The 35th Annual Scientific Conference and Exhibition of the American College of Oral and Maxillofacial Surgeons (ACOMS) convened April 27-30, 2014, at the Paris Hotel and Casino in Las Vegas, NV, USA. Special thanks are owed to the Scientific Chair of the meeting, Timothy Turvey, DDS, who, along with the Committee on Continuing Education, organized an outstanding scientific and social program. The meeting was dedicated to Bruce Epker, DDS, MSD, PhD, in recognition of his lifetime of achievements in oral and maxillofacial surgery. The College bestowed its foremost DDS, MSD, PhD, in recognition of his lifetime of achievements in oral and maxillofacial surgery. The College bestowed its foremost

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American College of Oral and Maxillofacial Surgeons 35th Annual Scientific Conference and Exhibition, April 27-30, 2014: scientific abstracts

Residency program: Christiana Care Oral and Maxillofacial Surgery, Wilmington, DE, USA

Program director: Daniel Meara, MD, DMD

Purpose: Obstructive sleep apnea (OSA) has consistently been a health care burden in the United States. In 1990, there were 110,000 office visits for sleep apnea complaints, compared with 1.3 million annual office visits in 1998. Despite the growing number of individuals affected with this disorder, there is no clear consensus as to the most effective way to screen for OSA. The purpose of this study was to survey methods for screening, diagnosing, and treating obstructive sleep apnea used by oral and maxillofacial surgeons, general dentists, and otolaryngologists in the local area.

Methods: A 10-question online screening survey was distributed to local head and neck physicians, including otolaryngologists, general dentists, and oral and maxillofacial surgeons, in the Delaware area.

Results: All practitioners who responded to the survey claimed to perform some type of screening for OSA in their practice. The preferred method used for screening patients was to ask the patient about symptoms of snoring, daytime sleepiness, or episodes of apnea. Only 3 of the 11 practitioners said they would calculate the patient’s body mass index, and only one of the practitioners said that they routinely used a more formal screening questionnaire, which in this case was the Epworth sleepiness scale. If the preliminary screening methods suggested that the patient had OSA, 63% of practitioners referred these patients to their primary care physician for further evaluation; 27% of the practitioners referred patients for a sleep study, and only 9% of patients were sent for a polysomnograph. Of the practitioners who responded to the survey, 82% had a sleep medicine center available to them. All of these individuals claimed that the sleep medicine center was within 50 miles of their practice. Of the responding practitioners, 27% offered maxillomandibular advancements as a treatment option, whereas the majority of the practitioners, 54%, offered an oral appliance to treat OSA.

Conclusions: Most practitioners screen patients for OSA by asking them basic questions about snoring, daytime sleepiness, or episodes of apnea, rather than using more formal screening tools such as the Epworth sleepiness scale or the validated STOP-BANG questionnaire. Although a sleep center was available to most practitioners, few used the facility to help in the patient’s OSA diagnosis or further treatment. We hope this survey will highlight improvements that physicians can make to help screen, diagnose, and potentially treat OSA in their office.

BODY DYSMORPHIC DISORDER AND PSYCHOLOGICAL DISTRESS IN ORTHOGNATHIC SURGERY PATIENTS

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Purpose: Body dysmorphic disorder (BDD) is a distressing condition involving preoccupation with an imagined or exaggerated deformity. The purpose of our study was to
investigate the presence of BDD and its comorbidity with anxiety, depression, and obsessive-compulsive disorder (OCD) in patients undergoing orthognathic surgery (OS).

Methods: This prospective study included 99 patients from the outpatient Oral and Maxillofacial Surgery Clinic at Stanford University who requested OS. The incidence of BDD, depression, anxiety, and OCD was assessed prospectively using validated self-report measures. To determine the prevalence of Axis I psychological symptoms among patients, descriptive and bivariate statistics were computed. \( P < .05 \) was considered significant.

