1

Crane-Heise Syndrome: Novel CT Findings of the Temporal Bone

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Christian Jung

Abstract

Background:

Crane-Heise Syndrome (CHS) is a rare, autosomal recessive condition characterized by a poorly mineralized calvarium and characteristic facial and extracranial musculoskeletal anomalies. A nonspecific finding of "hearing loss" has also been associated with this condition but has never been characterized. We present a patient with cardinal features of CHS who presents with novel CT findings within the temporal bone, providing a possible mechanism for the subjective hearing loss that is associated with CHS.

Methods:

Case report and literature review

Results:

A 14-year-old patient with CHS presented for evaluation of life-long acalvaria. A CT scan without contrast revealed novel temporal bone abnormalities. The external auditory canals were patent but appeared atretic and abnormally angulated. Both cochleae were mildly dysplastic with widening of the interval between the basal and middle turns. Fluid was also present within the middle ear cavities. Ossicular fusion could not be ruled in/out based on the resolution of the CT scan; however, prior tympanometry showed flat tympanograms in the context of pneumatized middle ear spaces, which may suggest ossicular fusion as a manifestation of CHS.

Conclusions:

This is the first report to describe radiographic temporal bone findings associated with CHS. Further research will require collaboration between geneticists, otolaryngologists, and CHS patients/families to encourage donation of temporal bone specimens from patients with this rare condition. We hope to increase awareness of CHS and how it may impact middle and inner ear structures, encouraging further investigation that may inform possible otologic interventions for this condition.

2

Accuracy and Readability of Ankyloglossia Materials on Social Media

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Abstract

Objective: The diagnosis of ankyloglossia is increasing, in part fueled by social media, leading to more frenotomies and excess medicalization of often normal anatomy. The purpose of this study is to assess the accuracy and readability of social media content on ankyloglossia.

Methods: The top 200 Instagram posts tagged with #tonguetie, #liptie, or #buccaltie were collected using a de novo account. Post metadata, caption and content text were extracted. Accuracy of content was assessed using a 30-point scoring sheet based on clinical practice guidelines and expert consensus. Readability was assessed using the Flesch-Kincaid Grade Level, Flesch Reading Ease, and SMOG scales. Content pertaining to treatment was assessed using the DISCERN criteria. Bias was scored using the JAMA Benchmark Criteria.

Results: 86 posts meeting the inclusion criteria were analyzed. The mean total DISCERN score for posts pertaining to treatment was 52.14 ± 12.79. Mean readability scores across all content corresponded to a grade 8 reading level. Median JAMA Benchmark Criteria met was 4/4 (Interquartile range [IQR]: 2-4). 70% (n = 60) of posts had at least one piece of misinformation (range: 1-16). Of those, 63% (n = 38) had 3 or fewer pieces of misinformation. However, 12% (n = 7) had 10+ pieces of misinformation. Mean misinformation score was 2.78 ± 3.63.

Conclusion: The overall quality of social media content on ankyloglossia is reasonable but concerning for the frequency of misinformation. As the public increasingly looks to social media for medical information, healthcare providers will need to correct medical misinformation.

Speaker Bio

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3

Socioeconomic status as a risk factor for pediatric esophageal foreign body ingestion

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Dr Tanya Chen

Abstract

Introduction

Pediatric esophageal foreign bodies (FB) are common and can result in esophageal perforation or airway compression. Low socioeconomic status (SES) is known to be associated with increased morbidity in various clinical circumstances, but little is known about its influence on FB ingestion amongst children. Our objective was to determine the relationship between SES and types of FB ingestion and overall outcome.

Methods

This is a retrospective cohort study of children with esophageal FBs from 2010 to 2021. Dangerous FB were defined as magnets, batteries, sharp objects, or large objects. Complications included: ICU admission, prolonged admission, or post-operative complications. SES was assessed with the Ontario Marginalization Index across four deprivation dimensions.

Results

680 patients were included. Odds of dangerous FB ingestion and post-operative complications were higher for those with higher degrees of residential instability (OR, 2.10; CI, 1.2-3.6) and higher degrees of material deprivation, a marker for poverty (OR, 2.18; CI, 1.9-2.8). Odds of dangerous FB ingestion were higher in older children (OR, 1.06; CI, 1.0-1.1) and odds of complications were higher in those with co-morbidities (OR, 1.04; CI, 1.0-1.1).

Conclusion

Housing instability and poverty are positive predictors of dangerous FB ingestion and complications related to FB ingestion. Older children were at higher risk for dangerous FB ingestion and medically complex children were at higher risk for complications. These findings emphasize the role that socioeconomic factors play on children’s health outcomes, and highlight the continued need for public health innovation and policy initiatives to mitigate these disparities.

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4

Transoral robotic surgery for oropharyngeal vascular malformations: a collaborative approach to challenging lesions

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Abstract

Background: Vascular malformations of the oropharynx can be small and asymptomatic or larger requiring intervention for management of symptoms including airway obstruction or dysphagia. Surgical resection can be challenging due to access and intraoperative bleeding. We present a case series of three patients with oropharyngeal malformations treated with transoral robotic surgery (TORS).

Methods: We retrospectively reviewed patients with vascular malformations of the oropharynx treated via TORS between 2018 and 2023 at a tertiary care pediatric medical center. Patient demographics, preoperative symptoms, operative approach, postoperative outcome and complications were recorded.

Results: Patient age ranged from 10 to 12 years old. Site of involvement included the tongue base and lateral oropharynx. Presenting symptoms were sleep disordered breathing and dysphonia. Two patients with venous malformations underwent embolization with Interventional Radiology using n-Butyl cyanoacrylate and lipiodol immediately followed by TORS resection. A third patient with lymphatic malformation underwent TORS resection alone. Gross total resection was performed in all cases. No intraoperative complications were encountered. At follow up, all patients had recovered well with minimal pain, improvement in preoperative symptoms, and no evidence of residual lesion.

Conclusion: Treatment of oropharyngeal vascular malformations can be challenging due to complexity, deep location, and risk for intraoperative hemorrhage. TORS is a surgical option for these lesions with three dimensional visualization and wristed maneuverability. In select cases, preoperative glue embolization can improve intraoperative blood loss and lesion resection. This series highlights advanced surgical techniques and close collaboration with colleagues to offer reasonable risk resection of complicated oropharyngeal vascular malformations.

Speaker Bio

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In-office ear tubes in children? Yes, We Do! You Can Too!

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Abstract

In-office ear tube placement in young children continues to be adopted more widely in otolaryngology practices. A proficient team and well-defined workflows are key to successful incorporation of this service line into an office setting. We describe the elements necessary to establish a successful in-office ear tube practice. We discuss the processes before, during, and after the visit. A successful team includes schedulers and assistants who can provide patients with educational material and instructions prior to consultation, a core group of medical assistants and/or nurses who are trained and comfortable with non-sedated office procedures and safe positioning techniques, child life specialists to attend to patients' emotional wellbeing for office medical procedures, and most importantly, supportive caregivers. With a cohesive team, ear tube placement in children is performed in the office safely and effectively with high satisfaction for team members. Additional potential benefits are fewer days off work for caregivers, better access to ear tubes for underserved medical populations, and elimination of inconvenience and risks of procedures performed with general anesthesia.

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Is Ankyloglossia Correlated With Sleep Disordered Breathing or Obstructive Sleep Apnea: A systematic review

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Abstract

Background: The association of ankyloglossia (tongue-tie) and pediatric sleep-disordered breathing (SDB), including obstructive sleep apnea, remains uncertain. This systematic review aims to examine the relationship between ankyloglossia and SDB, and assess the impact of frenotomy on SBD in children.

Methods: Databases searched included EMBASE, Web of Science, Medline, CINAHL, CCRCT and SCOPUS. Studies from inception to August 16 2022, assessing SDB in non-syndromic children (age <18) with ankyloglossia diagnosis were included. Two independent reviewers screened studies for inclusion, extracted data, and performed risk of bias assessment. This systematic review was conducted in accordance with the PRISMA guidelines.

Results: Eight studies met the inclusion criteria (4 case-controls, 1 randomized control trial, 1 retrospective study, 2 prospective cohort studies), involving 1171 patients. Sample size across the studies ranged from 32 to 504, with age range 13 months to 17 years. The presence of SDB was determined using polysomnography (PSG) in 4 studies, with others utilizing Pediatric Sleep Questionnaire (PSQ), non-validated scales and parental reports. Kotlow's scale was generally used to assess for ankyloglossia. Although all studies reported a correlation between either ankyloglossia or tongue mobility and risk of SDB, and improvement after frenotomy, the risk of bias assessments (Newcastle-Ottawa and Cochrane Risk of Bias) showed moderate to high risk, thereby questioning individual study validity.

Conclusion: A definitive conclusion on the association between ankyloglossia and SDB cannot be made due to significant risk of bias across studies. Frenotomy should not routinely be recommended to improve SDB in children without further research.

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Bilateral Antrochoanal Polyps Presenting as Obstructive Sleep Apnea: An Unusual Case and Literature Review

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Abstract

Background: Antrochoanal polyps (ACPs) are benign hyperplastic masses that extend from the maxillary sinus into the choana and even the pharynx. Classical symptoms include nasal obstruction and rhinorrhea.

Methods: We present a case of mild obstructive sleep apnea associated with bilateral ACPs in a 15-year-old patient. To contextualize the rarity of this case, a literature review was conducted to evaluate the relative prevalence of bilateral cases and identify existing reports of ACPs associated with obstructive sleep apnea.

Results: The differential diagnosis relied on endoscopy and imaging. Bilateral ACPs extended into the oropharynx and were successfully managed with functional endoscopic sinus surgery. The patient's sleep and breathing patterns improved postoperatively. The literature review determined that 1.6% of ACPs (95% CI: 0.9-2.7%) are bilateral. In light of the low overall prevalence of ACPs, bilateral ACPs are extremely rare. This is the first case in the literature of bilateral ACPs and obstructive sleep apnea; fewer than 50 cases of unilateral ACPs and obstructive sleep apnea have been reported as of 2022.

Conclusions: Bilateral ACPs are especially rare; ACP prevalence is low, and 98.4% of cases are unilateral. The polyps and symptom presentation in this case were nonclassical and highly unusual. Although obstructive sleep apnea is multifactorial, our patient's medical history showed no other anatomical explanation for her symptoms, which resolved after ACP resection; these findings implicated the polyps as the root cause of her apnea. Functional endoscopic sinus surgery was effective in our case and did not lead to disease recurrence.

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Congenital Oral Obstruction: Synechiae with Submucous Cleft Palate

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Dr. Nicholas Drury

Abstract

Background: Congenital oral synechiae are soft tissue adhesions that cause feeding difficulties and potentially neonatal airway compromise. This rare anomaly is frequently associated other congenital defects, most commonly a cleft palate. To our knowledge, the presence of intraoral synechia with a submucous cleft palate, but intact hard palate, has yet to be reported in the literature.

