INTRODUCTION: Children with cleft palate with or without the cleft lip are predisposed to velopharyngeal dysfunction and the perceptual phenomenon of hypernasality. Researchers estimate that roughly 30% of children with cleft palate will have hypernasality during speech. Research also indicates that children with a history of cleft palate are predisposed to obstructive sleep apnea (OSA).

Typical speech surgeries include dynamic sphincter pharyngoplasty, posterior pharyngeal flap and, for minor velopharyngeal gaps, fat grafting to the posterior pharyngeal wall. Dynamic sphincter pharyngoplasty and posterior pharyngeal flap, while effective at decreasing hypernasality, are known to exacerbate obstructive sleep symptoms. These findings lead to the conundrum of how one successfully manages velopharyngeal dysfunction without causing or worsening obstructive sleep apnea in this population. Therefore, we are in need of an operation that effectively decreases hypernasality and overcomes large velopharyngeal gaps, while mitigating the occurrence of obstructive sleep apnea. We propose that palatal lengthening with buccal myomucosal flaps is the solution to this problem.

METHODS: The charts of patients with large velopharyngeal gaps and moderate-to-severe hypernasality that underwent palatal lengthening with bilateral buccal myomucosal flaps between 2016 and 2019 were reviewed in a retrospective fashion. Inclusion criteria include a history of cleft palate or another diagnosis that predisposes to hypernasality, are known to exacerbate obstructive sleep symptoms. Researchers estimate that roughly 30% of children with cleft palate will have hypernasality during speech. Research also indicates that children with a history of cleft palate are predisposed to obstructive sleep apnea (OSA).

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RESULTS: Nasalance is a nasometry score expressing a ratio of nasal-to-total (nasal plus oral) sound energy, and is reported as percentage. Our study findings indicate that most patients had the same abnormal Nasalance score 6 months postoperatively as they did preoperatively. However, at the 12-month postoperative evaluation, 89% of patients (n = 8) had nasometry scores that improved to normal resonance. The one patient with abnormal Nasalance scores

Palatal Lengthening With Buccal Myomucosal Flaps Improves Hypernasality Without Increasing Obstructive Sleep Symptoms

Presenter: Raquel M. Ulma, DDS, MD

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during birth-related trauma. Calcified cephalohematomas can permanently deform the infant cranium, and significant deformities often require correction. Although several reconstructive techniques have been proposed, there is no consensus on their management. In this study, we present a technique for the excision and reconstruction of calcified cephalohematoma of the infant calvarium, in the context of long-term follow-up over the past 25 years.

METHODS: The charts of patients diagnosed with calcified cephalohematoma within our institution between 1994 and 2019 were reviewed. Only patients diagnosed by either our pediatric plastic surgeons or our pediatric neurosurgeons and had at least 3 months of follow-up were included. Patients underwent observation or surgery based on the recommendations of the surgical team. Patient demographics, imaging findings, and complications were reviewed.

RESULTS: We identified 160 infants with a diagnosis of cephalohematoma. Of those, 81 met inclusion criteria. Thirty-three patients with calcified cephalohematoma underwent surgical treatment. The mean age at diagnosis was 3.6 months, while the mean age at the time of surgery was 8.4 months. Of those who underwent surgery, 67% were male. Twenty-two surgical patients had a cranial defect requiring inlay bone grafting (66.7%). Six patients had perioperative blood loss requiring transfusion (18.2%) and 3 patients had postoperative complications (9.1%). Complications included superficial wound infection (n = 1) and postsurgical subgaleal hematoma (n = 2), treated successfully with bedside drainage.

CONCLUSION: Calcified cephalohematoma of infancy is a rare entity that can cause significant deformity of the infant cranium. Over a 25-year period, our institution had 81 children with calcified cephalohematomas, with 33 necessitating surgical intervention. This is one of the largest series of calcified cephalohematomas to date. The technique presented herein was excellent for restoring normal cranial contours, while enjoying a low complication profile.
carried a diagnosis of 22q11.2 deletion syndrome. Patients who underwent a third postoperative evaluation continued to demonstrate a decrease in hypernasality and began to have Nasalance scores in the hyponasality range. In addition, all patients with OSA reported no worsening in their obstructive symptoms, as indicated by stable CPAP settings.

CONCLUSIONS: Palatal lengthening with bilateral buccal myomucosal flaps improves hypernasality over time, with the greatest benefit seen at the 12-month postoperative nasometry evaluation. This surgical technique does not appear to alter the OSA status of patients thus eliminating the need for supplemental oxygen, or CPAP postoperatively.

Assessment of Panfacial Fractures in the Pediatric Population

Presenter: Margaret M. Dalena, BS

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PURPOSE: Panfacial fractures are fractures involving the upper, middle, and lower thirds of the face. Management of panfacial fractures is critical and challenging in adults; however, there is little literature regarding these fractures in the pediatric population. In this study, the authors present their experience in order to provide insight and further investigation regarding patterns of injury, how these fractures differ from the adult population, as well as prevention and management strategies of pediatric panfacial fractures.

METHODS: A retrospective chart review was performed for all panfacial fractures in the pediatric population between 2002 and 2014 at an urban, level 1 trauma center, University Hospital in Newark, NJ. Patient demographics were collected, as well as mechanism of injury, location of fractures, concomitant injuries, and surgical management strategies. Comparisons of pattern of injuries between adult and pediatric patients were drawn using Pearson’s test with P < 0.05 set as the degree of statistical significance.

RESULTS: Eight-two patients were identified as 18 years of age or younger and having sustained a panfacial fracture. The mean age at time of injury was 12.9 (range, 1–18) years, with a male predominance of 64.9%. A total of 335 fractures were identified on radiologic imaging. The most common etiologies were motor vehicle accidents (40.5%), pedestrian struck (20.3%), falls (14.9%), and assault (12.2%). Orbital (79.7%), frontal sinus (59.5%), nasal (45.9%), and zygoma (27%) fractures were the most common. As compared with a study by Choi et al. in 2019, comparison of these data showed a statistically significant difference (P < 0.05) in the number of nasal, zygoma, naso-orbital ethmoid, Lefort and frontal sinus fractures between pediatric and adult populations. The mean Glasgow Coma Scale on arrival was 12.0 (range, 3–15). Twenty-nine patients were intubated on, or before, arrival to the trauma bay. Surgical airway was required in 9 patients. The most common concomitant injuries were traumatic brain injury (64.9%), intracranial hemorrhage (51.4%), and skull fractures (45.9%). Surgical repair was required in 38 patients (48.6%). The cephalic to caudal approach was used in 8 patients (21%), the caudal to cephalic approach in 6 patients (15.8%), the medial to lateral approach in 2 patients (5.3%), and the lateral to medial approach in 1 patient (2.6%). Within a year of their initial surgery, 4 patients underwent reoperation for complications (10.5%). The mean hospital length of stay was 10.6 (range, 1–134) days. Four patients died.

CONCLUSIONS: The impact of these injuries can be devastating with concomitant life-threatening injuries and complications. Proper management of these fractures is critical in preserving appropriate development of the facial skeleton after injury and more research is necessary to determine the best management approach to these fractures. Given the lack of literature, and preventable nature of these injuries, the authors hope this study can address primary prevention strategies and provide insight toward management and characteristics of these fractures.

Surgical Management of Stahl’s Ear Deformity: Cartilage Reshaping Technique Via Open Otoplasty

Presenter: Phileemon Eric Payne, MD

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INTRODUCTION: First described by Binder in 1889, Stahl’s deformity is a distinct ear anomaly. There is