneventful. Histological examination of the excised material revealed sections of soft tissue covered by stratified squamous epithelium. Numerous minor salivary glands, with moderate lymphocytic infiltration, were present in the underlying connective tissue. A few muscle fibers were also present in the specimen.

Double lip is a rare oral anomaly of congenital or acquired origin that is equally prevalent in both genders. (3) In acquired cases, the condition usually result from trauma and may be enhanced by a reactive process after a “sucking-in” of the tissue between the teeth similar to our case. (4, 5) The condition can also occur as a component of syndromes e.g. Laffer-Ascher’s syndrome and inflammatory diseases e.g. cheilitis glandularis. (6) Laffer-Ascher’s syndrome is a rare disease first described in 1920 by Ascher, and characterized by a double upper lip, blepharochalasis, and nontoxic thyroid enlargement. (3, 7, 8) Angioneurotic edema on both eyelids as well as on the upper lip constitutes the main early clinical feature of this syndrome. (9) Cheilitis glandularis is a clinically descriptive diagnosis that refers to an uncommon, poorly understood, and fundamentally benign inflammatory disorder of the submucosal glands in the lower lip. (10) The condition is an inflammatory hyperplasia characterized by varying degrees of inflammation of the lower labial salivary glands. The differential diagnosis of cheilitis glandularis and congenital double lip is important, because cheilitis glandularis has been associated with an increased risk of the development of squamous cell carcinoma. (6) The presence of cheilitis glandularis should be investigated for the presence of neoplasia, immunosuppression, or inflammatory diseases related to extremely poor oral hygiene. (11) In a case reported by Leao (12) and co-authors, cheilitis glandularis was the presenting clinical finding in a patient later discovered to have undiagnosed HIV-infection.

The congenital cases stem from a developmental anomaly and usually involve the upper lip, but it may also affect the lower lip. The congenital form usually presents at birth and becomes apparent with the eruption of the permanent teeth. During development, the upper lip mucosa is made up of two transversal zones: an outer skin-like cutaneous zone (pars glabra) and an inner villous mucosal zone (pars villosa). (13, 15) A double lip occurs as a result of the hypertrophy of the pars villosa and derives from an exaggerated horizontal sulcus between the pars glabra and the pars villosa during the second or third month of gestation. (13) Treatment is indicated when the condition interferes with speech and chewing, when the excess tissue interferes with leads to such habits as sucking or
biting the redundant tissue or for cosmetic reasons. (14) Various surgical techniques to correct the double lip have been described: elliptical incision, (13) W-plasty, (15) triangular incision, (16) midmoon incision, (2) electro surgical excision (17) and elliptical incision on each side, combined with a vertical midline z-plasty (15) to release the lip’s central constriction. For the treatment of the condition, simple excision through an elliptical incision is usually recommended. (14)

In the current case, the double lip was corrected surgically through a transverse elliptical incision.


PP82

Surgical and Prosthetic Rehabilitation of Partial Auricular Defect

Erçan DURMUŞ, Abdullah KALAYCI, Serhan AKMAN, Gamze ALNIAÇIK, Gülce SUBAŞI

Selçuk University, Faculty of Dentistry, Konya, TURKEY

Ear defects occur because of trauma, carcinoma and congenital malformation (1, 2) (fig 1). Total resection of the auricle is easily constructed but partial resection of ear is more difficult to construct. Patients mostly don't prefer secondary surgical procedures due to not loosing their own tissues. Retention and esthetic factors are important for the prosthetic restoration of the defect region (3). This case report describes surgical and prosthetic rehabilitation of a patient with a partial deformed right ear due to tumor resection utilized with three implants and support.

A 58-year-old man was referred to the Selçuk University Department of Prosthodontics with a complaint of deformed right ear. Except his lobule and tragus, helix, anti-helix and seashore fossa were completely missing (fig 1). He had no systematic disorders. The patient was normal but he was unsatisfied with his appearance. Implant supported bar retained auricular prosthesis was selected for the treatment plan. Three endosseous extraoral (EO) implants (Straumann implant system 5 mm) were selected and placed in nine o-clock, ten-o’clock and eleven o-clock positions in the mastoid region (fig 2,3). The implants were left unloaded for three months for osseointegration. EO conical abutments were screwed to their place with 15Ncm torque by a ratchet which short inserting device and torque control device were affixed to. Before taking the impression, impression cylinders (048, 104) had been screwed to the EO conical abutments and impression was taken with an elastomeric impression. Impression of the defect area and the abutments with impression cylinders was made with light body polyvinyl siloxane (Elite HD; Zhermack SpA, Rovigo, Italy). After controlling the impression, original impression cylinders
were disassembled, screwed to the analogues of the EO conical implant abutments and placed in the impression. Cast was poured in die stone (Zhermack). EO gold caps were screwed on the conical implant analogs by an SCS guide screw. Gold bar was placed between the gold caps. The length of the gold bar was adjusted and then gold bar was soldered on the gold caps.

A dolder bar was fabricated to splint the implants together. Dolder bar included the reduced cantilever length of 6mm at both sides (fig 4). On the die stone, bar was screwed to the abutments and retention clips were positioned over the bar. They were secured in a plate made with cold cure acrylic resin (Heraeus Kulzer, Wehrheim, Germany). A wax pattern of the defected ear was constructed by using the cast of the patients remaining ear. Dimensions, contours of the wax modelation and relationship with the head and left ear were evaluated. It was tried on the patient. A wax trial the areas of the prosthesis which combines with the healthy tissues and borders of the prosthesis were left thin to make a natural appearance. Borders of the prosthesis were hindered behind the patients own tissues. Behind the ear prosthesis, 1 mm gap was left between the ear prosthesis and the skin. The auricular prosthesis was fabricated from heat temperature Vulcanized silicone (HTV) (Cosmesil, Principality Medical). When constructing ear from silicone, firstly fundamental color of the ear was determined by considering the patient skin color. After setting the right color, intension color pigments were added in the silicone. Then the silicone was taken in its mold. After polimerization, the auricular prosthesis was checked and adapted on the patient. External staining with room temperature Vulcanized silicon (RTV) (Cosmesil, Principality Medical) was performed on the patient. The entry-way of the prosthesis was shown to the patient.