Methods: A literature review of similar cases published in PUBMED was conducted followed by a discussion and comparison to the new case.

Results: The case involved a 1-day-old male without syndromic features who was transferred to our tertiary care center due to difficulty tolerating secretions and inability to feed by mouth. On examination, two distinct fibromuscular synechiae were appreciated between the tip of the ventral tongue and hard palate. This severely limited his oral cavity airway and tongue mobility, and therefore, decision was made to proceed with surgical intervention. The synechiae were excised uneventfully under general anesthesia with intermittent ventilation. Intraoperatively, a bifid uvula and zona pellucida were discovered, consistent with a submucous cleft of the soft palate. Following excision, the ventral surface of the tongue was approximated with absorbable suture. Postoperatively, he progressed to feeding by mouth without nasal regurgitation prior to discharge.

Conclusion: This case contributes to our growing knowledge of rare congenital obstructions involving the oral cavity. In this setting, obtaining a safe airway and restoring feeding by mouth may prove difficult and requires prompt evaluation and intervention.

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Airway and swallowing outcomes in children with combined laryngomalacia and laryngeal cleft

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Abstract

Background: Laryngomalacia and laryngeal cleft can independently cause dysphagia, but rarely can occur concomitantly. While outcomes following surgical correction of laryngomalacia and laryngeal clefts are described in isolation, there is a lack of literature surrounding combined pathology. We aim to discuss the presentation, decision-making, and swallow outcomes following surgical correction of combined laryngomalacia and laryngeal cleft.

Methods: A retrospective review of pediatric patients requiring supraglottoplasty and laryngeal cleft repair at the University of Iowa was conducted.

Results: Of 134 patients evaluated for dysphagia, 4 patients underwent both primary supraglottoplasty and a laryngeal cleft repair. Following supraglottoplasty patients saw resolution of stridor, but each patient remained dysphagic. Following laryngeal cleft repairs, patients saw resolution of all reported symptoms of dysphagia and showed objective improvements in swallow studies. Oral pharyngeal motility studies showed that half of the patients showed complete resolution while the other half continued to show mild penetration, but remained within functional limits.

Conclusions: Patients presenting with persistent dysphagia following supraglottoplasty should be suspected of having interarytenoid pathology. We recommend a staged surgical approach with supraglottoplasty before laryngeal cleft repair. This allows for determination of the primary source of dysphagia and a potential reduction in the number of surgical procedures.

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Off-label Hypoglossal nerve stimulator implantation in complex pediatric patients with obstructive sleep apnea outside of FDA indications

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Abstract

Background: Hypoglossal nerve stimulation (HGNS) as a treatment of continuous positive airway pressure intolerant severe obstructive sleep apnea (OSA) is FDA approved for 13 to 18 year old children with Trisomy 21 (T21) with apnea hypopnea index (AHI) between 10 and 50. We present the first series of patients implanted outside of these current FDA criteria.

Methods: Single institution retrospective review of pediatric patients undergoing HGNS implantation with available pre- and postoperative polysomnographic data.

Results: 10 patients with T21 below age 13 (age range 9 to 12) and 5 non-T21 patients (age range 9 to 18) were implanted. For the latter group, comorbidities included cerebral palsy, Cri du Chat, Joubert, Hunter, and Wolf Hirschorn syndromes. Mean preoperative AHIs were 26.6 (SD 11.4) and 18.5 (standard deviation [SD] 5.7), respectively. Mean postoperative AHIs were 8 (SD 7) and 4.5 (SD 2.6), with mean AHI reductions of 69.2% and 76%%. All patients except one experience an AHI reduction of more than 50%.

Conclusions: These preliminary results suggests that HGNS may be of use in treating severe OSA beyond current FDA indications, including in younger T21 patients as well as other complex patient populations.

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Pediatric Head and Neck Abscesses: Organisms and Susceptibility

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Abstract

Background: With rising patterns of antibiotic resistance in treating abscesses, it is important to track organisms and susceptibility patterns to inform empiric treatment. Our purpose was to investigate changes in bacterial organisms and susceptibility patterns in head and neck abscesses in pediatric patients.

Methods: Cross sectional retrospective chart review of 85 pediatric patients who underwent incision and drainage of neck abscesses at the University of Chicago Comer Children's Hospital from January 2016 to December 2020. The following demographic information were collected from each chart: age, sex, race, location of abscess, antimicrobial treatment prior to surgery, as well as the organisms that grew from each culture. Results of double disk diffusion test (D test) were noted if performed. Data was compared to a previously published study from our institution in 2006.

Results: There were significant differences in the number of D-tests performed ($p<0.00$) and the proportion of D-tests that were positive ($p<0.00$). There were no significant changes in the number of abscesses in which organisms were detected or in the patterns of growth – including the proportions of S. aureus and non-S. aureus growth.

Conclusions: Our study shows a similar proportion of MRSA organisms isolated from pediatric head and neck abscesses compared to our earlier study from 2006. 83% of MRSA cases at our institution were susceptible to clindamycin, reaffirming the fact that this antibiotic is still a dependable choice for empiric treatment.

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Severe sleep apnea as a presenting symptom of Rett syndrome in a male child

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Shreya Srivastava

Abstract

Background: Pediatric sleep apnea is a common condition caused by obstructive airway anatomy and/or decreased central breathing drive. Identifying sleep apnea in children is important as it may be a symptom of underlying neurologic and genetic conditions. We present a unique case of severe sleep apnea in a male child that was found to be a presentation of Rett syndrome, a rare X-linked dominant disorder almost always observed only in females.

Methods: Case Report

Results: Patient initially presented to the ENT clinic at 7-months for excess mucus production and lack of cry. His medical history includes hypotonia and neonatal encephalopathy. Laryngoscopy at the time showed unusually severe adenoid hypertrophy. At 10-months, patient was found to have multiple apneic episodes while sleeping, which led to a polysomnography assessment that showed an AHI score of 99.5 with severe mixed central and obstructive sleep apnea. He was unable to tolerate CPAP/BiPAP due to adenoid hypertrophy, and an adenoidectomy was conducted. The post-op period was complicated by respiratory distress, and the patient was intubated and admitted to the PICU for seven days. The patient’s unusually severe sleep apnea, respiratory distress, and medical history prompted genetic testing, which was positive for Rett syndrome.

Conclusion: This case depicts severe sleep apnea in a male child as a rare presentation of Rett syndrome. There are only approximately 60 reported cases of Rett syndrome in males. This is the first that highlights severe sleep apnea as a presenting symptom of the disease in a male.

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Case Report: Chronic Airway Foreign Body Presenting as Brain Abscess

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Abstract

Background: Airway foreign bodies are a common reason for pediatric emergency room visits. However, it is uncommon for them to be incidentally diagnosed, and exceptionally uncommon for the presenting symptom to be a brain abscess.

Methods: Case Report

Results: A 14-year-old presented to the emergency room after several days of headache, vomiting, and rapid development of confusion. She was found to have a large intracerebral abscess with midline shift. Further imaging incidentally found a metal foreign body in the left mainstem bronchus; per report aspiration of a thumbtack occurred one year prior. She underwent craniotomy with abscess drainage, cultures growing out Aggregatibacter and Actinomyces species. Bronchoscopy revealed a 2cm thumbtack lodged in the left mainstem bronchus, which could not be removed initially due to granulation tissue and bleeding. After two weeks of inhalational steroids, she returned to the operating room for successful removal of the foreign body.

Conclusions: Aggregatibacter is in natural oral flora and may cause brain abscesses in patients with recent dental work or periodontal infections. This patient had neither and inpatient workup revealed no other infectious source, so the foreign body became our diagnosis of exclusion for etiology. Intra-operative challenges included the nail being stuck in granulation tissue and mucosa, and being near pulmonary vasculature. This required scrupulous handling of granulation tissue and maneuvering of the sharp thumbtack. We have high quality intraoperative images and footage of the case to make a compelling poster or podium presentation.

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Postoperative Delta Weight and Pediatric Obstructive Sleep Apnea Resolution after Adenotonsillectomy

Quynh-Chi Dang BS, BA, Dr. Romaine Johnson MD, MPH, Dr. Seckin Ulualp MD, Dr. Ron Mitchell MD
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Quynh-Chi Dang

Abstract

Title: Postoperative Delta Weight and Pediatric Obstructive Sleep Apnea Resolution after Adenotonsillectomy

Background: The first-line treatment for pediatric obstructive sleep apnea (OSA) is adenotonsillectomy. Post-operative weight gain is a well-documented phenomenon. We hypothesized that higher post-adenotonsillectomy delta weight correlates with lower rates of OSA resolution in pediatric patients.

Methods: This was a retrospective cohort study consisting of 250 patients from 2-17 years of age at a tertiary academic medical center between January 2021 and December 2022. Polysomnography results and body mass index (BMI) changes were collected through the electronic health record. Univariate and multivariate logistical regression analyses were performed, adjusting for confounding factors.

Results: Post-operative delta weight and pre-operative baseline AHI values were significant predictors of residual severe OSA (AHI > 10). For every 1-kilogram gain in weight, the odds of residual severe OSA increase by 8% (OR = 1.08, 95% CI = 1.04-1.12, P <0.001). For every one-unit increase in baseline AHI, the odds of residual severe OSA increased by 3% (OR = 1.03, 95% CI = 1.01-1.04, P < 0.001).

Conclusions: Increased post-adenotonsillectomy delta weight is correlated to higher rates of residual severe OSA in children. Patients and families should be counseled about appropriate weight loss and control methods before adenotonsillectomy.

Table: Logistic Regression of Residual Severe OSA (Postop AHI ≥ 10)

Residual Severe OSA	Odds ratio	Std. err.	z	P>|z|	[95% conf. interval]	
Delta Weight	1.08	.021	3.78	<.001	1.04	1.12
Preop AHI	1.03	.006	4.34	<.001	1.01	1.04
_cons	0.05	.015	-9.04	<.001	0.02	0.09

_cons = intercept

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Utility and safety of steroid-eluting stents in pediatric endoscopic sinus surgery: a retrospective review

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Alexandria Danyluk

Abstract

Utility and safety of steroid-eluting stents in pediatric endoscopic sinus surgery: a retrospective review

Background: This study was designed to retrospectively examine our institution’s use of Propel stents in children undergoing endoscopic sinus surgery for various diagnoses and to characterize any complications or revision surgeries needed.

Method: We performed a retrospective cohort study of subjects who underwent sinus surgery with the use of steroid-eluting stents. All subjects meeting these criteria and between the ages 0 and 18 years of age were included.

Results: We evaluated 67 pediatric patients who underwent sinus surgery; the average age of the subjects at surgery was 13 years, with a predominance of males (59.7%). The most common preoperative diagnoses were chronic ethmoid rhinosinusitis (77.6%) and chronic maxillary rhinosinusitis (77.6%). In terms of our primary outcomes, we found that there were no intraoperative complications for any patients. Of the 67 patients, 95.5% had nasal patency on the first post-operative visit visualized by endoscopy and 17.9% required a revision surgery for persistent/recurrent disease on average 2 years later. There were no 30-day post-operative complications or signs of adverse systemic steroid effects, such as hyperglycemia, in any of the patients. Only 1 patient passed away due to unrelated illness complications.