Results: In our sample, 13% (\( n = 13 \)) of patients screened positive for BDD. We did not find any significant correlations between the presence of BDD and gender, race, age, or marital status. Depressive symptoms were reported by 42% of the patients, OCD symptoms by 29%, and mild, moderate, and severe anxiety by 14%, 5%, and 4%, respectively. Using Spearman correlations, we found significant correlations between BDD and anxiety, depression, and OCD (\( P < .01 \)).

Conclusions: The results of this study suggest that there are high rates of BDD, depression, anxiety, and OCD in patients undergoing OS. Furthermore, there appears to be a strong correlation between BDD, anxiety, OCD, and depression in these patients. Future studies will be necessary to determine post-operative changes in these psychological disorders and whether these changes are affected by having positive BDD screening results at baseline.

ASSESSMENT OF DIRECT LARYNGOSCOPY VS VIDEO LARYNGOSCOPY IN THE NORMAL AIRWAY AMONG ORAL SURGICAL RESIDENTS: A MANIKIN STUDY

Robert C. Lambert, DDS, Christopher Ban, DMD, Armando Uribe Rivera, DDS, Deepak Krishnan, DDS, Jeffrey Bennett, DMD

Residency program: Indiana University, Indianapolis, IN, USA

Program director: Jeffrey Bennett, DMD

Purpose: Direct laryngoscopy is the standard method of tracheal intubation. Videolaryngoscopy is an alternative method to achieve tracheal intubation. It has been developed to improve the success and efficiency of intubation in the patient with a difficult airway. The technique uses an indirect view of the glottis and requires a different skill set than direct laryngoscopy with a Miller or Macintosh blade. Most practicing specialists in oral and maxillofacial surgery (OMFS) have not received training in the use of a videolaryngoscope. Many OMFS residents may neither be exposed to nor receive adequate experience in the use of videolaryngoscopy. For a technique to be beneficial during an emergency, it is critical that the practitioner be competent in that skill. The objective of this study was to assess OMFS residents at varying stages in their training in their ability to visualize the glottis and to intubate the trachea using a direct technique with a Macintosh blade or an indirect technique with a King Vision videolaryngoscope.

Methods: A total of 22 oral surgical residents participated in this assessment. All participants were shown a video on the use of the King Vision videolaryngoscope. All participants completed a data sheet indicating the number of months of an anesthesia rotation that they have completed, the number of months since they completed their anesthesia rotation, and the experience that they have obtained in direct and videolaryngoscopy. Participants were then randomized into 2 groups indicating the order in which they would use either the Macintosh or the King Vision laryngoscope to visualize the glottis and intubate the airway in a manikin with a simulated normal airway.

DENTAL HEALTH STATUS AND RECOMMENDED DENTAL INTERVENTIONS IN PRETRANSPLANT PATIENTS

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Program director: Kevin Arce, DMD, MD

Purpose: Preventing infections in immunosuppressed solid organ transplant (SOT) and stem cell transplant (SCT) patients is important to reduce morbidity and mortality in these cohorts. Routine pretransplant screening at the Mayo Clinic includes evaluation by the Division of Oral and Maxillofacial Surgery (OMS) to assess the risk of odontogenic infection. Based on each patient’s dental health status (DHS), recommended dental interventions (RDIs) including restorations (direct, indirect, root canal) or extractions are suggested to reduce the risk of odontogenic infection before transplant immunosuppression. Given the high volume of transplant patients at our institution, it is important to note the differences in DHS and RDIs between patients requiring SOT and those requiring SCT before the transplant and associated immunosuppression.

Methods: Under institutional review board exemption, a retrospective chart review of the period from July 1, 2012, to December 31, 2012, included all patients seen by OMS before their SOT or SCT. One investigator assigned random identifier numbers for patient records and collected data. Each patient’s dental examination findings, recommendations, and radiographs were collected 1 week later to blind the investigator to the SOT or SCT status. DHS was evaluated by the numbers of decayed, missing, filled, endodontically treated, mobile, impacted, and crowned teeth and of teeth with periapical radiolucencies or endosseous implants. RDIs included restorations or extractions. Data were analyzed using 2-sample t tests and \( \chi^2 \) tests; \( \alpha = .05 \). Linear and logistic regression analyses were used for gender and
age adjustments. Power studies were then performed for other related questions.