The patient was instructed in hygiene procedures when the prosthesis was delivered. He was satisfied with his new appearance (fig 5, 6).
mote the revascularization of the graft. The block iliac bone grafts then stabilised to the maxilla with screws. Any sharp angles of the grafts were smoothed and the particulated bone chips were placed around the grafts. The horizontal releasing incisions at the base of the buccal flap was performed to obtain a tension-free adaptation of the wound margins. The flap was sutured with a resorbable suture that was removed 10 days after surgery. Dental Implant Placement: 5 to 6 months was waited for implant placement. An alveolar crest incision was made and mucoperiosteal flaps were elevated to expose the bone. The fixation screws were removed and the implant sites were prepared. There were enough bone width around all implants that there had been no need of extra augmentation and all implants showed good primary stability. Prosthetic Restoration: Provisional rehabilitations were made with removable prosthesis 30 days after surgery. Permanent prosthetic restorations were made after waiting 5 to 6 month for osteointegration of dental implants.

Results: No major complications were observed regarding to the donor site. There were minor discomfort but not prevent patients to stand-up and walk on the operation day. Two weeks later, none of patients had referred pain or difficulties during walking. 23 dental implants were placed successfully without need of additional grafting. There were no implant failure before and after the prosthetic restoration. There were minor marginal bone loss around implants that did not effect the esthetic and function of the rehabilitation.

Conclusion: On the basis of these two successful rehabilitation of atrophic maxilla, augmentation of the maxilla with onlay autogenous bone graft harvested from anterosuperior iliac crest can be considered a reliable technique.

Picture 1: Reconstruction of atrophic maxilla a) sinus elevation of left side b) sinus elevation of right side c) iliac block and particulated bone graft application to sinus space and on to alveol ridge Picture 2: comparison of maxillary alveolar ridge before and after augmentation. mucosal view a) before augmenta-

b) 5 months after augmentation; bone view c) before augmentation d) 5 months after augmentation Picture 3: dental implant placement after 5 months consolidation period. Picture 4: dental implants healed without complication and well positioned with the dental arch and each other Picture 5: comparison of OPTG before and after reconstruction of atrophic maxilla Picture 6: diagnosis of the atrophic maxilla with a) Panaromic radiography and b) dental tomography. The width and the height of the alveolar ridge resorbed so that it was impossible to place an implant Picture 7: horizontal augmentation of maxillary alveolar ridge with autogenous bone graft harvested from iliac crest and placement of dental implants where it was possible were performed at the same procedure Picture 8: comparison of alveolar ridge at bone level a) before and b) after augmentation Picture 9: Dental implant placement for each tooth between first molars were well placed according to the dental arch. Picture 10: Panaromic radiography showing the relation between augmentation and dental implant placement.
Etiology and Incidence of Mandible Fractures in Southeast Anatolia

Hakan ÇAĞLI, Belgin GÜLSÜN GÖRGÜN, Rezzan GÜNER

Dicle University, Faculty of Dentistry, Diyarbakır, TURKEY

There are many studies on the etiology, age, gender distribution, types of injuries, and treatment modalities in the mandibular region. The causes of mandibular fractures have changed over the last three decades, and they continue to do so. Mandibular fractures frequently occur as a result of motor vehicle accidents, assaults, fallings, industrial and sports injuries. In an analyses of different series of mandibular fractures show that falls were the second most common cause after assault, thought it is recognized that many patients who have been assaulted report that their injuries are due to falls. The mandible fractures are often associated with a second fracture of the mandible, especially in the subcondylar region. Mandibular fractures classifications in general may include differentiation between compounds or closed incomplete or complete, unstable and stable fractures. Other classifications to supplement more complex areas of the mandible, like the condylar region and alveolar process, have been proposed. The aim of this study was to analyze retrospectively the causes and incidence of mandibular fractures in 2581 patients treated at Department of Oral and Maxillofacial Surgery in the University of Dicle, Faculty of Dentistry in Southeast Anatolia between 1978 and 2009. Since the 1980s, this department has been the only facial trauma centre in the Southeast Anatolia of Turkey.

During the decade of 1978 to 2009, 2581 patients with mandibular trauma were registered at the Department of Oral and Maxillofacial Surgery in the University of Dicle, Faculty of Dentistry. Parameters assessed included age, sex, etiology and treatment modalities were analysed. Two thousand five hundred and eighty one patients received treatment for mandibular trauma from 1978 to 2009. The majority of mandibular fracture patients were male (2038 patients 79%), female: 22.5%). The age decades in which fractures were most common were, in decreasing order of frequency, 0–10 (748 patients, 29%), 21–30 (696 patients, 27%), and 11–20 (542 patients, 21%). In our retrospective study the data was revealed that the most common etiological factor was traffic accidents (1032 patients 40%), followed closely by falls (1006 patients 39%); the least common factor was sports accidents (23, patients 1%). Analysis of seasons showed that trauma occurred most frequently in summer (37%), followed by autumn (28 %) and spring (21 %). Trauma occurred least during winter (14 %). In this study the most common site of fracture was the body of the mandible (62%), followed by the angle (32%). The majority (1981 patients) were treated by closed reduction using intermaxillary fixation, 540 patients (21% ) treated by open reduction and internal fixation, and 60 patients 2% were treated with circum mandibular wire fixation. In addition to this there are few literatures reported that closed-reduction technique have high malocclusion risk in mandibular fractures especially in condyle fracture, although when we force elastics in traction with proper direction, occlusion and interdigititation be supplied definitely in our patients.

A large number of studies have been done on the etiology, age, gender, anatomic site, and treatment modalities of mandibular traumas. The main causes worldwide of mandibular fractures are traffic accidents, assault, falls, and sports-related injuries. However causes of the mandibular injuries vary from social-cultural speciality of countries to geographical properties. For instance; in the rural district of Southeast Anatolia, it is common for people to sleep on the housetops (resembling a terrace) during summer and autumn because of the extreme heat. Falls from housetops during the night caused a number...
of injuries in addition to mandibular trauma, especially in children. In 2004 our clinic's 25 years study reported that fallings on Houstope and accidents are in the first range of the etiological factors depending on socio-economic cultural, geographic, economic speciality of the area. More recent studies have shown that assault is the most common cause of mandible fractures in many developed countries, whereas traffic accidents remain the most frequent cause in many developing areas.