Conclusion: In this retrospective cohort study of pediatric patients undergoing sinus surgery, we collected observational data reflecting the off-label use of Propel stents. Our findings show that the Propel stent is a safe and promising implant for pediatric patients with a variety of sinus related issues.

Speaker Bio

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QI Project: Ensuring Audiologic Consultation for Pediatric Inpatients with Bacterial Meningitis

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Abstract

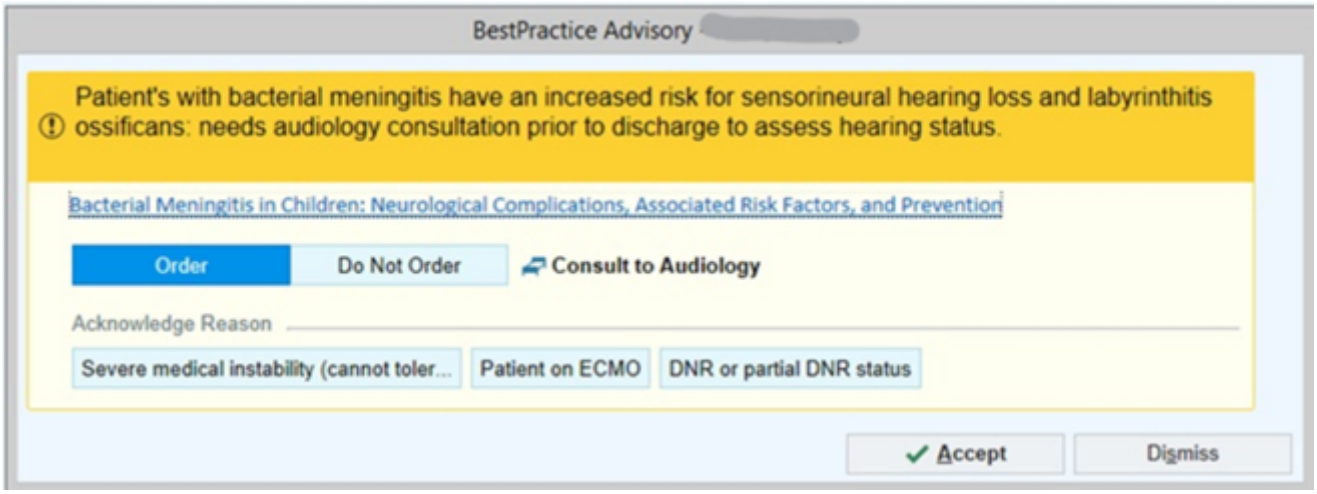
Background: Bacterial meningitis is a known risk for sensorineural hearing loss[1], specifically with associated labyrinthitis ossificans which can make cochlear implantation difficult and time sensitive if pursued. At our hospital 2 children within a 6 month period were identified in outpatient audiology with late onset severe/profound sensorineural hearing loss, and had been previously hospitalized with bacterial meningitis but were not referred for audiologic evaluation at time of hospitalization or upon discharge. This resulted in a substantial delay of diagnosis/support implementation and complication of potential cochlear implantation due to ossified cochlea.

Methods: A quality improvement project was implemented to identify these children through an EMR registry based on inpatient admission diagnosis of bacterial meningitis, and automatically trigger a Best Practice Advisory (BPA) guiding inpatient providers to place an order for audiology consultation (Figure 1). Registry was reviewed monthly to determine if BPA was effectively facilitating consultations.

Results: 12 children were identified through the registry with diagnosis of bacterial meningitis during the first 6 months of implementation, and all were scheduled for audiologic evaluation either during admission or within a month of discharge as an outpatient.

Conclusions: Given the low volume of patients involved, a similar EMR-based monitoring system should be straightforward to reproduce within other institutions to improve post-meningitis follow-up by reducing time to audiologic evaluation and implementation of treatment/services.

Figure 1



[1] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8001510/pdf/microorganisms-09-00535.pdf

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The American Speech-Language Hearing Association's Developmental Milestones Review: Implications for Practice

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American Speech-Language Hearing Association, Rockville, MD, USA

Stefanie LaManna

Lindsay Creed

Abstract

Background: ASHA’s developmental milestones were updated in response to member and consumer need for evidence-based guidance surrounding communication (speech, language, hearing) and feeding development. There is related content published, though it is rarely evidenced-based; those that are include limited use of primary sources with robust normative data and are often based on clinical opinion. The goals of this project were to provide professionals and families with the information needed to consider what to expect from a child's communication and feeding development and know when to intervene for children who are at risk for developmental delays.

Methods: A cross-organizational work group was convened with representatives from ASHA’s audiology and speech-language pathology practices, office of multicultural affairs, and national center for evidence-based practice. Milestones were identified through literature review with normative data supporting each milestone age range. Completed checklists with citations were sent to subject matter experts for review and their comments were incorporated into edits.

Results: Communication milestones are reported for ages American English speaking children birth-5 and feeding milestones are reported for ages birth-3.

Conclusions: ASHA’s developmental milestones provide audiologists, speech-language pathologists, and other health care providers with detailed, evidence-based information surrounding expectations for communication and feeding development. These milestones can inform health care providers practice patterns and support early identification of communication and feeding difficulties, especially in medically complex or high-risk pediatric populations. Limitations include the homogenous population represented in the normative data, raising questions surrounding equity and inclusion for ethnically and culturally diverse populations.

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Improving Communication of Videofluoroscopic Swallow Study Results: A Collaboration between ENT and SLP teams

Melanie Stevens MS/CCC-SLP, BCS-S, Jennifer Haney MA/CCC-SLP, BCS-S, Dr Kris Jatana MD, FAAP, FACS, Thomas Javens BS, Business Administration, Kelly Giroux MS, CPNP, Haley Ellett MS, RN, CPNP-PC, Jessica Brown RD, LD Bachelors of Science in Nutrition and Dietetics
Nationwide Children's Hospital, Columbus, Ohio, USA

Abstract

Background: Dysphagia patients may be recommended to have a videofluroscopic swallow study (VFSS) and thickened liquids to reduce aspiration risk. It became apparent that better collaboration was needed between SLP and ENT, aimed to improve communication of VFSS results to caregiver. Also when indicated, improving the timeliness for placement of artificial thickener prescriptions.

Methods: Prior to this quality improvement project, ENT surgeons were directly routed VFSS results and had to call parent/caregiver to discuss results and next steps. We created a new process that ensured <24-hour delivery of results, with an EMR result change flagging abnormalities, and new routing of results to the ENT APN pool. An ENT APN acted as a liaison between the SLP, dietician, and ENT surgeon, aiding communication and providing thickener prescription when needed. A new data-enabled note template enabled APNs to consistently document result communication via phone or MyChart.

Results: During the initial period (Nov 2020-May 2021), 34 VFSS tests were conducted, but only 21% (7) had EMR documentation of being shared with patient/caregiver. In the subsequent period (Jun 2022-Feb 2023), 71 VFSS tests were conducted, and 51% (36) were shared with the patient/caregiver. Most recently, communication is trending between 70-100%, and therefore thickener prescriptions are sent sooner.

Conclusion: Through several interventions, we have been able to improve the timeliness of VFSS results communication to the parent/caregiver, as well as prompt placement of thickener prescriptions to ensure safe oral intake. Multidisciplinary team efforts will continue with ultimate goal of hospital-wide implementation.

19
Salivary Abscess following Botox and Gland Ligation

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Abstract

Sialorrhea is common in children with neurodevelopmental abnormalities and carries a significant medical and psychosocial burden. Initial management options are conservative; therapeutic options include physiotherapy, biofeedback techniques, behavior modification and pharmacotherapy with anticholinergic agents. The broad side-effect profile of anticholinergic medications often limits successful management of disease. Surgical options target salivary diversion or reduction. These options are generally simple, minimally invasive, safe, and rarely result in major post-operative complications. Well documented complications include infection, mucocele/ranula formation, sialadenitis, xerostomia and disease recurrence. We present a case complicated by a post-operative parotid abscess, salivary cutaneous fistula and prolonged hospital stay following surgical intervention. We discussed our management, and she ultimately had a successful outcome. Historically, our institution has found success with major salivary gland chemodenervation followed by concurrent chemodenervation with ductal ligation in those with persistent disease. Prompted by the adverse events in this case, we discovered there are few reported studies discussing outcomes of concurrent chemodenervation with salivary ductal ligation.

20

First reported cochlear implantation in Pallister Killian Syndrome and review of otolaryngologic considerations

Daniel Traverzo BS, Joshua Verhagen BS, Samuel Floren MD, Jessica Van Beek-King MD
University of Wisconsin, Madison, WI, USA

Abstract

Title:

First reported cochlear implantation in Pallister Killian Syndrome and review of otolaryngologic considerations.

Background:

Pallister-Killian syndrome is a rare genetic disease resulting from a mosaic tetrasomy 12p chromosome in an isochrome fashion that presents with a heterogeneous constellation of features. Limited data suggest that up to 77% of patients with Pallister Killian syndrome have hearing loss, without strong predilection for conductive vs sensorineural. 87% of patients also have visual deficits, which emphasizes the importance of hearing for interaction with the surrounding world. We present a case of a patient receiving otolaryngological care including the first reported cochlear implantation after diagnosis.

Methods:

Case report and literature review.

Results:

We describe a child born with Pallister Killian syndrome with profound bilateral sensorineural hearing loss, who is the first reported case to undergo successful cochlear implantation. Technically, surgery was challenging, with low lying tegmen tympani, absence of stapes suprastructure, and sclerotic mastoid cavities (owing to chronic otitis). The patient then went on to have successful activation, although continues to struggle with consistent usage due to magnet discomfort. Other otolaryngologic considerations in our patient included tracheostomy (for long term need for ventilation and pulmonary toilette), submandibular gland excision and parotid duct ligation (for sialorrhea), and tympanostomy tubes (for chronic otitis media).

Conclusions:

Otolaryngological care poses multiple challenges in patients with confirmed Pallister-Killian Syndrome. The challenges of tolerance to wearing a cochlear implant device should be weighed against the benefit of aiding the hearing in these often hearing and visually impaired patients.

21

Mycobacterium abscessus in treatment-resistant recurrent acute otitis media (AOM) and otomastoiditis

Dr. Mitesh Mehta M.D., Dr. Kaitlyn Brooks M.D., Dr. Nandini Govil M.D., M.P.H
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Dr. Mitesh Mehta

Dr. Kaitlyn Brooks

Dr. Nandini Govil

Abstract

Background:

Mycobacterium abscessus is a rare pathogenic and treatment-resistant non-tuberculous mycobacterium (NTM) cause of pediatric AOM with only 10 cases previously well-documented. Cases are typically treated with a combination of antibiotics and surgery. We present a unique case of *Mycobacterium abscessus* recurrent AOM/otomastoiditis.