Results: A total of 249 patients qualified: 101 needing SOT and 148 needing SCT. The SOT group’s mean age was 52.2 years, vs the SCT group’s mean age of 58.0 years (P = 0.008); 36.1% of patients were female and 63.9% were male (P = 0.6858).

DHS differences: Corrected for age/gender, the data indicated the following: The number of missing teeth was greater for SOT at 8.2 than for SCT at 6.0; P = 0.0011. SCT patients had a higher mean number of existing restorations at 7.9, vs SOT patients with 6.1; P = 0.0118. The average number of decayed teeth was greater in SOT at 1.4, compared with 0.3 in SCT; P = 0.0003. The average number of teeth with periapical radiolucencies was greater in SOT at 0.3, vs SCT at 0.1; P = 0.0126. Other differences did not reach statistical significance. RDI differences: Corrected for age/gender, the following were observed: SOT RDI in 33.7% of patients, vs 10.8% of SCT patients; P < 0.0001. Extractions in SOT were recommended for 23.8% of patients, vs 6.8% of SCT patients; P = 0.0006. The average number of teeth for extraction in SOT was 1.1, vs SCT at 0.2; P = 0.0054. Restorations were recommended in 15.8% of SOT patients, vs 4.1% of SCT patients; P = 0.0041. The average number of teeth for restoration in SOT was 0.5, vs 0.0 in SCT; P = 0.0005.

Conclusions: SOT patients had more missing teeth, and SOT remaining teeth had more caries than those in SCT patients. SOT patients had greater numbers of RDI’s before transplant than SCT patients.

EFFECTS OF CRANBERRY POLYPHENOLS ON IL-1β-STIMULATED PRODUCTION OF IL-6, IL-8, AND VASCULAR ENDOTHELIAL GROWTH FACTOR BY HUMAN TEMPOROMANDIBULAR JOINT SYNOVIAL FIBROBLASTS Adam Blumer, DMD, James Christian, DDS, MBA, David Tipton, DDS, PhD

Residency program: University of Tennessee Health Science Center, Memphis, TN, USA
Program director: James Christian, DDS, MBA

Purpose: Osteoarthritis (OA) is the final common pathway of many temporomandibular joint (TMJ) degenerative disorders if there is inadequate treatment. These disorders involve deterioration of articular cartilage and disk surfaces, followed by secondary inflammatory changes in response to ongoing trauma to joint surfaces. The inflammatory cytokine interleukin 1β (IL-1β) stimulates production of IL-6, IL-8, and vascular endothelial growth factor (VEGF) in TMJ synovial fluid associated with internal derangement and bony changes. Together, these molecules promote inflammation and resorption of joint cartilage and bone. The cranberry (Vaccinium macrocarpon) contains polyphenolic compounds (proanthocyanidins [PACs]) that inhibit production of several proinflammatory molecules and proteases by gingival fibroblasts and epithelial cells in response to stimuli. The goal of this study was to examine production of IL-6, IL-8, and VEGF by human TMJ synovial fibroblast-like cells in response to IL-1β in the presence or absence of cranberry PACs.

Methods: Cranberry high-molecular-weight nondialyzable material (NDM), rich in PACs, was derived from cranberry juice. Human TMJ synovial fibroblast-like cells from joints with degenerative OA and an ankylosed TMJ without degeneration were used. Cells (7.5 × 10⁶) were incubated with IL-1β (0.001 μg/mL) and without NDM (2-hour preincubation) at nontoxic concentrations (25-250 μg/mL), predetermined in cytotoxicity assays. IL-6, IL-8, and VEGF in culture supernatants were measured by ELISA. Viability was assessed by measuring activity of a mitochondrial enzyme. Data were analyzed using analysis of variance and the Scheffé F procedure for post hoc comparisons.