The incidence of traffic accidents in mandible fractures has been significantly reduced in many developed countries by the passage of legislative measures such as compulsory seat belt use and in those countries frequently people prefer public transportation such as subways. In literatures studies are reported the most affected region is inferior face among the facial bone fractures, although this distribution indicates geographical variations because of regions and countries various factors like in etiological factors. In Austrian Gassner et al. reported ethiological factors related with mandibular fractures. Sports injuries have a high ratio in etiological factors because of ski which is common in that country. Mandible fracture is seen frequently in condyle, corpus and angulus. Goals in managing mandibular trauma include restoration of anatomic shape, function, and occlusion. Mandible fractures have been treated by a number of methods, including closed reduction, external pin fixation, internal wire fixation, and more recently, open reduction and internal stable fixation using plates and/or screws. Mandible fractures have been treated by various internal fixation methods; Wire osteosynthesis (1847 Buck), Intramedullar pin fixation (1938), Circum osseous wire fixation (1942), Wire ost. (1943 Gordon nonimiation metal), Bone plates (1945), Ti-mesh (1960), Bone clamp (1970), Miniplates (1973 Michelet), Miniplates (1978 Champhy), Compression plates, Resorbil screw and plates However, when mandible fractures are not treated properly, different complications are observed. Conditions that complicate mandibular trauma include infection, delays in treatment, the abuse of alcohol and drug, poor technique, edentulous patients and inexperienced surgeons. These factors can lead to an established posttraumatic de-

formity such as malunion, nonunion, infection, facial asymmetry, TMJ dysfunction. Most of these deformities can be corrected by a variety of osteotomies. Some of the cases are not treated in early period because of major injury. In this situation dislocated fracture improves in malpositioned position and cause facial deformity. However correction of the deformities is possible by the different osteotomy techniques. It is very important to choose treatment technique of mandible fracture with correct indication. In spite of internal fixation high success rate in the fracture treatments, also failures are reported in researchs because of the different reasons.

The reasons of failure to be welded these faults; do not choose suitable plate for fracture, do not locate plates on resistance-line, during operation don’t be careful about reduction and occlusion of fragments, sometimes one broken line is treated and the other one is not, do not be careful apex of the teeth while putting the screws, do not use enough plate-screw in fixation, and because of development of infection and suppuration on area fracture don’t heal depends on mucosa dilatation on plates. In general it is possible to correct dislocated fractures in early period before ossification to be formed. When granulation tissue is involved into the dislocated bone fragments, treatment of the area can supplied with curettage of granulation tissue, reduction and fixation of the fragments. De Souza and friends are reported that the time of treatment and chosen the most suitable technique affect healing success of fractures so ideal occlusion is constituted more easily. Currently there are many techniques to be used in treating mandible fractures. However, the experience of the surgical team is also an important factor in achieving satisfactory functional and aesthetic results, and in minimizing complications.

The present study revealed that the most frequent cause was traffic accident (40%), followed by falls (39%). In this study the most common site of fracture was the body of the mandible (62%), followed by the angle (32%). The majority of mandibular fracture patients were male (79%), and the peak incidence of mandibular fractures occurred in the age group consisting of 0 to 10-years olds (29%).
Endoscopically Assisted Transoral Open Reduction and Internal Fixation (ORIF) for Subcondylar Fractures of the Mandible

Altan VAROL, Serdar YILMAZ, Neslihan TÜRKER, Sekçükl BASA
Marmara University, Faculty of Dentistry, Istanbul, TURKEY

Treatment of fractures of the mandibular condyle process remains one of the most controversial issues in maxillofacial traumatology. Within the scope of maxillofacial traumatology, endoscopic management of the mandibular, the orbitozygomatic area and the frontal sinus fractures were described [7,8,9,10]. Endoscopic treatment by transoral approach of subcondylar fractures of the mandible is a technique designed to combine the positive aspects of conventional methods [11] since the procedure is minimally invasive and yet able to provide greater visibility of the operating site without the need for a large incision, and hence reduces the extent of surgical scar and risk to the facial nerve [11,12]. In cases of subcondylar or condylar neck fracture where the condylar neck fragment is not dislocated far medially into infratemporal fossa, anatomic reduction and rigid internal fixation could be achieved by endoscopic assisted transoral approach (ENDORIF) [11-16]. In medially dislocations, ENDORIF has proven to be very difficult or impossible by intraoral approach alone. An extraoral approach using a submandibular incision alone or a combined extra- and intraoral approach has been advocated in such a circumstance [13].

The Case Reports: a. Patients: Three male patients (mean age was 43) were operated for ipsilateral subcondylar fractures which occurred due to motor vehicle accidents (2 patients) and fall. Two of the patients presented malocclusion, lateral deviation during mouth opening, trismus, and periorbital ecchymosis. The third patient had non-displaced subcondylar fracture but after several days medial dislocation of condylar segment occurred due to active pull of lateral pterygoid muscles. 3-D CTs were obtained from all patients preoperatively to detect condylar displacement and to determine method of reduction. b. Endoscopically assisted transoral ORIF: All patients were operated under general anesthesia with nasotracheal intubation. Arch bars were placed at the beginning of the operation. Local anesthetic containing 0.4% epinephrine was infiltrated to ascending ramus of the mandible and fractured segment was exposed via subperiostal dissection of lateral side of ramus. Each fracture was managed via a transbuccal incision and along with a transfacial portal incision for use of a transcantageous trocar (Fig.1-Fig.2). A 4 mm 0° rigid endoscope (Karl Storz, Germany) was introduced through introral mucosal incisions to assist reduction and fixation of neck fractures. W Lorenz 2.0 mm Titanium Midface System (Jacksonville, FL, USA) was used for osteosynthesis in all patients (Fig.3). A preauricular approach was utilized for the 3rd patient after endoscopic port was opened. The reason for an additional access was the fibrosis of the delayed fracture. Patients were scheduled for 10 days of jaw immobilization with intermaxillary fixation (IMF). After IMF period, the patients applied to strict physiotherapy protocol to achieve maximal mouth opening.