Methods:

PubMed was queried for: mycobacterium abscessus, NTM otitis media, and NTM otomastoiditis. Relevant articles from 2005 to 2021 were analyzed and used for literature review. The patient's electronic medical record was searched to inform the longitudinal case study.

Results:

An eight-year-old boy had illnesses from three months of age, including recurrent AOM requiring tympanostomy tube placements, skin/soft tissue infections, and pneumonias. Additionally, he had several episodes of otomastoiditis requiring three mastoidectomies and extended oral and intravenous antibiotics. Surgical pathology repeatedly showed granulation tissue; however, his most recent culture was positive for *Mycobacterium abscessus*. No bony destruction was noted on radiology or intraoperatively. His symptomatology consisted of purulent otorrhea, mild to moderate conductive fluctuating hearing loss, and erythema, tenderness, fluctuance along his mastoid. He is currently undergoing testing for Mendelian susceptibility to NTM diseases along with an intravenous antibiotic regimen of amikacin, imipenem, and cefoxitin to target the multidrug resistant NTM.

Conclusions:

This longitudinal case report examines a case of NTM causing otitis media/otomastoiditis without gross bony destruction which is uncommon. Pediatric otitis media/otomastoiditis unresponsive to typical therapy should raise concern for an NTM pathogen. Future studies should highlight symptomatology caused by NTM subspecies and typical antimicrobial susceptibilities.

22

Endonasal Endoscopic Repair of Encephaloceles in Young Children: A Systematic Review

Alyssa Li BA[1], Karolina Gaebe BMath[1], Dr. Allen Vescan MD, MSc[2], Dr. Adrian James MA, DM[1], Dr. Nikolaus Wolter MD, MSc[1]

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Abstract

BACKGROUND: Basal encephaloceles and meningoceles are rare skull base defects associated with nasal obstruction, cerebrospinal fluid (CSF) rhinorrhea, and meningitis. Repair of these defects by endonasal endoscopic surgery spares children from the morbidity of craniotomy. This systematic review aims to explore the state of these surgeries in children <2 years and describe common challenges in their care.

METHODS: Articles were identified in MEDLINE, EMBASE, and CENTRAL from inception to August 2022. Studies describing endonasal endoscopic repair and postoperative outcomes in children <2 years with encephaloceles and meningoceles were included. Patient characteristics, surgical methods, and outcomes, including disease recurrence and revision surgery, were extracted.

RESULTS: Overall, 67 patients (61 studies) underwent endoscopic endonasal repair. Median age was 0.6 years (0-1.9 years). Ninety-seven percent had encephaloceles/meningoencephaloceles. Multi-layer closure was performed in 58.3%. Multi-layer repair was performed in 47.2% of children <1 year old and in 79.0% of children ages 1-2 years (p=0.04). Postoperative CSF leaks occurred in 8.5% of children. Sixteen percent of children developed disease recurrence; however, only 5 required revision surgery. No significant differences were seen in postoperative CSF leak, recurrence, or revision surgery in patients <1 vs. 1-2 years or in children who underwent multi-layer vs. single-layer repairs. Median follow-up was 12 months (1-72 months).

CONCLUSIONS: This systematic review demonstrates significant variability in surgical methods and outcomes in the repair of encephaloceles and meningoceles in children <2 years. Future prospective studies with longer-term follow-up data are required to support the feasibility of endonasal endoscopic repair in younger children.

23

Outcomes for Surgical Excision of Type II-IV Branchial Cleft Anomalies in Pediatric Patients without the use of Intraoperative Dye

Naadir Jamal BA[1], Kalpana Patel CCRP[2], Heidi Chen PhD[2], Christopher Wootten MD, MMHC[2], Ryan Belcher MD, MPH[2]

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Naadir Jamal

Abstract

Excision of Type II-IV Branchial Cleft Anomalies in Pediatric Patients without the use of Intraoperative Dye

Background: Branchial cleft cysts are congenital anomalies that can present as sinus tracts to the neck. Intraoperative methylene blue dye with fibrin glue has been suggested as effective in tracking a tract's depth to help definitively excise. With this large retrospective case series, we look at outcomes for surgical excision of type II, III, or IV branchial cleft anomalies without the use of methylene blue dye or fibrin glue.

Methods: A retrospective review was conducted using patients who received surgical excision of Type II, III, or IV branchial cleft anomalies at Monroe Carrell Jr. Children's Hospital from June 2010 to June 2021. Patients whose anomalies had sinus tracts were included.

Results: 118 patients were included. There were zero recorded instances of intra-op complications. Two patients (2%) returned to the OR for surgical site complications: a neck abscess and cervical hematoma. 0 patients had recurrence of the tract necessitating revision surgery. 83 patients (71%) received no imaging. 14% had prior I&D without attempted resection. Of the subset with listed quantitative values for sinus tract length (n=30), the median tract length was 3.0 cm.

Conclusions: Patients with type II-IV branchial cleft sinus tracts that were surgically excised without intraoperative dye achieved definitive resection with no recurrence and limited post-op complications. While not a direct comparison, these results suggest we may be incurring unnecessary costs without benefit in outcomes through use of intraoperative dye.

Speaker Bio

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Addressing Health Equity in Pediatric Dysphagia Treatment: Rethinking Thickener Selection and Accessibility

Brianna Miluk MS, CCC-SLP, CLC[1], Stefanie LaManna MS, CCC-SLP, CNT[2]
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Brianna Miluk

Stefanie LaManna

Abstract

Background:

Social determinants of health are the non-medical factors, such as where a person lives, works, play, and worships, that impact their health outcomes (World Health Organization). This includes economic stability, education access and quality, health care access and quality, neighborhood and built environment, and social and community context. According to the Economic Impact Report by Feeding Matters (2019), majority (76%) of caregivers of children with pediatric feeding disorders report at least a moderate financial burden. The use of thickened liquids to manage pediatric pharyngeal dysphagia continues to be a topic of questioned safety and efficacy. On top of that, the associated affordability and accessibility creates barriers for families of children with pediatric feeding disorders (PFDs). This presentation seeks to address health inequities related to pediatric dysphagia treatment, with a special emphasis placed on thickener selection and accessibility.

Methods:

A literature review was conducted to determine current state of the science regarding use of thickener in pediatric dysphagia and implications to health equity. Utilizing current evidence with clinical experience, findings were applied to case-based examples.

Result:

Increased awareness of social determinants of health and how they impact pediatric feeding disorders, specifically when it comes to health equity and use of thickened liquids. Examples for how to support applying findings into practice.

Conclusion:

Social determinants of health matter in patient care. Thickener is not easily accessible or affordable and the research to support is limited, so careful considerations should be conducted before making these recommendations.

Speaker Bio

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25

Endoscopic repair of tracheoesophageal fistulas: A contemporary multi-institutional study and literature review

Dr Catherine F. Roy MD[1], Dr. Alix Maltezeanu MD[2], Dr. Jean-Martin Laberge MD[3], Dr. Ana Sant'Anna MD[4], Dr. Hélène Broucqsault MD[2], Dr. Pierre Fayoux MD[2], Dr. Sam J. Daniel MD[1]
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Abstract

Introduction. Recurrent and primary tracheoesophageal fistulas (TEFs) are a challenging surgical pathology, as standard open surgical approaches are associated with high morbidity and mortality. As such, endoscopic modalities have gained interest amongst otolaryngologists and pediatric surgeons as an alluring alternative, yet variable success rates have been reported in the literature. The aim of this study was to provide a contemporary update of the literature and describe our institutional experience with the bronchoscopic repair of recurrent and primary TEFs.

Methods. Retrospective chart review of all pediatric patients having undergone endoscopic TEF repair at two pediatric academic centers in Montreal, Canada and Lille, France between January 1, 2008 to December 31, 2020.

Results. 28 patients with TEFs (8 primary, 20 recurrent) underwent a total of 48 endoscopic procedures. Under endoscopic guidance, fistula tracts were addressed using various combinations of techniques, including fistula de-epithelialization (endoscopic brush, trichloroacetic acid-soaked pledgets or electrocautery), tissue adhesives, submucosal augmentation, esophageal clipping and stenting. Successful closure was achieved in 16 patients (57%), while 12 (43%) required eventual open or thoracoscopic repair. The mean number of endoscopic procedures was 1.7. There were no major treatment-related complications such as pneumothorax, mediastinitis or death (mean follow-up 50.8 months).

Conclusions. Endoscopic repair of recurrent or primary TEFs is a valuable component of our therapeutic armamentarium and may contribute to decrease surgical morbidity in this patient population.

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Improving Response Time to Digital Medical Advice Messaging in Pediatric Otolaryngology

Brianna Manley BSN, RN, CPN, Woo Yul Byun MD, Erika Erickson MD, Kelly Giroux MSN, CPNP, Haley Ellett MSN, CPNP, Thomas Javens BS, Kris Jatana MD, FACS, FAAP, Linda Payne MSN, RN, CPN, CORLN
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Abstract

Background:

Approximately 83% of our patients were registered for a MyChart account, giving them capability to send digital medical advice requests. The Nationwide Children’s Hospital Department of Pediatric Otolaryngology had >30,000 clinic visits annually and received up to 135 medical advice messages per week. Response time was quite variable; some were never responded to, and 59% were responded to <2 business days. No published studies on response times for digital medical advice messaging were identified.

Methods:

Several new interventions were implemented for this quality improvement project. All clinic discharge summary documents outlined appropriate use and expectation for response time. Provider message routing settings in the EMR was changed to go to a new messaging pool, and RN staffing was adjusted for coverage. A new messaging pathway was created where these messages were initially triaged by the RN, escalated to a nurse practitioner who would discuss with surgeon as needed. EMR documentation was standardized.

Results:

After several interventions, message response rate <2 business days improved from 59% to 99% ($p<0.001$). Upon further analysis, >98% of MyChart medical advice requests were responded to <1 business day ($p<0.001$).

Conclusions:

This multidisciplinary QI project resulted in baseline shifts above the initial project goal of >90% MyChart medical advice requests addressed <2 business days. Given success, our goal is now >90% of messages be addressed <1 business day and to sustain for 12 months. Our triage pathway could be adopted by other centers to ensure timely response to digital medical advice messages.

Speaker Bio

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Single Stage Pediatric Airway Reconstruction in Solid Organ Transplant Recipients

Emily Belding MS, Dr. Sohit Kanotra MD
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Abstract

Background: Patients with solid organ transplants have historically been candidates for double-stage laryngeotracheal reconstruction (dsLTR). The purpose of this study is to describe results of single stage laryngeotracheal reconstruction (ssLTR) in patients with solid organ transplants and to discuss modifications which need to be considered in this subset of patients pre-operatively, intra-operatively and post-operatively.