Results: Exposure to NDM (1-500 μg/mL) for up to 6 days did not significantly affect cell viability (IC₅₀ > 500 μg/mL). IL-1β caused time and dose-dependent stimulation of IL-6, IL-8, and VEGF in all cell lines (P < 0.05). Nontoxic levels of NDM caused dose-dependent inhibition of IL-1β-stimulated IL-6, IL-8, and VEGF by all cell lines (P < 0.05).

Conclusions: Cranberry NDM inhibition of IL-1β-stimulated IL-6, IL-8, and VEGF production by TMJ fibroblasts suggests that cranberry components may be useful as a host-modulatory therapeutic agent to prevent or treat inflammatory arthropathies of the TMJ. Current studies focus on determining effects of NDM on intracellular IL-1β signaling pathways to identify molecular targets affected by NDM. The research described, combined with recent studies finding that biocompatible microparticles can be introduced into rat TMJ and describing the formulation of cranberry PAC-zein nanoparticles for controlled delivery, may aid in development of cranberry polyphenols as an unconventional treatment for temporomandibular disorders.

RAPID-ONSET POSTCHEMORADIATION RHABDOMYOSARCOMA OF THE MAXILLOFACIAL REGION

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Residency program: Nova Southeastern University (Broward Health Medical Center), Fort Lauderdale, FL, USA
Program director: Eustorgio Lopez, DDS, MD

Purpose: A 58-year-old African American man presented with a chief complaint of a right palatal mass. The patient reported that he noticed the lesion 3 months earlier and that it had been steadily growing larger. Upon physical examination, there was mild facial asymmetry noted along the right malar region. Palpation of the neck was negative for any cervical lymphadenopathy. Intraoral examination was significant for a large exophytic lesion along the right maxillary alveolar ridge, involving the right maxillary vestibule and extending toward the midline of the palate. A biopsy of the lesion was read as verrucous carcinoma.

Methods: A positron emission tomography–computed tomography (PET-CT) scan was measured at the level of the mass on PET-CT scan obtained 3 months after radiation therapy showed a significant decrease in the size of the tumor. Marked improvement was seen from the prior study, showing a significant decrease in tumor bulk. The posterior nasopharyngeal airway was now free of tumor.

The lesion was determined to be amenable to surgical resection.
Results: The patient was taken to the operating room and underwent a subtotal maxillectomy with placement of an obturator. Pathology found well-differentiated squamous cell carcinoma involving approximately 6 cm (in greatest dimension) of the palate and right maxillary sinus. An additional finding of rhabdomyosarcoma was discovered involving the right pterygoid muscle, most likely secondary to radiation therapy. During surgical resection, the pterygoid musculature, clinically, showed no evidence of tumor, however, positive margins for rhabdomyosarcoma were appreciated upon histologic examination.

Conclusions: Radiation-induced sarcomas of the head and neck are rare and tend to occur decades after treatment. Our case involves a rapid-onset postirradiation rhabdomyosarcoma, with a latency period of only 4 months, which ultimately proved to be fatal.

LONG-TERM STABILITY OF MANDIBULAR RAMUS ELONGATION IN SEVERE FACIAL ASYMMETRY
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Program director: Belinda Beltrán Salinas

Purpose: The purpose of this report is to present adjunctive use of botulinum toxin A (Botox) in lengthening the pterygomaseteric sling when correcting hemimandibular hyperplasia. We present the surgical management of a case of severe facial asymmetry with orthognathic surgery using 3-dimensional models in treatment planning and Botox as adjunct therapy.