Discussion: Endoscopic assisted transoral ORIF of subcondylar fractures of the mandible has gained popularity in the last 10 years. Lee reported their ENDORIF results of 22 subcondylar fractures suffered by 20 patients [15]. The authors achieved good functional results, with a maximal interincisal opening of 43-6 mm after 8 weeks. Their following report included successful treatment results of 40 condylar fractures that were managed by ENDORIF [16]. Lauer and Schmelziesen reported the use of an extra-oral approach for the ENDORIF of condylar process fractures in 4 patients. Their technique required a 2.0 to 3.0 cm submandibular incision with 2 additional transfacial portals [17]. Chen used a transbuccal intraoral incision and transcantageous ports for ENDORIF to treat 8 patients. A 4- or 5-hole plate was used for fixation along with 3 to 6 days of IMF [8]. Troulis and Kaban reported 5 patients with subcondylar fractures from among the total of 10 treated [18]. Their access was provided by a 1.5 cm transfa-
cial Risdon incision, with assistance from a 2.7 mm 30° endoscope. Schön et al. 49 reviewed 17 patients managed with ENDORIF [11]. 9 of these patients were treated with a 4.0 to 5.0 cm submandibular incision and 8 patients with a transbuccal intraoral approach. Facial nerve palsy was encountered in 2 of the 9 patients approached submandibulary, with total resolution after 6 months [11]. Kellman reviewed his experience with ENDORIF for subcondylar fractures of 12 patients with 17 fractures [12]. His main outcome measure was successful fracture reduction and plate application, which was achieved 9 out of 10 times at the first procedure. Nine of the 10 successful cases of endoscopic management had a normal occlusion and 1 persistent malocclusion required reexploration and refixation. Kellman concluded that this approach to fracture management was a “feasible but challenging technique.” Miloro combined ENDORIF and a 15 to 20 mm modified Risdon incision access for the management of 6 patients. His results suggested stable occlusions, anatomic alignment, no temporomandibular joint noise or pain, acceptable scar perception, and a mean interincisal opening of 42.2 - 5.7 mm [19]. Medial dislocations of subcondylar fractures are very difficult, almost impossible, to manage with endoscopic approach unless facial approaches are performed. We think that the one to succeed with endoscopic approach needs a period of training and experience with directed vision through the screen. Reduction of delayed fracture is demanding and needs extra effort if performed endoscopically. We recommend to use an appropriate facial approach in such circumstances since fibrosis around fractured region prevents proper positioning of fracture sites.

Conclusion: In cases where the condylar neck fragments is not dislocated far medially into infratemporal fossa, anatomic reduction and rigid internal fixation could be achieved by ENDORIF. In medially dislocations, ENDORIF has proven to be very difficult or impossible alone with intraoral approach. An extraoral approach using a submandibular incision or a combined extra-and intraoral approach has been advocated in such a circumstance.


PP86
Dentoalveolar Trauma: A Case Report
Özüm ALTINKAYA, Şerafnur MUTLU, Hanife ATAOĞLU,
Selçuk University, Faculty of Dentistry, Konya, TURKEY

Traumatic injuries to permanent teeth include coronal and root fractures, subluxations, luxations, and avulsions. Avulsions statistically represent 1% to 16
% of all traumatic injuries to permanent dentition. (1) The incidence is even higher in children between 8 and 12 years old due to bicycle, skateboard, fights and sports accidents. The traumatic extraction of a tooth from its respective socket produces breakdown of the periodontal ligaments and the blood supply to the pulp tissue. In consequence, the dental pulp undergoes necrosis and periodontum is severely damaged. Avulsions are complicated and controversial displacement injuries of permanent teeth. Treatment is often complex, time consuming, expensive and requires multidisciplinary approaches.

A 13 years old girl patient with dentoalveolar trauma was referred to Selçuk University Dental Faculty Department of Oral and Maxillofacial Surgery. While she was running at school, she fell down and strokes her maxilla to the stairs. Firstly panoramic and periapical films were taken. Her maxillary right central and lateral incisors had anterior luxation (fig 1). Maxillary right central incisor was devital and maxillary right lateral incisor had an apical fracture. Maxillary left central incisor was avulsed and missing (fig 2). Right central and lateral incisors were repositioned with digital pressure to original position. After then, they were splinted with ribbon (fig 3). 5 hours after trauma the missing left lateral incisor was found and brought in the tap water by her family (fig 4). Immediately the tooth was put in the milk. The socket was rinsed with sterile saline. Then the tooth was replanted after a 5 hours extra-alveolar period. After replantation it was included to splint (fig 5). Antibiotic (amoxicillin 500 mg x 3/day for 7 days), analgesic (2x1) and Chlorhexidine rinse (2x1 for 7 days) were prescribed. The teeth were splinted for 25 days (fig 6). At day 25 the root canals of left central incisor, right central incisor and right lateral incisor were treated with hand instruments and filled with gutta percha (fig 7). At day 53 apical fracture of lateral incisor was removed with surgical treatment (fig 8). The clinical follow-up examinations are performed 2 weeks, 4 weeks and then every months over a period of 6 months (fig 9, 10). At the follow-up period, periodontal healing was evaluated by clinical examination, mobility testing and periapical and panoramic radiographic controls.

Avulsed teeth should be replanted as soon as possible. The prognosis of replantation will be directly related to the extension of the extraoral period and conditions in which the tooth was maintained prior to the replantation (2, 3) because of the vitality of periodontal ligaments. Laboratory studies have supported earlier clinical studies demonstrating that after dry storage for more than 15 minutes, precursor cells on the root-side PDL are unable to reproduce and differentiate into broblasts. Several authors reported that with 30 minutes of dry storage, virtually all root-side PDL cells have died (4, 5). In these cases of delayed replantation, healing occurs by repair rather than by regeneration. Root-side PDL cells that are immediately stored in appropriate media can retain their vitality for extended periods, but become disabled. They lose their ability to become broblasts and to perform the normal functions of PDL cells.

Consequently, healing is by repair and little or no PDL is regenerated. In addition, PDL cells on the alveolar side are affected by damage associated with physical tearing of the ligament and loss of the tooth, so they too have limited ability to contribute to the regeneration of new PDL. The best storage mediums for tooth are Hank’s Balanced Salt Solution (HBSS), milk, sterile saline, saliva in the mouth. Usually tap water is not recommended, but it can be used if any of the other mediums are not available. However our case was replanted 5 hours after trauma and was brought in the tap water. It is recommended to immobilize the tooth with a semi rigid splint during 7 to 10 days (6, 7). The splint should not interfere with the patient’s capability to perform correct hygiene and should allow a physiological movement of the tooth. In cases of bone fracture, the tooth should be splinted for a longer period, (1 or 2 months), depending on the clinical situation. In our case, there were both anterior luxation and avulsion, so the teeth were splinted for 25 days. It is recommended to prescribe antibiotic therapy to avoid the onset of infection during the first week after replantation (8). The administration of systemic antibiotic prevents the development of external root resorption (8, 9).
It is recommended to perform a clinical follow-up examination 1 week, 2 to 3 weeks, 3 to 4 weeks, 6 to 8 weeks, and then every 6 months over a period of 5 years (10). During this period, complications can be early diagnosed and treated. Some complications like root resorption may occur long after the incident, requiring immediate treatment. The maxillary left central incisor has been replanted for six months and there are no early signs of rejection, root resorption or ankylosis.