Methods: We performed a retrospective case series review of children undergoing single stage laryngeotracheal reconstruction in the context of prior solid organ transplant in a tertiary care academic setting over a three year period.

Results: Two cases of ssLTR in solid organ transplant patients were found, one each with renal and cardiac transplants respectively. Both patients successfully underwent ssLTR for Grade 2 subglottic stenosis. The care of these patients was multidisciplinary and required alterations in their preoperative prophylactic antibiotics. While they did not require changes to the LTR post-operative sedation protocol, their immunosuppressant doses and target ranges were lowered. Special care was taken to avoid nephrotoxic and cardiotoxic medications throughout their hospital stay.

Conclusions: Although traditionally considered for double stage laryngeotracheal reconstruction, single stage laryngotracheal reconstruction is a viable option in patients with solid organ transplant. These patients require a multidisciplinary approach with pharmacological protocol alterations pre-, intra- and post-operatively.

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Flexible Endoscopic Evaluation of Swallowing to Guide Oral Feeding Progression for Neonates in the CTICU

Kimberly Morris M.S. CCC-SLP, BCS-S, IBCLC, Dr. Matthew Brigger MD,MPH, Dr. Harjot Bassi MD, Dr. Aparna Rao MD, Dr. Rohit Rao MD
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Abstract

The challenge to facilitate progression of oral feeding in the post-operative course is complicated by the necessity to prevent consequential aspiration while optimizing skill and innate reflexes that support feeding success. Neonates with congenital heart disease present with complex swallowing patterns that have acute changes due to the codependence of post operative medical management and overall safety of oral feeding. FEES can be performed on critically ill neonates at the bedside without the need for transport to radiology or the concomitant risks of diagnostic radiation. The safety and benefits of using FEES to assess swallowing physiology and safety of oral feeding progression in the CTICU are described.

A retrospective chart review was performed by a systematic review of the electronic medical records from 2021-2023 at Rady Children's Hospital. A multidisciplinary approach was utilized with the CTICU and Aerodigestive Team. The profiles, results, and feeding outcomes of 30 patients undergoing FEES are described.

FEES facilitated oral feeding progression and establishment of specific feeding strategies in the majority of patients. All patients tolerated the exam and actionable information on swallowing was obtained. There were no complications noted and the presence of a negative effect from FEES being conducted on neonates was not observed.

FEES is a useful adjunct in guiding feeding therapy. The ability to perform the study at the bedside in critically ill children without the need for radiation allows early intervention on swallowing therapy. Postoperative evaluation demonstrated an excellent safety profile and uniformly provided useful data to guide therapy.

Speaker Bio

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Care Model Transformation for Pediatric Decannulation Trials

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Abstract

Background: Each year, the number of patients requiring elective decannulations grows. Increasing elective decannulation patient volumes in the setting of high census placed stress on ICU bed capacity, and, at times, resulted in canceled decannulation trial admissions for a patient who otherwise met criteria for readiness. The objective our QI project was to develop a new care model to complete decannulation trials outside of the ICU. Our SMARTIE Aim was to Increase the percentage of patients, regardless of race, ethnicity, or language, admitted to 4East/ 4South for elective decannulation trials from 0 to 20%.

Methods: Using the CHOP Improvement Framework, a multi-disciplinary team from Otolaryngology, the PICU, Nursing, Safety Quality Specialists, Respiratory Therapy, and Child Life outlined the decannulation process. Using capacity data to admit on lowest surgical census days, non-ICU decannulation patients were admitted to the 4th floor on Sunday and Monday. Observation times for patients requiring overnight capping trial with decannulation or decannulation only were standardized to 48 and 24 hours.

Results: 70% of elective decannulations have been completed on 4 East/ 4 South. No patients have required transfer to the ICU. 100% of 4th floor patients were admitted on Sundays and Mondays, and no patients have had cancelled admissions due to capacity. Length of stay remains consistent at < 2 days. No outcome differences based on race, ethnicity, or language were observed.

Conclusion: Patients can safely be decannulated on the 4th floor, saving ICU resources. Patient Reported Outcomes will assess long-term outcomes for this population.

Speaker Bio

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Social Capital and Pediatric Tracheostomy Outcomes

Jenny Kim MD[1], Ms. Jinghan Zhang BA[1], Dr. Yann-Fuu Kou MD[1], Dr. Stephen Chorney MD MPH[1], Dr. Romaine Johnson MD MPH[2]
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Abstract

Introduction: Social capital, a measure of socioeconomic status, has the potential to impact health outcomes positively. Despite previous studies examining the relationship between SES and outcomes in pediatric tracheostomy patients, these studies have been limited and often relied on indirect measures such as race, primary insurance, and median income. This study aimed to evaluate the impact of social capital on pediatric tracheostomy outcomes using a validated measure, the Social Capital Atlas.

Methods: An observational study was conducted on 527 pediatric tracheostomy patients, utilizing survival analysis to analyze the relationship between SES and decannulation and death rates.

Results: The median age of the patients was 7.2 months, and 56% were male. The mean EC score was 0.752, similar to the average EC score of 0.776 for low SES/EC individuals in the US. Most patients (58%) had an EC score below this cut-off. EC was not associated with differences in decannulation (HR= 0.92, 95% CI = 0.67 - 1.27) or mortality (HR = 0.89, 95% CI = 0.61 - 1.31). Decannulation was associated with Developmental Delay/Impaired Cognitive Status (HR 0.21, 95% CI = .014 - 0.31), while mortality was associated with mechanical ventilation at index discharge (HR=1.97, 95% CI = 1.15-3.39).

Conclusions: The results of this study suggest that economic connectedness and SES are not significant predictors of decannulation or mortality rates in pediatric tracheostomy patients. Instead, the severity of illness and comorbidities are the primary factors affecting decannulation and mortality outcomes in this patient population.

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Congenital Syphilis in Pediatric Otolaryngology

Dr Melissa Scholes MD, Ms. Alia Tayara BS
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Dr Melissa Scholes

Abstract

Congenital Syphilis in Pediatric Otolaryngology

Background: Congenital syphilis (CS) is on the rise in communities across the United States. This has significant implications for pediatric otolaryngology as this infection can present with nasal symptoms, head and neck lesions, and hearing loss. Being aware of CS and its possible complications is imperative for intervention to occur as early as possible to prevent downstream effects.

Methods: A retrospective chart review was performed at our tertiary academic hospital to identify children born from January 1, 2015, to March 1, 2023 with the diagnosis of congenital syphilis. Chart review was performed to gather demographic, clinical and audiologic data. If patients presented to an otolaryngologist as either an inpatient or outpatient, this was further investigated to identify pertinent symptoms and treatment. Special attention was paid to audiologic testing and adherence to Joint Commission on Infant Hearing Guidelines. Additional review of general considerations in CS will also be presented.

Results: During our study period, 156 patients were diagnosed with syphilis. Preliminary data is as follows: 66.6% were Black or African American and 22.1% were White. 40.1% of those diagnosed had documented audiologic follow-up. 20.5% of patients were seen by a pediatric otolaryngologist with most being seen for ear and hearing concerns and/or noisy breathing.

Conclusion: Congenital syphilis is increasing in incidence in the United States. Pediatric Otolaryngologists need to be aware of the possible impacts on hearing and other head and neck systems to ensure proper evaluation and intervention.

Speaker Bio

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A 10-Year Analysis on Pediatric Playground Injuries of the Head and Neck

Andrew Franklin BS[1], Dr. Chad Nieri MD[2], Dr. Meghana Chanamolu MD[1], Dr. Anthony Sheyn MD[1]

[1]University of Tennessee Health Science Center, Memphis, TN, USA. [2]Washington University, Saint Louis, MO, USA

Andrew Franklin

Abstract

Background: Playgrounds have long offered children a place to socialize and be active. However, playground usage does not come without risks, especially regarding head and neck injuries. This study aims to estimate the nationwide occurrence of emergency department visits due to pediatric head and neck injuries caused by playground equipment.

Methods: The National Electronic Injury Surveillance System (NEISS) was queried regarding ED visits of pediatric head and neck injuries involving playground equipment from 2013-2022. Data utilized includes patient demographics, year of injury, age at injury, type of injury, location of injury on the body, patient outcome, and a 1-2 sentence event description.

Results: 25,307 injuries were recorded, yielding an estimated 702,674 injuries occurring in the ten-year period. The mean age was 5.79 years, and 59.3% of patients were males. The most common injuries were lacerations (35.4%), internal injury (30.9%), contusions (10.7%), and concussions (8.7%). 96.4% of patients were treated/examined and released, 1.9% were transferred, admitted, or hospitalized, 1.4% left without being seen, and 0.3% were held for observation. Common injury causes included swings (23.7%), monkey bars/playground climbing apparatus (20.7%), and slides (19.5%).

Conclusion: Playground equipment contributes substantially to pediatric head and neck injuries in American EDs, with an estimated 702,674 injuries presenting over the last 10 years. Swings, slides, and monkey bars cause a majority of injuries. Males were more likely to be injured. It is imperative that safety is prioritized in the production of playground equipment and out-of-date, dangerous equipment is identified and phased out of usage.

Speaker Bio

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Impact of tracheostomy status on sternal wound infection rates in pediatric patients following median sternotomy

Rohit Nallani MD[1], Brevin Miller BA[2], Janelle Noel-Macdonnell PhD[3], Meghan Tracy CCRC[3], Jason Brown DO[3], James O'Brien MD[3], Daniel Jensen MD[3]

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Abstract

Background: Sternal wound infection (SWI) is a rare but life-threatening complication in children following sternotomy. Risk factors include young age, extended preoperative hospitalization, and prolonged ventilatory support. Few studies have explored the impact of tracheostomy on SWI in pediatric patients. The purpose of this study is to measure the effect of tracheostomy and other factors on SWI in pediatric patients undergoing sternotomy.

Methods: A retrospective cohort study was performed of patients undergoing sternotomy over a 12-year period at a tertiary children's hospital. Patients with a tracheostomy prior to sternotomy (TPS) were identified and compared to patients who underwent sternotomy alone (SA) or tracheostomy after sternotomy (TAS). Demographics, medical comorbidities, surgical details, sternal wound infection diagnosis and management information, and surgical outcomes were collected.

Results: We identified 85 unique individuals representing 105 sternotomies. The overall incidence of SWI was 12.4%, with nine occurring in the TPS group, three in the TAS group, and one in the SA group. Logistic regression modelling revealed odds of a SWI was 11.3 times greater in those with TPS compared to those with SA (95% CI 2.0-214.5; p=0.0248). Incidence of SWI was also greater in those with underlying pulmonary disease (p=0.038) and longer sternotomy case times (p=0.017).

Conclusions: The risk of developing a SWI in pediatric patients undergoing sternotomy is significantly greater in those with a tracheostomy, underlying pulmonary disease, and longer sternotomy case times. Further research should explore other clinical factors contributing to SWI and develop standard tracheostomy management protocols during cardiac surgery.