Methods: A 33-year-old woman sought care because of an asymmetrical facial appearance. She presented with enlargement of the left side of the mandible, chin, and angle deviation to the opposite side, Class II molar relationship on the left side, and severely canted maxillary occlusal plane. Imaging showed a 3-dimensional increase of the left hemimandible and an increased distance between the root apexes and the mandibular alveolar nerve. Surgical first approach was performed without a preoperative orthodontic prepartation. Left mandibular advancement was achieved with a left sagittal split osteotomy followed by the transposition of the alveolar nerve allowing an osteotomy of the left inferior border of the mandible from the chin to the angle. Elongation and advancement of the right side of the mandible was performed with a “C” ramus osteotomy fixed with preformed plates followed by coronoidectomy and osteoplasty of the right lateral surface. LeFort I maxillary osteotomy downgrawt with interpositional bone graft was made. The bone graft was harvested from the anterior iliac crest inner table and placed on the right side to level the occlusal plane. Botox (50 units) was applied to the right masseteric sling and the right medial pterygoid to prevent induced muscle relapse.

Results: The results were immediately noticeable. Cant and yaw correction were perceptible on the occlusal plane. Mandibular reduction in height of the left side and elongation of the right side provided a satisfactory appearance and facial balance. Stability was markedly noted at 6, 12, and 18 months.

Conclusions: An integrative approach for assessing and treating severe facial asymmetries can significantly improve outcomes. The challenging surgery in this case significantly balanced asymmetry and corrected skeletal disharmony and malocclusion, with good aesthetics and patient satisfaction. Botox can be useful to provide stability and enhance long-term prognosis.
Methods: Between 2006 and 2013, 41 patients from Iraq and Yemen with various amount of residual jaw defects ranging from 2 to 9 cm, all caused by bullets or explosives, were treated at our facility in Amman. Treatment was by bone graft harvested from the ilium for all the mandibular defects (35 patients) except for 3 patients treated by vascularized fibular flap. For the maxillary defects (6 patients), the reconstruction was done using the temporoparietal fascia flap as a vascular bed for a bone graft harvested from the ilium, except for 2 cases treated by fibular free flap. All the patients were rehabilitated by dental implants assisted by 3-dimensional dental software and surgical guide fabrication after a period of at least 4 months, followed by dental prosthesis.

Results: All the patients were rehabilitated by either fixed bridges or overdentures above the dental implants inside the grafted bone, regaining their masticatory function. There was failure of 2 implants in 2 patients, owing to infection, which did not affect the whole treatment.

Conclusions: As an NGO with a highly dedicated and experienced team, working with high standards and applying high-tech surgery assisted by modern imaging methods and high-quality software, we are able to allow our patients with severe maxillofacial trauma caused by war injuries to regain masticatory function with satisfactory facial appearance.

HEAD AND NECK CUTANEOUS METASTASIS AS AN INITIAL PRESENTATION OF PRIMARY GASTRIC ADENOCARCINOMA Kathryn M. Vorwald, DDS, Wajahat A. Khan, MD, Paul J. Chuba, MD, Dhafer S. Salama, MD, Carlos A. Ramirez, DDS, MD
Residency program: St John Providence Health System, Detroit, MI, USA
Program director: William S. Bloom, DDS

Purpose: We report a case of an otherwise asymptomatic patient who presented with rapidly developing, diffuse, cellulitis-like lesions of the skin of the cheek and neck. After initial failure of antibiotics, based on a presumed diagnosis of facial cellulitis, we were consulted, and subsequently the lesions were biopsied. The histopathology was consistent with invasive poorly differentiated carcinoma. The clinical presentation was not consistent with primary carcinomas of the skin, so further work-up was undertaken, which found primary gastric adenocarcinoma. The skin and stomach biopsies found similar histopathology, and cutaneous metastasis was confirmed. We share this case because cutaneous metastasis from internal malignancies, especially gastric cancer, is infrequent and uncommonly involves the face. In addition, cutaneous metastasis tends to occur late in the course and is rarely the initial presentation of malignancy. They can occasionally present similar to cellulitis. Therefore, our intent is to share a unique case, to reiterate the need to include metastatic lesions within the differential diagnoses of facial lesions, and to highlight the importance of biopsy.