WEDNESDAY APRIL 22, 2009

09.30-18.00  Registration
13.00-14.30  SURGICAL CLINIC I
             Anders HOLMLUND, SWEDEN
             The Role of Arthroscopy in Temporomandibular Joint Surgery
14:30-14:45  Coffee Break
14:45-16:15  SURGICAL CLINIC II
             Lim K. CHEUNG, CHINA
             Dental Rehabilitation in Atrophic Jaws
16.15-16.30  Coffee Break
16.30-18.00  SURGICAL CLINIC III
             David PRECIOUS, CANADA
             Technique Refinements in Orthognathic Surgery
18:30        OPENING CEREMONY
19:30        PRESIDENT'S WELCOME RECEPTION

THURSDAY, APRIL 23, 2009

08.30-10.00  ORAL ABSTRACT SESSION I - Reconstruction I
OP01  Behçet EROL, Ahmet YARDIMEDEN, Serhat ATILGAN, Ferhan YAMAN
      A Three Dimensional Analysis of Reconstruction Plates in Different Defects of Mandibular
OP02  Özkan ÖZKAYNAK, Alper PAMPÜ, Figen ÇIZMECI ŞENEL, Ezher H. DAYISOYLU,
      Mustafa ÇANKAYA, Nuray YILMAZ
      Autogenous Grafts & Clinical Application in Maxillofacial Area
OP03  Ayşeğül SİPAHİ, Al탄 VAROL, Onur ATALI, Serdar YILMAZ, Selçuk BASA
      Reconstruction of the Atrophic Maxilla with Interpositional Bone Grafting/Le Fort I Osteotomy and Endosteal Implants
OP04  Ali Hossein MESGARZADEH
      Costocondral Graft Overgrowth Associated with Gustatory Sweating Syndrome (Report of a Case)
OP05  Mohamed Hussein WARDA
      Long Term Follow up Constructed Mandible Using the Split Rib Bundle Graft
OP06  Reza TABRIZI
      Role of Pectoralis Myocutaneous Major Flap in Maxillofacial Reconstruction
OP07  M. Cemil BÜYÜKKURT, Sinan TOZOĞLU, M. Selim YAVUZ, Ertuğrul DAYI
      Simulation of Sinus Floor Augmentation with Symphysis Bone Graft Using Three - Dimensional Computerized Tomography
OP08  Atefe IMANI, Tektam JALAYER, Bahram Saghai ESLAMI
      Comparison of Digital Radiography with Conventional Technique in Reconstruction of Bone Defects in Rats
OP09  Gühan DERGIN, Hasan GARİP, Gökhan GÜRLER
      Rehabilitation of Bilateral Alveolar Cleft Patient with Block Bone Grafting and Double Mucosal Flap
10.00 - 10.10  Coffee Break
PLENARY SESSION 1 - TMJ

10.10-10.40 Anders HOLMLUND, SWEDEN
Research-based Temporomandibular Joint Surgery

10.40-11.10 Tetsu TAKAHASHI, JAPAN
Research and Evidence Based Temporomandibular Disorders Minimal Invasive Surgery

11.10-11.40 Awwad AL-BISHRI, SAUDI ARABIA
New Approach for all Temporomandibular Joint Surgery (AL-BISHRI's Approach)

11.40-12.00 Vitomir KONSTANTINOVIC, SERBIA
Ankylosis

12.00-13.30 Lunch

13.30-14.20 ORAL ABSTRACT SESSION I - Deformity I

OP10 Kağan DENIZ, Sina ÜÇKAN, Erdiç AYDIN, Burak BAYRAM
Evaluation of Hearing Level and Acoustic Impedance Following Le Fort Osteotomy

OP11 Onur ATALI, Atlan VAROL, Ayşegül SIPAHI, Serdar YILMAZ, Selçuk BASA
Treatment Options for skeletal Anterior Open Bite

OP12 Sıdıka Sinem SOYDAN, Sina ÜÇKAN, Firdavs VEZİROĞLU ŞENEL, Kenan ARAZ
Horizantal Reduction Genioplasty: Indications technique and results

OP13 Serdar YILMAZ, Nedim ÖZER
Surgical Options in Dentofacial Deformities

OP14 Alper PAMPU, Özkan ÖZKAYNAK, Birol ÖZEL, Mustafa ÇANKAYA,
Nuray YILMAZ ALTINTAŞ, Ezher H. DAYISOYLU, Figen ÇİZMECİ ŞENEL
Correction of Facial - Skeletal Deformities by Using Anterior Segmental Mandibular Osteotomy

14.20 - 14.30 Coffee Break

14.30 - 15.30 ORAL ABSTRACT SESSION III - Reconstruction II

OP15 Hüseyin AKÇAY, Osman A.ETÖZ, Salim NEŞELİOĞLU, Alper ALKAN
Total Antioxidant Capacity and Total Oxidant Status of Synovial Fluids in Patients With Painful Temporomandibular Joint Internal Derangement

OP16 Firdavs VEZİROĞLU ŞENEL, Pervin İMIRZALİOĞLU, Sina ÜÇKAN, Nurhaı GÜLER,
Ayşegül HABERAL
Synovial Apoptosis in Temporomandibular Joints Disc Displacement without Reduction

OP17 Serdar YILMAZ, Selçuk BASA
Postoperative Analgesic Effect of Intraarticular Ketamine Administration after TMJ Arthroscopy

OP18 Ramazan KÖYMEN, Aydın GÜLSES, Ümit KARAÇAYLI, Yavuz, S. AYDINTÜĞ
Treatment of Microstomia with Commissuroplasties and Semi - Dynamic Acrylic Splints

OP19 Masoud KARIM
Why Open Rhinoplasty?