Speaker Bio

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Intraoperative Maxillary Frenectomy in Infants and Young Children: Clarifying the Indications

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Dr. Daniel Wohl

Mr. Ryan Witcher

Abstract

Background: Maxillary diastema – “Tooth Gap” – in older children and adults is often considered a cosmetic dental defect which can affect one’s self perception and is corrected with elective oral surgery and orthodontia. Parents usually identify these upper lip ties in infancy or young childhood, especially during primary dental eruption where thick tissue extending to the dental surface of the upper alveolus prevents medial alignment of the central incisors. Spontaneous closure in childhood can occur without intervention but is inconsistent across the population. Otolaryngologists commonly operate on infants and young children and are in an ideal position to safely perform a maxillary frenectomy as an adjunctive procedure while under general anesthesia.

Methods: Retrospective and prospective analysis of 15 years of data for 101 patients, including 7 controls. Specifics of anatomic presentation were identified and reassessed at follow up appointments.

Results: Approximately 90% of operated patients demonstrated full or near closure of upper incisor space separation before eruption of permanent dentition. Less than 50% of non-operated patients demonstrated full or near closure.

Conclusions: Resection of obstructive soft tissue from between the central upper incisors down to the periosteum in infants and young children may help promote natural closure of the upper incisor space before eruption of permanent teeth. Parents express satisfaction in the improved appearance and there is the potential for reduction of future orthodontic intervention.

Speaker Bio

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Trans-tracheal pressure for evaluation of decannulation readiness

Ashley Young BS[1], Katie Walsh MA CCC-SLP[2,1], Jonathan Ida MD[3,4], Bharat Bhushan PhD[3,4], Dana Thompson MD MS MBA[3,4], Inbal Hazkani MD[3,4]

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Abstract

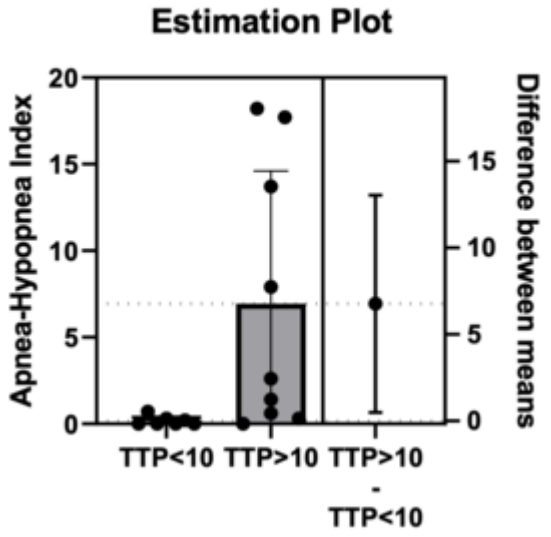
Background: Pediatric tracheostomy decannulation protocols vary among institutions and may include toleration of Passy Muir Valve (PMV), microlaryngoscopy and bronchoscopy (MLB) findings, and polysomnography (PSG) evaluation. Transtracheal pressure (TTP) is an objective measurement utilized for the evaluation of PMV toleration. A TTP ≤10 cm H2O supports PMV candidacy, whereas elevated TTP signifies airway obstruction. We aimed to investigate the role of TTP in decannulation candidates and compare TTP measurements to PSG and MLB findings.

Methods: A retrospective cohort study of children who underwent TTP measurement during PMV trial between 12/2012-11/2022.

Results: A total of 79 patients underwent TTP measurement and MLB evaluation; of these, 16 (20.3%) patients had a capped PSG. Twenty-eight (35.4%) patients had TTPs ≤ 10 cm H2O and 51 (64.6%) patients had TTPs > 10 cm H2O. The most common indication for tracheostomy was upper airway obstruction (n=41, 51.9%), followed by a need for mechanical ventilation (n=24, 30.4%). Twenty-five (31.6%) patients were decannulated. Patients with TTPs ≤10 cm H2O had a mean Apnea Hypopnea Index of 0.17 ± 0.26/h compared to 6.93 ± 7.67/h in those with TTPs >10 cm H2O, p=0.0365. Patients with TTPs >10 cm H2O were found to have a significantly higher occurrence of airway obstruction (96.1% vs 46.4%, p≤0.0001) and multilevel airway obstruction (70.6% vs 21.4%, p≤0.0001) on MLB. Neither TTP measured at time of PMV assessment nor capped PSG was associated with successful decannulation.

Conclusions: TTP measurements at time of PMV evaluation are associated with PSG and MLB findings.

Figure 1. Apnea Hypopnea Index by trans-tracheal pressure measurement



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Improving Post-Op PE Tube Compliance with a Pre-Op Audiogram

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Sydney Knopp

Dr. Madison Howe

Abstract

Background: Otitis media (OM) is the most commonly diagnosed pathology among the pediatric population. After a multiple diagnoses of OM a child may undergo anesthesia for pressure equalization (PE) tube placement. PE tube placement is the most common surgery performed in the pediatric population. This study aims to determine how many children have received a pre-operative audiogram prior to PE tube placement, and how the pre-operative audiogram correlates post-operative follow-up compliance.

Methods: A retrospective study was completed on patients receiving PE tube placement at Arkansas Children’s Hospital between January 2022 to January 2023. 1754 patients were evaluated for having a pre-operative audiogram completed prior to PE tube placement. Patients with previously diagnosed permanent hearing loss or hearing devices (i.e. hearing aids, cochlear implants, bone-anchored implants) were excluded from the study; leaving a total of 1,640 patients in criteria of the study.

Results: Data suggests 76% of patients received a pre-operative audiogram. 86% of PE tube patients who received a pre-operative audiogram returned for their post-operative visit. Out of the patients who did not comply with their follow-up visit, 55% of them did not receive a pre-operative audiogram.

Conclusions: Our data suggests a significant increase in compliance with post-op PE tube follow-up when the child receives a pre-operative hearing test. This is significant as it would impact not only patient outcomes, but also emphasizes the importance of multidisciplinary care for children with recurrent ear infections.

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Findings on drug-induced sleep endoscopy in infants with laryngomalacia

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Abstract

Findings on drug-induced sleep endoscopy in infants with laryngomalacia

Background: Laryngomalacia (LM) is the most common diagnosis in infants with stridor. Obstructive sleep apnea (OSA) is highly prevalent in infants with LM. The objective of this study is to explore the utility and describe the findings on drug-induced sleep endoscopy (DISE) in infants with LM.

Methods: A retrospective review of children 12 months old or less with LM who underwent DISE with direct laryngoscopy and bronchoscopy (DLB) was performed. Data collected included swallow study results, sleep study results, past medical and surgical history, and postoperative outcomes. The findings on DISE and DLB were reviewed and described.

Results: Thirty-five infants were included in the study with a mean age of 0.42 years (range 0.037-1.04). Sleep-disordered breathing (SDB) and/or OSA were identified in 22 patients (63%). DISE demonstrated sleep-dependent LM in 31 patients (89%). DISE identified 12 patients (34%) with moderate or severe obstruction at the level of the tongue base. DLB identified 14 patients (40%) with a secondary airway abnormality including 7 patients (20%) with type 1 laryngeal cleft and 4 patients (11%) with grade 1 subglottic stenosis. Eighteen patients (51%) underwent supraglottoplasty. Of the 28 patients with follow-up data, all symptoms resolved in 20 patients (71%).

Conclusion: DISE at the time of DLB for infants with LM can be helpful in identifying additional sites of obstruction including the tongue base. Given these potential benefits the authors propose performing DISE routinely at the time of DLB for infants with LM.

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Parotid Gland Giant Cell Tumor in a Toddler: Case Report and Review of Literature

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Abstract

Background: Giant cell tumor (GCT) is rarely described in extra-skeletal sites with only 20 cases reported in the salivary glands in the English-language literature. This neoplasm can present as an isolated tumor or associated with a carcinomatous component. We report a rare case of GCT of the parotid gland in a 15-month-old female.

Methods: A 15-month-old female presented with a firm left-sided parotid mass following an uncomplicated upper respiratory infection. This was treated with two courses of oral antibiotics without improvement, and ultrasound demonstrated a 2.7 x 1.7 x 1.4 cm solid mass. She was referred for surgical assessment 6 weeks later and follow-up ultrasound demonstrated growth to 4.7 x 3.5 x 2.4 cm. Laboratory studies revealed serum lactate dehydrogenase elevation to 457 U/L. Patient underwent a left superficial parotidectomy with facial nerve dissection. The procedure was well-tolerated, and the patient was discharged on postoperative day 2.

Results: Fine needle aspiration smears exhibited hypercellular proliferation of oval to plasmacytoid to spindle, suggestive of mesenchymal origin. Histopathology of excised mass demonstrated hypercellular tumor with spindle cells and fibrous pseudocapsule and diagnosis of giant cell tumor of low malignant potential was made.

Conclusions: GCT of the parotid gland is a rare tumor not previously reported in a pediatric patient with the typical age at diagnosis ranging between 30-92 years. Definitive diagnosis can be made using histopathological examination with surgical excision being the preferred treatment modality. Radiotherapy may be considered following resection, depending on cellular and molecular tumor characteristics.

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ChatGPT: Easy Chat or Back to the Internet?

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Abstract

Background: ChatGPT (Generative Pre-trained Transformer), is an artificial intelligence platform by OpenAI. It delivers data-driven responses to questions in a conversational tone, has been trained on millions of pages of data from the internet and is the fastest growing consumer application to date. Amongst limitations - it can deliver different answers depending on input phrasing and write plausible-sounding but incorrect answers. As patients seek answers to medical questions via this tool, providers should be aware of its reliability and nuances.

Methods: We conducted a study on the feasibility of using ChatGPT for common pediatric ENT conditions of snoring, sleep apnea and cerumen impaction. ChatGPT responses were compared to the top web pages recommended by Google in the following domains: Readability (Flesch-Kincaid grade level and word count), Expediency (time taken to generate response), Validity (comparison of recommendations to AAO-HNS clinical guidelines) and Consistency (changes in recommendations based on alterations in question).

Results: Responses from ChatGPT had a higher reading level when compared with Google sources, but not statistically significant ($p = 0.168$). ChatGPT had statistically significant fewer words ($p < 0.05$). ChatGPT was more expeditious in generating responses than finding the first Google source ($p < 0.05$). There was no difference in validity between two sources ($p = 0.356$). Valid responses were obtained via both sources when varied questions were asked.

Conclusions: ChatGPT may be a valid source comparable to internet materials, providing succinct and reliable information.

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Neonatal Nasal Obstruction: A Comprehensive Analysis of Our Experience

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Manipal Hospitals, Bengaluru, Karnataka, India

Dr Deepa Shivnani

Abstract

Background:

Neonates are obligatory nasal breathers hence nasal obstruction is a very important symptom to be evaluated. Although causes can be trivial most of the times, it can be life-threatening in some. Respiratory distress immediately after birth, feeding difficulties, paradoxical cyanosis and failure to thrive are the most evident symptoms and determination of unilateral or bilateral involvement guides the rationale for elective or emergency intervention.