Methods: This case was followed up from initial presentation to identification of the primary malignancy through palliative treatment and eventual loss of life as the patient died of his disease. The literature was reviewed regarding cutaneous metastases through a PubMed search.

Results: Within 6 months of diagnosis, the patient passed away, which is consistent with average reported survival times of 3 to 7.5 months after the development of metastatic skin lesions. The literature review found that most studies regarding cutaneous metastases are conducted postmortem, leading to a potentially higher rate of undiagnosed skin metastasis and possible bias. There were no studies found that specifically studied cutaneous metastases of the head and neck region, but there are multiple case reports.

Conclusions: Cutaneous metastatic lesions to the face are uncommon but can present mimicking facial infections; therefore, the oral and maxillofacial surgeon should always maintain a low threshold for biopsy of any suspicious, nonhealing lesions, even in patients with a remote history or no history of malignancy. Although this diagnosis typically carries a poor prognosis, it may be possible in some cases to catch metastatic disease early in its course and allow the patient to obtain proper treatment in a timely fashion. Potential areas for future research include premortem, multicenter studies of patients with cancer with and without cutaneous metastases to help in identifying a truer picture of its incidence and implications.

SIALOLITHIASIS IN STENSEN DUCT CAUSED BY FISH BONE
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Program director: Eustorgio Lopez, DDS, MD

Purpose: Salivary gland disorders can present as a diagnostic challenge to even experienced practitioners given their broad differential including infectious, autoimmune, neoplastic, and metabolic processes. Acute swelling is often caused by obstructive calculi with an associated infection; however, chronic or recurrent painful swelling can be caused by partial blockage of a salivary gland.

Methods: Ductal obstruction from foreign bodies has been mostly reported to be due to vegetable matter, most commonly various grass seeds. The purpose of this article is to present a unique case of a large foreign body located in the Stensen duct of the parotid gland, as well as to provide a literature review of foreign bodies found in Stensen ducts as well as other reasons for ductal obstruction and their individual management.

Results: A 58-year-old man presented to our oral and maxillofacial clinic complaining of pain in his left cheek for the past 1.5 years. The patient reported that when he was eating fish 2 years previously, a fish bone had lodged in the side of his cheek. After 2 years of consultations and multiple emergency department visits and magnetic resonance imaging and computed tomography scans, the patient arrived at our clinic. Upon examination, the patient was found to have erythema, edema, and pain in the left Stensen duct. A palpable mass measuring 1 cm at the orifice of the duct was seen. Minor purulent drainage expressed from the duct with minimal salivary flow was noticed. The orifice of the duct was cannulated, and the mass was secured with tissue forceps and gently removed from the duct, with immediate patient relief. The sialolith measured 15 mm × 5 mm; examination of the sialolith found a fish bone measuring 1.5 cm in length. The patient was followed up for several weeks and completed a normal course of healing with no complications to report.

Conclusions: Sialoliths is a rare entity in the parotid duct, with an occurrence of 5% to 15%, compared with the submandibular gland at 85% to 95%. Formation of sialoliths in the parotid duct from foreign object stimulation is even rarer. Treatment of sialoliths in the parotid duct consists of sialolothotomy and possible parotidectomy. We were able to provide our patient with a great outcome with a minimally invasive procedure.
ECTOPIC EYE IN THE MAXILLA: A REPORT OF MELANOTIC NEUROTODERMAL TUMOR OF INFANCY WITH AN UNUSUAL HISTOLOGIC FINDING AND SUBSEQUENT RECONSTRUCTION Andrew C. Weeks, DDS, MD, Samuel L. Bobek, DMD, MD, Catherine M. Miles, MD, Richard E. Slavin, MD, Eric J. Derks, DMD, MD

Residency program: Oregon Health & Science University, Portland, OR, USA

Program director: Mark E. Engelstad, DDS, MD, MHI

Purpose: Melanotic neuroectodermal tumor of infancy (MNTI) is a rare, rapidly expanding benign tumor found in infants, predominantly in the maxilla and less often in the skull and mandible. The lesions have a bluish discoloration and may cause bone destruction. Historically, the tumor has had a variety of synonyms, which reflects the uncertainty in its cell line of origin. The most accepted theory proposes neuroectoderm as the source. Treatment is typically by excision with margins and subsequent close follow-up, as recurrence rates average 15% to 20%.