OP20 Kyrilağ C. MARTI, Christos A. SKOUTERIS

15.30 - 15.40 Coffee Break
PLENARY SESSION II - Implants

15.40 - 16.10 Thomas DODSON, USA
Controversies in Dental Implants - Is Site Preservation Indicated?
What is the Role of Immediate Implants?

16.10 - 16.40 Lim K. CHEUNG, CHINA
Functional Reconstruction of the Jaws with Dental Implants

16.40 - 17.10 Henning SCHLIEFHAKE, GERMANY
Oral Rehabilitation Using Bone Grafts and Dental Implants

17.10-17.20 Coffee Break

PANEL I - Sports Injuries

17.20-17.40 Onur İÇTEN, TURKEY
Etiology of Sport Injuries

17.40-18.00 Rezzan GÜNER, TURKEY
Protective Devices and Appliances

18.00-18.30 Piet HAERS, UK
Clinical Experiences and Update

18.30-19.00 Ridvan DİLMEN, TURKEY
Coquetry of Sports - Personal Experiences

FRIDAY APRIL 24, 2009

08.00-09:40 ORAL ABSTRACT SESSION IV - Deformity II

OP21 Celal ÇANDIRLI
Reconstruction of the Mandibular Condyle by Transport Distraction Osteogenesis: Early Clinical Results

OP22 Mustafa ÇANKAYA, A. Alper PAMPU, Özkan ÖZKAYNAK, Figen ÇİZMECİ ŞENEL, Doğan DOLANMAZ, Şafak ERSÖZ, Mustafa C.AVUNDUK
The Effects of Osteoformin on Newly Formed Bone in Mandibular Distraction Osteogenesis in Rabbits

OP23 Hamid Reza AZIMI, Ramin MIRY
Investigation the Effect of Chemical Gases in Creation Cleft Lip and Palate in the Children of Chemically Injured in Isphahan (Iran)

OP24 Heba SLEEM, Ibraheem EL-HAKEM, Nadia EL-BAEGOTHY and Yasser
Use of CT versus US in Evaluation of Mandibular Distraction Wound

OP25 Ayşe Tuba ALTUĞ-ATAÇ, Reha KIŞNIŞÇİ, Haluk İŞERI
Growth of the Mandible Following Unilateral Mandibular Distraction Osteogenesis

OP26 Alper ALKAN, Erdem KILIÇ, Umut DEMETOĞLU
Evaluation of the Effects of Guided Bone Regeneration and Periosteum on the Newly Formed Bone in Distraction Gap

OP27 Alper ALKAN, Erdem KILIÇ, Hakan OCAK
Is Shortening of the Jaws Possible with Contraction Osteogenesis?

OP28 Gökrem MÜFTÜOĞLU, Sina UÇKAN, Firdevs ÇİZMECİ ŞENEL, Metin KIZILKAYA, Zahire ŞAHİNOĞLU
Maxillary Anterior and Inferior Lengthening by Distraction Osteogenesis: Stability?
Case Report
OP29 Ahmet MEDRA
Rhinoplasty in Cleft Lip-Nose Deformity Challenges in Management

OP30 Yusuf TAMER, Yener OĞUZ, Sina UÇKAN, Kenan ARAZ
Comparison of Stability of Standard and Locking Plate Screw Systems by using 3D-FEA
09:40-09:50 Coffee Break

PLENARY SESSION III - Regeneration
09:50-10:20 Henning SCHLIEPFAKE, GERMANY
Tissue Engineering (Growth Factors / Cell Based Devices)
10:20-10:50 David PRECIOUS, CANADA
Reliable Alveolar Bone Grafts for Patients with Cleft Lip and Palate
10:50-11:00 Coffee Break

11:00-12:00 ORAL ABSTRACT SESSION V - Implant
OP31 Tayfun GÜNBAY, Erdem KAYA, M. Erhan ÇÖMLEKOĞLU
Immediate Loading of Dental Implants Guided By Resonance Frequency Analysis (Case Series)

OP32 Deniz NERGİZ ERGİN, S. Bayazit BAĞCI, Emine E. ALAADINOĞLU
Early Soft and Hard Tissue Remodeling Around Two Different Dental Implant systems

OP33 Anıl GÜVEN, Hakan KURT, Onur İÇTEN, Cem ÜNGÖR
Marginal Bone Resorption around Dental Implants in Grafted Sinuses: an up to 30 Months Clinical and Radiological Follow-Up

OP34 Abdul Razaq MALIK
Dental Implants-Their Extraoral Uses

OP35 Esra ERSÖZ, Sidika Sinem SOYDAN, Hakan AKMAN, Sina UÇKAN
Is Implant Insertion to Posterior Mandible with Infiltration Anesthesia Safer Than Inferior Alveolar Nerve Block

OP36 Davide FORNENGO, Bruno FORNENGO, Renzo RONCO
‘Nobel Guide Circle’ A New Concept in Implanto-Prosthetic Rehabilitations
12.00 - 13.30 Lunch Break

PANEL II - Cleft Lip and Palate
13:30-14:00 David PRECIOUS, CANADA
Primary Functional Surgery for Cleft Lip

14:00-14:20 Hamed Hassan AL-BARGI, SAUDI ARABIA
Alveolar Cleft Repair When and How

14:20-14:40 Ufuk MEMİKOĞLU, TURKEY
Orthodontics in Primary Cleft Cases

14:40-15:00 Tetsu TAKAHASHI, JAPAN
Long Term Follow Up of Dental Implants Placed in Grafted Alveolar Clefts.
15:00-15:10 Coffee Break

PLENARY SESSION IV - Maxillofacial Injuries
15:10 -15:40 Luigi CALIFANO, ITALY
Condyle Fractures: Internal and External Fixation

15:40-16:10 Thomas DODSON, USA
Management of Mandibular Fractures: An Exercise in Evidence - Based Clinical Decision Making.
16:10-16:40  Raja KUMMOONA, Lehadh AL-AZZAWI, IRAQ
Management of Missile Facial Injuries, Primary and Secondary Phase Manage-
ment, Recent Advances
16.40-16.50  Coffee Break