Methods:

We collected the data of all the neonates evaluated for nasal obstruction at our hospital over past 10 years and assessed the strategy of approach for diagnosis and management of those cases.

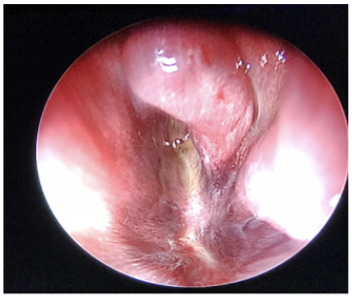
Results:

Total 63 neonates were included in the study. The commonest cause for neonatal nasal obstruction was found to be choanal atresia and the rarest was iatrogenic. The sign & symptom at presentation ranging from stertor, feeding difficulties to external deformity and the percentage of association was calculated.

Conclusion:

As neonatal nasal obstruction has multitude of rare causes, each carries a unique assessment and treatment plan. History taking and clinical examination carries the most important part of evaluation including endoscopic evaluation in an office-based setup. Imaging studies add to the evaluation in cases of anatomical obstructions and associated anomalies (syndromes). Early diagnosis and swift intervention can be life saving. Need for follow-up visits and second stage corrections should be emphasized in getting the best long-term results.

FEW GLIMPSE



Choanal Atresia

Naso Lacrymal Duct Cyst

Iatrogenic

Post Necrosis

Bifid Nostril

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Microlaryngoscopy/Bronchoscopy Alone is Non-Diagnostic in Most Neonates.

Mr George Cooper BMedSci(Hons)[1], Mr Michael Hopkins BSc(Hons), MBChB, PGCMEd, MRCS (ENT)[2], Mr Alok Sharma MBBCh, FRCS(ORL-HNS)[3]

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Mr George Cooper

Abstract

Background: In neonatal patients with significant breathing difficulties, flexible nasolaryngoscopy (FNL) is often non-diagnostic. In such cases, formal microlaryngoscopy bronchoscopy (MLB) under general anaesthesia is considered the gold-standard investigation. However, there are several challenges to effective MLB in this patient group. Subsequently, we assessed the diagnostic efficacy of MLB in neonatal populations.

Methods: We reviewed cases undertaken by the primary paediatric airway otolaryngologist at our tertiary centre (Royal Hospital for Children and Young People, Edinburgh, UK) from March 2011 to December 2020. Patients aged <28 days who presented with airway obstruction and non-diagnostic FNL were eligible. Cases of non-diagnostic MLB were identified, before diagnoses and investigative burden were compared with diagnostic MLB.

Results: Of 376 cases, 9 neonates were eligible (mean age 9.4±10.2 days, 45% female). Four MLBs (44%) were non-diagnostic (including all cases of cystic/ neoplastic intramural disease), with imaging providing definitive diagnosis in each case (100%). Figure 1 shows how patients undergoing imaging required significantly more investigations (2.8±1.0) for diagnosis (1.2±0.4, p=0.03).

Conclusions: In neonates, MLB is a rarely performed but frequently non-diagnostic procedure. When approaching these patients, formal nasal examination with rigid endoscopy should routinely be performed alongside flexible and MLB, with a low threshold for further diagnostic imaging such as CT or MRI.

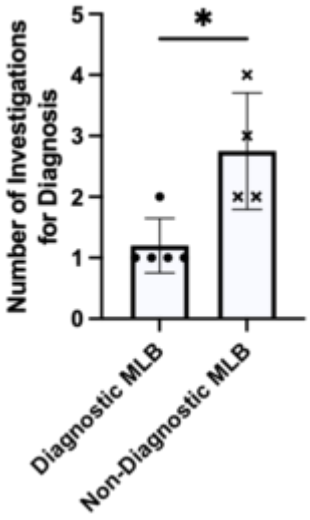

Figure 1: Burden of Investigation for Neonates Presenting with Upper Airway Obstruction. Increased total number of investigations relative to direct visualisation in neonates (DV: 1.2±0.4, Imaging: 2.8±1.0, p=0.03). Pairwise comparison was performed with Mann-Whitney-U test.

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Treatment of Infantile Airway Haemangiomas should be personalised.

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Mr George Cooper

Abstract

Background: Infantile haemangiomas are the most common vascular neoplasms of childhood. Although benign, these lesions can present with progressive and potentially life-threatening airway obstruction (IAH). Whilst oral propranolol is first-line therapy, dosage and duration of treatment remains controversial.

Methods: We identified all cases of IAH treated by the primary paediatric airway otolaryngologist at our tertiary centre (Royal Hospital for Children and Young People, Edinburgh, UK) from March 2011 to December 2020.

Results: Six patients with IAH were identified. All patients were female. Median age at presentation was 51.5 days (0-815). Three patients had subglottic haemangiomas, one a trans-glottic lesion, and another had extensive pharyngoepiglottic disease. One patient had an asymptomatic nasal haemangioma, requiring no treatment or follow-up.

Four patients commenced oral propranolol 2mg/kg/day, with 75% showing initial treatment response. One patient initiated 0.75mg/kg/day with poor responsiveness. Mean time from presentation to initiation of propranolol therapy was 6±8.7 days, with mean duration of 3.9±1.7 years.

All patients obtained remission. One patient received supplementary dexamethasone, and another vincristine (concurrent B-cell acute leukaemia). Patients underwent regular follow-up with microlaryngoscopy bronchoscopy (median 8, range 6-13). One patient reported night terrors with 8mg thrice-daily propranolol.

Conclusions: Whilst 2mg/kg/day oral propranolol is sufficient for IAH treatment, individual disease trajectory and duration can be highly variable. We recommend that once disease control is obtained, patients maintain a constant dosage, preventing relapse or recurrence by enabling tapering with increasing body weight. Rather than dictatorial treatment regimes, management should be tailored to control and allow natural resolution.

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Calcium Hydroxylapetite (Radiesse) Injection in Type 1 Laryngeal Clefts.

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Mr George Cooper

Abstract

Background: Laryngeal cleft (LC) is a congenital malformation, characterised by laryngeal penetration, silent aspiration, and resultant lung disease that occurs in approximately 1/10-20,000 live births. Significant diagnostic controversies exist between the identification of type 1 LC or deep intra-arytenoid notch, whilst given its rarity, management approaches remain diverse, involving minimally invasive injections or surgical closure to improve swallowing function.

We aimed to evaluate the efficacy of Calcium Hydroxylapetite (CaHA, Radiesse, USA) injection for LC closure

Methods: A cohort of symptomatic patients initially referred to our tertiary service by respiratory physicians and, following direct visualisation, subsequently diagnosed with type 1 LCs were identified between March 2011 to December 2020. Outcomes between patients who received speech and language therapy (SALT) alone or SALT with CaHA injection were compared.

Results: Seventeen type 1 laryngeal clefts were identified. Four patients with significant symptomatology received CaHA injections and SALT, whilst thirteen were managed conservatively with SALT alone. There were no significant differences between age at diagnosis and sex.

All the injected patients achieved symptomatic resolution with a significant decrease in hospitalisation and need for prophylactic antibiotics. Furthermore, two of the initially conservatively managed patients later received injections versus no further treatment in the injection group (relative risk=1.88, 95% confidence interval: 0.10-33.66, p=0.67).

Conclusions: LC injection is a simple, minimally invasive technique. Acting as an adjunct to SALT, laryngeal injection can significantly decrease morbidity and hospitalisation in LC patients. In our experience CaHA injections are an effective primary treatment for symptomatic type 1 LC.

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Infection Rate Following Mandibular Distraction with Internal and External Devices in Infants

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Tufts Medical Center, Boston, MA, USA

Abstract

Background: Mandibular distraction osteogenesis (MDO), a surgical option for addressing micrognathia and its associated sequelae, may be performed using either internal or external hardware. Postoperative infection is a common complication following MDO, with severity of such infections ranging from localized pin site cellulitis to fulminant osteomyelitis. The purpose of this study is to investigate the rate and severity of post-operative infection within a cohort of infants who underwent MDO with internal or external devices.

Methods: The records of infants <12 months of age who underwent MDO at a single tertiary medical center were examined retrospectively. The rate and severity of infections were primary outcomes. Statistical analysis was performed using Chi-Square and Fisher Exact Tests.

Results: Between 2010-2022, 36 infants (7 days-12 months) underwent bilateral MDO, amounting to 72 unique surgical sites (26/72 internal devices (36.1%); 46/72 external devices (63.9%). There were no differences in age, weight, or syndromic diagnosis among internal and external device groups. In total, 41.7% of patients (26.4% of surgical sites) developed post-operative infection; the majority (14/19 sites (73.7%) were minor in severity. Rates of minor infection were 6/26 (23.1%) among internal devices and 8/46 (17.4%) among external devices (P=0.56). Rates of major infection were 4/26 (15.4%) among internal devices and 1/46 (2.2%) among external devices (p=0.05).

Conclusion: Infants undergoing MDO with internal or external devices may experience similar rates of postoperative infection. Implanted, internal devices may be more prone to major infection compared to external hardware.

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Risk Factors for Severe Complications Following Button Battery Ingestion: A Single Center Experience

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William Cohen

Abstract

Background: Button battery (BB) ingestions in small children can cause significant morbidity. Minimal data is available for prediction of poor outcomes.

Methods: All patients treated at a single institution following BB ingestion between 2018-2022 were included. Chart review was performed from admission through initial outpatient follow-up.

Results: Twenty patients were included; 7 (35%) suffered severe complications (SC) including two tracheoesophageal fistulas (TEF), 2 esophageal perforations, 2 with isolated mediastinitis/mediastinal abscess, and 1 unilateral vocal cord paralysis (VCP). Those with SC were younger (463[304-689] vs 1193[871-2369] days, p=.013) and had lower weight (10.5[10.1-12.6] vs 13.8[12.1-25] kg, p=0.01). 5/7 (71.4%) SCs were unwitnessed ingestions (vs 3[23%], p=0.06), with a median estimated presentation of 16[6-96] hours post-BB ingestion (vs 2.8[1.8-4.9], p=0.01). Hospital presentation-to-induction time did not vary (p=0.14). The only presenting symptom statistically more common in SC was difficulty managing oral secretions (5[71.4%] vs 1[7.7%], p=0.01). Esophageal location (p=0.28) and anode direction (p=0.63) were not predictive of SC, though 5/7 (71.4%) BBs with SCs vs 5/13 (38.5%) without SC were found in the upper esophagus. Both TEF’s were from anterior facing anodes and both perforations were from posterior facing anodes. All patients with SC (7/7,100%) had Zargar mucosal injuries of ≥IIIB, compared to 3/13(23.1%) (p=0.04) without SC.

Conclusions: Severe complications following BB ingestion were associated with younger age, unwitnessed ingestion with longer pre-hospital time, difficulty managing oral secretions, and mucosal injury ≥IIIB.