Methods: A 4-month-old girl presented with a rapidly expanding, pigmented maxillary swelling. She was initially treated with biopsy and curettage, and a diagnosis of MNTI was made. The lesion recurred within several weeks and was referred to Head & Neck Surgical Associates for management. She ultimately underwent a left infrastructural maxillectomy; histologic examination of the specimen was notable for an ectopic, malformed eye and retinal epithelium–lined cysts embedded in the tumor. On follow-up, she remained disease-free; 1 year later she underwent reconstruction with a zygomatic implant as well as a midpalatine implant. The palatal implant eventually failed, but the zygomatic implant remains. She was restored with a maxillary obturator prosthesis with satisfactory functional and esthetic results.

Results: Evidence for the neuroectodermal origin of MNTI is mainly based on immunohistochemical and ultrastructural studies. Urinary vanillylmandelic acid, which is used to diagnose other neural crest–derived tumors such as neuroblastoma and pheochromocytoma, has also been found at high levels in cases of MNTI. The unique finding of an ectopic, malformed globe within this maxillary tumor provides further evidence of the neuroectodermal origin of MNTI, as the neuroectoderm gives rise to the eye. Reconstruction of large maxillary defects in infants poses a distinct challenge. Permanent reconstruction of the alveolus is often delayed until after growth is completed. There are few reports of the use of free tissue transfer in this age group. The use of zygomatic implants in infants and children has not been well described.

Conclusions: The finding of an ectopic malformed eye as well as retinal epithelium–lined cysts within the body of this tumor supports the current theory that MNTIs are of neural crest cell origin. The rapid growth of MNTI, despite its benign nature, requires prompt surgical management. Zygomatic implants are a reasonable way to restore function in infants and children with maxillary defects and still allow for maxillary growth.

ANISOCORIA: A CONCERNING CONSEQUENCE OF ORTHOGNATHIC SURGERY Carolyn Dicus Brookes, DMD, MD, Brent Golden, DDS, MD, Timothy A. Turvey, DDS

Residency program: Department of Oral and Maxillofacial Surgery, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA

Program director: George Blakey, DDS

Purpose: This report presents 4 cases of unilateral mydriasis associated with orthognathic surgery and reviews the differential diagnosis and management of this condition.

Methods: Four cases of unilateral mydriasis associated with orthognathic surgery were identified from our institutional experience. Cases are presented and the literature is reviewed.

Results: In this series, 1 case was attributable to swelling affecting contents of the superior orbital fissure; 1 was related to traction; and 2 were pharmacologically induced. A unilateral fixed, dilated pupil after elective facial surgery merits a thorough investigation. Causes may be central, resulting from stroke or intracranial mass effect; vascular, as in carotid-cavernous sinus fistula or aneurysm; traumatic, resulting from injuries to the sphincter muscle, globe, or parasympathetic neural pathways; or pharmacologically induced, among others.

Conclusions: Although the condition is rare, a review of the differential diagnosis and management of unilateral mydriasis associated with orthognathic surgery is pertinent to those who perform corrective jaw surgery.

ROLE OF VIRTUAL MODEL SURGERY IN CRANIOSYNOSTOSIS SURGERY Jason Portnof, MD, DMD, Eric Stelnicki, MD, Brain Boland, MD, Mona Kalayeh, DDS

Residency program: Nova Southeastern University (Broward Health Medical Center), Fort Lauderdale, FL, USA

Program director: Eustorgio Lopez, DDS, MD

Purpose: Computer-aided virtual surgical planning (VSP) has revolutionized preoperative modeling in head and neck surgery. The ability to use this technology has allowed for orthognathic surgery, reconstructive surgery, and cranial vault remodeling to be performed efficiently and accurately. The purpose of this study is to illustrate the utility of preoperative virtual surgical planning in multisutural cranioectomies in a patient with sagittal and bilateral lambdoid synostosis.

