REFERENCE:
1. Grferer L, Hansdorfer MA, Ortiz R, et al. WG. Occipital neuralgia/migraine: intra-operative evidence for extracranial pathology. American Society for Reconstructive Microsurgery Meeting 2019, Palm Desert, CA, USA.

Immediate Extubation Following Placement of Mandibular Distractors: Feasibility and Safety Profile

Presenter: Samuel H. Payne, MD

Co-Authors: Oblaise A. Mercury, BA; Magdalena Soldanska, MD; Stefanie Hush, PA; Joseph K. Williams, MD; Colin Brady, MD

Affiliation: Emory University, Atlanta, GA

BACKGROUND AND PURPOSE: Mandibular distraction osteogenesis is the preferred treatment at many centers for micrognathic patients with recalcitrant upper airway obstruction. Timing of extubation after placement of mandibular distractors is the subject of ongoing debate. Maintaining intubation allows for the airway size to be increased through gradual mandibular distraction, thus decreasing the impact of airway edema, which may occur after extubation. However, prolonged intubation has risks including subglottic stenosis, ventilator-associated pneumonia, and accidental extubation. In this retrospective chart review, our experience with mandibular distraction followed by immediate extubation is examined.

METHODS: A 4-year retrospective review of patients diagnosed with Pierre Robin Sequence who underwent mandibular distraction within the first 3 months of life was performed. All patients were treated at a tertiary children’s hospital and had failed preoperative positioning and airway adjuncts. Patients who were intubated preoperatively were excluded. Analytic endpoints included patient demographics, comorbidities, preoperative and postoperative respiratory support, rates of immediate extubation, need for reintubation, progression to tracheostomy, correlative polysomnography, direct laryngoscopic grade view, and functional nasoendoscopy.

RESULTS: A total of 52 (29 males, 23 females) patients met inclusion criteria. The mean follow-up interval was 18 months. Six patients (12%) progressed to tracheostomy in long-term follow-up. There was 1 mortality (2%), which was remote from surgical intervention. Seventy-three percent of patients undergoing distraction were extubated immediately in the operating room. In those who remained intubated (27%), the mean intubation interval was 7.2 days (range, 1–14 days). No significant differences were found in associated comorbidities, syndromic status, cleft pathology, preoperative respiratory support, or grade of view on direct laryngoscopy between the extubated and intubated groups. Case duration >120 minutes and the subjective designation of a difficult airway by the anesthesiologist were associated with maintaining intubation (P <0.05). Twenty-one percent of patients in the extubated group experienced a respiratory event before discharge, and 11% (4 patients) required reintubation. Respiratory events were significantly more likely in patients with other congenital anomalies, a syndromic diagnosis, cardiac anomalies, gastroesophageal reflux disease, and in those who required respiratory support greater than low-flow nasal cannula before distraction (P < 0.05). Secondary airway anomalies and cleft palate were not associated with respiratory events or reintubation.

CONCLUSION: Our data suggest that immediate extubation after placement of mandibular distractors is feasible in patients who are not intubated preoperatively. Extra caution should be exercised in patients who required significant respiratory support before distraction and in those with certain comorbidities, as these patients were more likely to experience respiratory events and reintubation.

Impact of Prior Oncologic Treatment on Complications and Functional Outcomes in 1751 Head and Neck Free Flap Reconstruction Patients: An Institutional Analysis Using American College of Surgeons National Surgical Quality Improvement Program Methodology

Presenter: Paschalia M. Mountziaris, MD, PhD

Co-Authors: Fang-Yu Lin, PhD; Matthew M. Hanasono, MD; Patrick B. Garvey, MD, FACS; Kimberley L. Kiong, MBBS; Randal S. Weber, MD; Carrie Kai-Cheng Chu, MD; Carol M. Lewis, MD, MPH

Affiliation: The University of Texas MD Anderson Cancer Center, Houston, TX

PURPOSE: Patients with head and neck squamous cell carcinoma (HN-SCC) frequently present with locally advanced disease, and many develop locoregional
recurrence. Treatment of locally advanced or recurrent HN-SCC often involves neoadjuvant chemotherapy and/or radiation. However, a knowledge gap exists regarding the interplay of toxicities from prior oncologic treatments on successful reconstruction. The aim of this study was to evaluate the effect of prior oncologic treatment, including chemotherapy, radiation, and/or surgery, on long-term outcomes and functional status after head and neck free flap reconstruction utilizing a prospectively maintained database modeled on the American College of Surgeons National Surgical Quality Improvement Program (NSQIP).