16:50-18:40  ORAL ABSTRACT SESSION VI - Oral Surgery II
OP37  Sinan TOZOĞLU, Ümit ERTAŞ, M. Cemil BÜYÜKKURT, Hakan USLU, Ömer KAYA
Maxillofacial Abcess of Odontogenic Origin
OP38  Zehra YILMAZ, Nadine KHAWAJA, Tara RENTON
Case Studies: Illustrating the Management of Trigeminal Neuropathic Pain Using
Topical 5% Lidocaine Patches.
OP39  Mohammed ABU YUNIS, Yanal M. NUSAIR
Prevalence, Clinical Picture and Risk Factors of Dry Socket in a Jordanian Dental
Teaching Center
OP40  Seda ÜNAL, Emine E. ALADDINOĞLU, Ayşegül HABERAL
Platelet Rich Plasma in the Treatment of Multiple Adjacent Gingival Recession De-
fects
OP41  Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ
Malpractice in the Oral and Maxillofacial Surgery: A Clinical Evaluation of the 44
Malpractice Cases.
OP42  Zehra YILMAZ, Nadine KHAWAJA, Tara RENTON
Neuropathic Pain in Post - Surgical Neuropathy of the Trigeminal Nerve
OP43  Kubilay İŞIK
Comparison of Depth of Anesthesia in different Parts of Maxilla when only Buccal
Anesthesia was done for Maxillary Teeth Extraction
OP44  Ali Hossein MESGARZADEH, Samaz HELLI
Prevention of Alveolar Osteitis by Antibacterial Mouthwash (A Case and Control
Study)
OP45  Taiseer AL-KHATEEB, Yanal NUSAIR
Effect of Proteolytic Enzyme Serrapeptase on Swelling, Pain and Trismus after Surgi-
cal Extraction of Mandibular Third Molars
OP46  A. ABDUL-MUHSEN, Tawfeeq BASHAR, Younis RAWAA
A New Suturing Technique Used For Securing Three Sided Mucoperiosteal Flaps.
OP47  Dr. Reza Khorsheid KHIAVI
Complication of Rhinoplasty

18:40-19:30  AÇBID TRAINEE MEETING
Resident Union Meeting  Coordinator: Selçuk BASA
SATURDAY 25 APRIL, 2009

8.00-10.00  ORAL ABSTRACT SESSION VII - Pathology

OP48 Gülcan GÖK, A. B. MOODY, David C. HOWLETT
Triple Assessment of Palpable Parotid Lesions

OP49 Behçet EROL, Ferhan YAMAN, Serhat ATILGAN, Nezih YILMAZ, Cevat CAN
Malignant Neuroectodermal Tumor in Infants: Two Cases Report

OP50 Gülcan GÖK, A. DESAI, David C. HOWLETT
The use of Ultrasound Guided Fine Needle Core Biopsy in the Diagnosis of a Parotid Mass-Results in 200 Patients

OP51 Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ, Fethi YILDIZ
Is Oral and Maxillofacial Cancer Still a Nightmare, or Now a Curable Disease?

OP52 Gülcan GÖK, Micheal D. WILLIAMS, David C. HOWLETT
Ultrasound Guided Submandibular Gland Injection of Botulinum Toxin For Hyper-salivation in Cerebral Palsy.

OP53 Emel BULUT, Bünvamin ŞAHİN, Mehtap MUĞLALI, Burak BEKÇİOĞLU
Comparison of the Planimetry and Point-Counting Methods for the Assessment of the Size of the Mandible Cysts on Orthopantomograms

OP54 Gülcan GÖK, N. SRISKANDAN, David C. HOWLETT
The Use of Ultrasound-Guided Wire Localization in Head and Neck Surgery

OP55 Tuba DEVELI, Kağan DENİZ, Firdevs VEZİROĞLU ŞENEL, Sina UÇKAN, Faik SARIALIOĞLU
Irregular Bordered Intraosseous Lesion in Pediatric Mandible - Case Report

OP56 Hossein SHAHOON, I. MOBEDI, M. RAHIMI, M. NEMATOLLAHI
Uncommon Region Hydatid Cyst

OP57 Qais AL-NEAMA, Ali RAAD
Evaluation of the Treatment Plans for 46 Cases of Ameloblastoma

OP58 Christos SKOUTERIS, Kiki C. MARTI
Oral Cancer: Diagnostic Work-Up and Surgical Management of the Unknown Primary

OP59 Serdar YILMAZ, Nedim ÖZER
Surgical Management of Benign Tumors in Young Children

10:00-10:10  Coffee Break

PLENARY SESSION V - Distraction

10.10-0.40  Piet HAERS, UK
Osteotomies or Distraction in Cleft patients

10.40-11.10  Lim K. CHEUNG, CHINA
Distraction Osteogenesis of the Maxillofacial Region - Experience From Hong Kong

11.10-11.40  Ahmed MEDRA, EGYPT
Simultaneous and Differential Cranial and Midface Distraction Osteogenesis in Syndromic Cranio Stenosis

11.40-12.00  Haluk İŞERİ, TURKEY
Management Od Dentofacial Deformities By Combined Surgical And Orthodontic Treatment. Role of the Orthodontist

12.00 - 13.30  Lunch
PLENARY SESSION VI - Aesthetics

13.30-14.00  Ahmed ALYAMANI, SAUDI ARABIA
Update on Facial Aesthetic Procedures

14.00-14.30  Farzin SARKARAT, Behnam BOHLULI, IRAN
Concomitant Soft and Hard Tissue Surgery of the Face

14.30-15.00  Fouad GAREEB, EGYPT
Comprehensive Facial Rejuvenation

15.00-15.30  Christos SKOUTERIS, GREECE
Fort I Osteotomy and Nasal Aesthetics: An Overview

15.30-16.00  Piet HAERS, UK
Basics in Rhinoplasty

16.00-16.10  Coffee Break

16.10-17.40  ORAL ABSTRACT SESSION VIII - Trauma

OP60  Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ
A Clinical Investigation on the Mandibular Fractures

OP61  Altan VAROL, Serdar YILMAZ, Selçuk BASA
Secondary Correction of Posttraumatic Dentofacial Deformities

OP62  Magid AMIN, Fouad GHAREEB, Eissa ABDEL HAMID
Orbital Fractures: Different Patterns, CT Diagnosis and Surgical Management

OP63  Younis RAWAA, M. K. HASOUNI, Bashar Abdul Ghani TAWFEEQ

OP64  Ahmed M. MEDRA, Yasser M. ELSHEIKH
Late Enophthalmous; is it a Correctable Problem?