Methods: A 13-month-old nonsyndromic infant girl with a history of developmental delay presented with multisutural craniosynostosis involving sagittal and bilateral lambdoid sutures. The patient underwent VSP for a cranial vault remodeling procedure. Barrel stave osteotomy planning and shaping guides were generated to contour the flattened basal occipital bone. The patient underwent multisutural cranioectomy for sagittal and bilateral lambdoid craniosynostosis, with occipital, parietal, and temporal bone advancement and grafting with autologous grafts.

Results: Intraoperatively, cutting and final positioning guides demonstrated outstanding reliability. The patient tolerated the procedure very well and was discharged on postoperative day 3 after an uncomplicated postoperative course.

Conclusions: The hallmark of computer-aided cranial vault surgery is meticulous preoperative planning of all procedures by use of 3-dimensional modeling, optimizing operative efficiency and accuracy, and reducing operative time under general anesthesia. In addition, VSP cultivates multidisciplinary interaction.
METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS, A SIGNIFICANT PROBLEM NOW NEEDING PREOPERATIVE SURVEILLANCE CULTURES: LESSONS LEARNED IN PREVENTING POSTOPERATIVE INFECTIONS IN ELECTIVE ORAL AND MAXILLOFACIAL SURGERY—REPORT OF CASES, CURRENT TREATMENT METHODS, AND REVIEW OF THE LITERATURE

Assabi Isaac, DDS, Veronica Barreto, DMD, Allen Fred Fielding, DMD, MD
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Program director: Carl Bifano, DMD

Purpose: Methicillin-resistant Staphylococcus aureus (MRSA) is a devastating postoperative complication, with increasing susceptibility especially affecting children, the elderly, and immunocompromised patient populations. The epidemiology is ever-evolving, as this infection is no longer confined to the hospital setting but is a problem even among healthy community-dwelling individuals and those living in nursing homes and rehabilitation centers. Our goals are 2-fold: to present cases of postoperative MRSA infection in 2 patients receiving elective maxillofacial reconstruction using bone grafts (with eventual loss of grafts postoperatively) and to review the current literature and perspectives.

Methods: This is a retrospective analysis of 2 patients (both with history of previous MRSA bacteremias in the past) who, after receiving elective maxillofacial reconstructive grafts to repair facial defects, developed graft failure with wound cultures positive for MRSA at 2 separate hospitals in the Philadelphia metropolitan area. Both patients were returned to the operating room, where the graft was removed and the failed graft sites were debrided. Aided by a regimen of intravenous antibiotics, the sites healed uneventfully. A MEDLINE/PubMed search was performed using the following key words: “HA-MRSA”, “CA-MRSA”, “MRSA bacteremia”, “surveillance cultures”, “preoperative”, “postoperative”, “graft”, and “oral and maxillofacial surgery”; those articles evaluating preoperative screening of MRSA, its clinical effectiveness, and its role in the hospital setting were included in our review, with current perspectives and legislative trends. In addition, a survey was performed asking local infectious disease attending physicians at several different hospitals in the Delaware Valley regarding current treatment methods for MRSA bacteremia.

Results: Although we do not know whether we could have avoided the graft failure in these 2 patients had surveillance cultures been performed preoperatively, it is useful to note that surveillance cultures do have a role in dictating elective surgery. What is more useful to take away from these 2 cases is the overall awareness of this complication, combined with awareness of other more potentially devastating superbugs that are now surfacing and of the ever-increasing difficulties in containing and controlling them with antibiotic therapy.

Conclusions: A review of the literature found that the use of surveillance cultures preoperatively shows promise in the prevention of postoperative MRSA bacteremia.