METHODS AND MATERIALS: This is a retrospective review of all head and neck free flap reconstructions at our institution from 2012 to 2019. Data were retrieved from our database, which utilizes NSQIP methodology modified to track major head and neck oncologic reconstructive outcomes. In contrast to the NSQIP, which limits prior treatment to 3 months before the index procedure, our database includes any prior oncologic treatment.

RESULTS: One thousand seven hundred fifty-one patients were identified, 1093 of whom received prior oncologic treatment before the principal operative procedure for tumor extirpation and immediate free flap reconstruction. Patients without prior treatment were more likely to be active smokers (25% versus 18%; \( P < 0.0001 \)) and have body mass index \( \geq 25 \) (67% versus 53%; \( P < 0.0001 \)), hypertension (55% versus 47%; \( P < 0.0001 \)), and diabetes (18% versus 12%; \( P < 0.001 \)). Patients receiving prior treatment had higher rates of steroid use (8% versus 5%; \( P = 0.019 \)) and preoperative G-tube placement (15% versus 3%; \( P < 0.0001 \)). On multivariate analysis, prior treatment did not increase the risk of postoperative complications including: flap loss, fistula, infection, hematoma, seroma, reoperation, or readmission (\( P > 0.05 \)). However, there was a significant increase in the risk of transfusion (odds ratio [OR], 2.01; 95% CI, 1.60–2.53), death within 12 months (OR 1.43; 95% CI, 1.05–1.95), G-tube dependency at 3 months postoperative (OR, 1.42; 95% CI, 1.11–1.81), and poor speech scores (OR, 1.40; 95% CI, 1.01–1.95). When comparing prior surgery versus chemotherapy versus radiation, multivariate analysis indicated that chemotherapy was associated with the highest risk of: transfusion (OR, 2.51; 95% CI, 1.96–3.22), death within 12 months (OR, 1.67; 95% CI, 1.20–2.33), and G-tube dependency at 3 months postoperative (OR, 1.78; 95% CI, 1.37–2.32). Prior radiation as associated with the highest risk of poor postoperative speech scores at 3 months (OR, 1.82; 95% CI, 1.27–2.61).

CONCLUSIONS: The goals of HN-SCC treatment and reconstruction include disease stabilization, prolonging survival, and improving quality of life. This study demonstrates prior oncologic treatment is not associated with flap loss or postoperative wound-healing complications, after controlling for confounding factors. It is associated with higher mortality and worse functional outcomes, which may reflect disease burden. Our results demonstrate that free flap head and neck reconstruction is a reasonable choice for well-selected patients with advanced and recurrent HN-SCC, even in the setting of multiple prior treatments, and has the potential to improve quality of life and reduce functional deficits.

Retinal Changes With Craniosynostosis: How Long Does It Take for Microscopic Retinal Thickening to Resolve After Surgery?

Presenter: Christopher L. Kalmar, MD, MBA

Co-Authors: Laura S. Humphries, MD; Duncan Mackay, MD, MBA; Carrie E. Zimmerman, BS; Giap H. Vu, BA; Scott Paul P. Bartlett, MD; Jesse A. Taylor, MD; Jordan W. Swanson, MD, MSc

Affiliation: Children’s Hospital of Philadelphia, Philadelphia, PA

BACKGROUND: Papilledema has been traditionally used as a surrogate for increased intracranial pressure, but its sensitivity remains poor. Optical coherence tomography (OCT) is emerging as a useful adjunct for quantitative assessment of thickened retinal nerve fiber layers. It is unclear how long it takes for elevated intracranial pressure to elicit these morphologic changes, and similarly it is unclear how long it takes for these changes to resolve after achieving restoration of normal intracranial pressure with surgical expansion of the cranial vault. Pediatric patients with craniosynostosis undergoing distraction osteogenesis returning to the operating room for distractor hardware removal provide an opportunity for repeat assessment of the retina under anesthesia. The purpose of this study is to