OP65  Saeed NEZAFATI, Seyed Ahmad ARTA
Late Consequences of the Traumatic Injuries to the Temporomandibular Joint

OP66  Alper PAMPÜ, Özkan ÖZKAYNAK, Figen ÇİZMECİ ŞENEL, Nuray YILMAZ ALTINTAŞ, Er-çüment ÖNDER, Şafak ERSÖZ
The effect of Osteoformin on Mandibular Fracture Healing in Rats: Preliminary Study

OP67  Reza TABRIZI
Orbital Floor Reconstruction: Comparison of Medpor, Medpor - Titan, Titanium Sheet and Autogenous Bone Graft

OP68  Behçet EROL, Serhat ATILGAN, Ferhan YAMAN, Nezih YILMAZ
Avulsive Injuries of Oro-Facial Region: Early and Late Period treatment Results

20:00  GALA DINNER

SUNDAY APRIL 26, 2009

13:00-15:00  ACBID Executive Board Meeting
INDEX
ÖNDER, Ercüment, OP66
ÖNEN, Faruk, PP74
ÖZ, Ulaş, PP40
ÖZAN, Bora, PP61
ÖZARSLAN, M. Mustafa, PP05
ÖZARSLAN, Semra KAYAALTI, PP04
ÖZDEN, Bora, PP17
ÖZDİLER, Erhan, PP35
ÖZEL, Birol, OP14
ÖZER, Nedim, OP13, OP59, PP31, PP83
ÖZGÜL, Özkan, PP41, PP64
ÖZKAN, Aydınl, PP18, PP19, PP67, PP68
ÖZKAN, Yaşar, PP79
ÖZKAYNAK, Özkan, OP02, OP14, OP22, OP66, PP07, PP08
PALA, Kangad, PP48
PAMPÜ, A. Alper, OP02, OP140P22, OP66, PP07, PP08, PP28
PARS, Tansel Hamza, PP24
RAAD, Ali, OP57
RAHIMİ, M., OP56
RAWAA, Younis, OP46, OP63
RENTON, Tara, OP38, OP42
RONCO, Renzo, OP36
RONCO, Renzo, OP47
SABUNCUÖGLU, Fidan, PP34
SAFALI, Mükerrer, PP15
SANDIKÇI, Elib ÖZEN, PP58
SARIALIOĞLU, Faik, OP55
SARIOĞLU, Mehmet, PP36
SARUHANOĞLU, Alp, PP32, PP45
SELÇUK, Ayşçe, PP59
SEVEN, Bedri, PP73

SHAHAB, S., PP78
SHAHİ, Shahriar, PP77, PP80
SHABOON, Hossein, OP56, PP78
SIHAPI, Ayşegül, OP11, OP03, P30, PP46
SKOUTERIS, Christos A., OP20, OP58
SLEEM, Heba, OP24
SOMTÜRK, Esra, PP31
SONGÜR, Timur, PP39, PP44, PP75
SOYDAN, Sidika Sinem, OP12, OP35
SRISKANDAN, N., OP54
SUBAŞI, Gülce, PP82
SÜLLÜ, Yurdanur, PP01
SÜMER, A. Pınar, PP23
SÜMER, Mahmut, PP23, PP58
ŞAHİN, Bünayamin, OP53
ŞAHİN, Caner, PP79
ŞAHİN, Sermet, PP42
ŞAHİNOĞLU, Zahire, OP28
ŞENÇİMEN, Metin, PP02, PP15, PP34, PP42, PP51, PP81
ŞENEL, Figen ÇİZMECI, OP02, OP14, OP22, OP66, OP28, PP07, PP08, PP28
ŞENEL, Firdevs VEZİROĞLU, OP12, OP16, OP55, PP38
ŞENYURT, Özgün, PP01, PP60
ŞİMŞEK, Hasan Onur, PP14
ŞİMŞEK, Serap, PP20
ŞİPAL, Sare, PP21
TABRIZI, Reza, OP06, OP67
TAMER, Yusuf, OP30
TANYERİ, Hakki, PP31, PP32
TAŞKALDIRAN, Alper, PP63, PP65
TAŞKESEN, Fatih, PP28
TAWFEEQ, Bashar Abdul Ghani, OP63
TEKİN, Umut, PP63, PP65
TEKMEN, Pınar, PP22
TELÇİOĞLU, N. Tuba, PP23, PP58
TEMİZ, Peyker, PP10
TOMAK, Leman, PP58
TOPTAŞ, Orçun, PP04
TOZOĞLU, Sinan, OP07, OP37, PP73
TUNA, Anıl, PP70
TUNCER, İbrahim, PP09
TÜRKASLAN, S. Süha, PP05, PP14
TÜRKER, Neslihan, PP85
TÜRKKAHRAMAN, M. Hakan, PP36
TÜZ, Hakan, PP63, PP65
UÇAN, Musa Can, PP29, PP54, PP56, PP57
UÇKAN, Sina, OP10, OP12, OP16, OP28,
    OP30, OP35, OP55, PP38
ULU, Murat, PP43, PP48
USLU, Hakan, OP37
ÜNAL, Seda, OP40
ÜNAL, Zeynep Burçin, PP43, PP48
ÜNGÖR, Cem, OP33, PP24, PP25, PP44
VAROĞLU, Erhan, PP73
VAROL, Altan, OP03, OP11, OP61, PP11,
    PP30, PP34, PP46, PP79, PP81,
    PP85
WARDA, Mohamed Hussein, OP05
WILLIAMS, Micheal D., OP52
YAMAN, Ferhan, OP01, OP41, OP49,
    OP51, OP60, OP68
YAPICI, Güny, PP52
YARDİMEDEN, Ahmet, OP01
YAVARI, Hamid Reza, PP80
YAVUZ, M. Selim, OP07

YILDIRIM, Gülsün, PP26
YILDIZ, Fethi, OP51
YILMAZ, Nergiz, PP01, PP10, PP66
YILMAZ, Nezih, OP41, OP49, OP51, OP60,
    OP68
YILMAZ, Nuray, OP02, PP08
YILMAZ, Serdar, OP03, OP11, OP13, OP17,
    OP59, OP61, PP30, PP46, PP83,
    PP85
YILMAZ, Zehra, OP38, OP42
YILDIRIM, Müzeyyen, PP72
ZENGİN, Zeynep, PP01