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Clinical Utility and Safety of Flexible and Rigid Bronchoscopy for Critically Ill Pediatric Patients on Extracorporeal Membrane Oxygenation

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Abstract

Background: Extracorporeal membrane oxygenation (ECMO) is increasingly utilized to support pediatric patients with severe cardiopulmonary failure. Otolaryngologists frequently perform serial bronchoscopy for these patients to relieve tracheobronchial obstruction in anticipation of decannulation. We aimed to evaluate the safety and utility of bronchoscopy for patients on ECMO.

Methods: A retrospective cohort study of children on ECMO between 1/2018-12/2022.

Results: A total of 107 pediatric patients required veno-arterial (n=98, 92%) or veno-venous (n=9, 8%) ECMO during the study period. ECMO was indicated for cardiac dysfunction (n=48, 45%), pulmonary dysfunction (n=38, 36%), or both (n=21, 20%). Thirty-seven (35%) patients underwent a total of 99 bronchoscopies while on ECMO. Most (76%, n=75) experienced no improvement or worsening of chest radiography 24 hours following bronchoscopy. Tidal-volumes improved clinically in 13/25 patients 48 hours after the first bronchoscopy (P=0.05). Eighteen (49%) patients experienced a complication within 48 hours of bronchoscopy with pneumothorax (n=8, 22%) being the most common. ECMO courses were longer (25.4±37.2 vs 6.1±8.8 days, P=<0.0001) and more likely to be complicated by pneumonia (P =0.0004) and sepsis (P =0.047) in patients who underwent bronchoscopy compared to those who did not. Complications following bronchoscopy were associated with the number of bronchoscopies (p=0.0003) and the presence of clots (p=0.0031) or mucus plugs (p=0.0128). Complications were not associated with type of bronchoscopy nor indication for ECMO.

Conclusion: The majority of patients do not demonstrate improvement in post-procedure chest radiography. Complications are associated with the number of bronchoscopies and the presence of obstructive material.

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Case Report: Tracheal Agenesis in Neonate

Arman Saeedi MPH[1], Dr. Olivia Kalmanson MD[2], Dr. Jeremy Yang MD[2,3], Dr. Soham Roy MD[2,3]

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Abstract

Background:

Tracheal agenesis is a rare and often fatal diagnosis. With a prenatal diagnosis, oxygenation may occur through a congenital tracheoesophageal fistula or transitioned to extracorporeal membrane oxygenation. We present a case of undiagnosed tracheal agenesis in a newborn.

Methods: Case Report

Results:

A neonate was delivered via emergent Caesarean section for preterm labor at 33 weeks gestation with known polyhydramnios and double outlet right ventricle. No prenatal evaluation of polyhydramnios was performed. After delivery, the patient developed respiratory distress and required intubation. Neonatology and Anesthesia teams attempted intubation unsuccessfully and the Otolaryngology team was called emergently. Laryngoscopy yielded no visible glottic opening.

Oxygen saturations were maintained in the 60% range with mask ventilation. Emergent ECMO cannulation was performed because of the suspicion of tracheal agenesis and severe perinatal acidosis during resuscitation. CT revealed no discernible trachea and Scimitar syndrome with partial anomalous pulmonary venous return. Neck ultrasound confirmed the absence of a trachea. After a discussion with the family, the decision was made to withdraw care, and the patient expired.

Conclusion:

Both tracheal agenesis and congenital heart conditions are diagnoses with surgical treatment options. However, survival with tracheal agenesis is limited, and typically occurs in the absence of other congenital anomalies. Given the combination of tracheal pathology, congenital heart disease and suspected genetic anomalies, the decision was made to withdraw care. This case highlights the importance of proper prenatal evaluation of conditions like polyhydramnios, as well as the complexity of diagnosing and managing emergent pathologies like tracheal agenesis.

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Clinical and Neurophysiologic characteristics of pediatric laryngeal dyskinesia; a consecutive case series

Dr Nasser Alobida MD[1], Dr Ameen Binnasser MD[2], Dr Aleksandra Krajacic PHD[1], Dr Hamdy El-Hakim MD[1]

[1]Divisions of Pediatric Surgery and Otolaryngology-Head and Neck Surgery, Departments of Surgery and Pediatrics, The Stollery Children's Hospital and University of Alberta Hospital., Edmonton, Alberta, Canada. [2]King Fahad Medical City, Riyadh, central, Saudi Arabia

Dr Nasser Alobida

Abstract

Objectives:

The epidemiology of types of laryngeal mobility disorders (LMD); paralysis, dysfunction, dyskinesia (LD) and fixation/dislocation) in children, have been partly characterized. We aim to report the clinical and neurophysiological parameters of a consecutive series of children with LD.

Method:

this is a retrospective, uncontrolled study, at tertiary care practice. Eligible children (<17 years old) were stridorous patients suspected of a LMD. We included only those diagnosed with LD and followed up for at least three months, who were assessed endoscopically (+/-) laryngeal electromyography (LEMG). The LEMG recordings were graded on a five-point scale according to amplitude of the motor unit potential and relation to the respiratory cycle. Demographics, comorbities, results of LEMG, and outcomes are presented.

Results:

Between 2004 - 2023, 39 patients (26 boys; median age 3 months, range 0.2-266 months) were identified. All patients presented with intermittent stridor and uniform disparity between abduction in the awake and sedated states. Five had secondary airway lesions. Eleven had swallowing dysfunction, nineteen sleep disordered breathing and six gastro-esophageal reflux disease. Thirty-seven had undergone LEMG. The median follow up was 10.5 months (range 5-20). Symptoms improved in all patients. Asymmetric median LEMG grades of both sides was a consistent feature, with the right side affected more.

Conclusion:

LD appears to be mostly self-limiting. It is consistently characterized by intermittent stridor, differences between awake and sedated endoscopic findings, and the asymmetry of movement and LEMG grades.

Speaker Bio

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Adenoid Tissue as a Source of Persistent “Hemoptysis:” a Case Report

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Abstract

Background: The differential diagnosis for aerodigestive bleeding is broad, with numerous possible sources and contributory pathologies. This report describes a unique etiology of upper airway bleeding in a pediatric patient.

Methods: Case Report

Results: An otherwise healthy 17-year-old female presented with a three-month history of "coughing up blood” without identifiable source. Referrals were made to gastroenterology, otorhinolaryngology, and pulmonology for comprehensive aerodigestive evaluation. In-office flexible fiberoptic nasolaryngoscopy with otorhinolaryngology revealed adenoid hypertrophy without a clear upper aerodigestive source. Initial CTA imaging was notable for 2 mm pulmonary arteriovenous malformation in the left upper lobe. Suspicion was high for hereditary hemorrhagic telangiectasia, and genetic testing was performed.

The patient was taken to the operating room and underwent EGD and flexible fiberoptic bronchoscopy with bronchoalveolar lavage. Evaluation was notable for adenoid growth with a newly apparent polypoid structure that bled profusely with minimal manipulation. No additional source of bleeding was identified in the gastrointestinal tract or airway. Hemosiderin macrophage index was 0, making the lungs an unlikely source. Adenoidectomy and tissue biopsy was performed. Final pathology demonstrated benign nasopharyngeal mucosa with lymphoid hyperplasia. The patient has done well post-operatively without recurrence of bleeding.

Conclusions: Differential diagnosis for aerodigestive bleeding is broad. This report highlights the importance of comprehensive multidisciplinary evaluation and demonstrates the rare occurrence of adenoid hypertrophy as a contributory source of unexplained aerodigestive bleeding.

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Pediatric Nontuberculous Mycobacterial Cervicofacial Lymphadenitis: Outcomes Based on Treatment Modality

Tina Lam BS, Kevin Koss MD, Jazzmyne Adams MPH, David Friedland MD PhD, Michael McCormick MD
Medical College of Wisconsin, Wauwatosa, WI, USA

Tina Lam

Abstract

Pediatric Nontuberculous Mycobacterial Cervicofacial Lymphadenitis: Outcomes Based on Treatment Modality

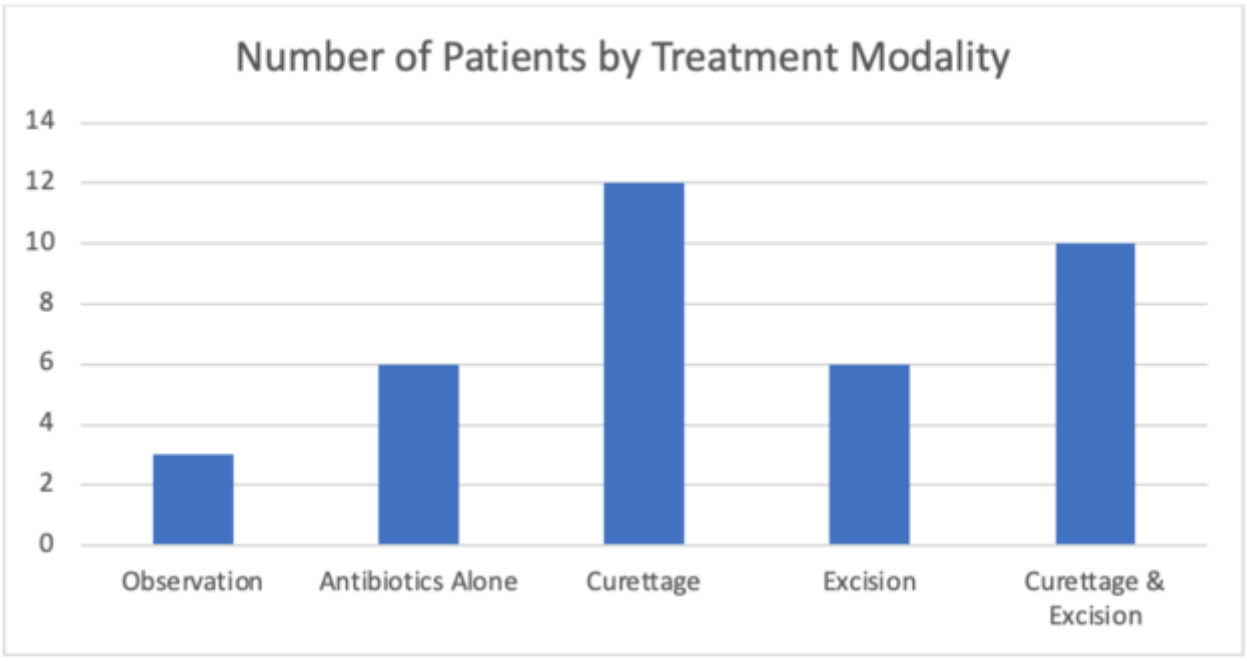
Background: Nontuberculous mycobacteria (NTM) commonly causes cervicofacial lymphadenitis in immunocompetent children. There are multiple treatment options available resulting in controversy regarding the optimal approach. This study sought to characterize outcomes in pediatric patients with NTM lymphadenitis based on treatment modality.

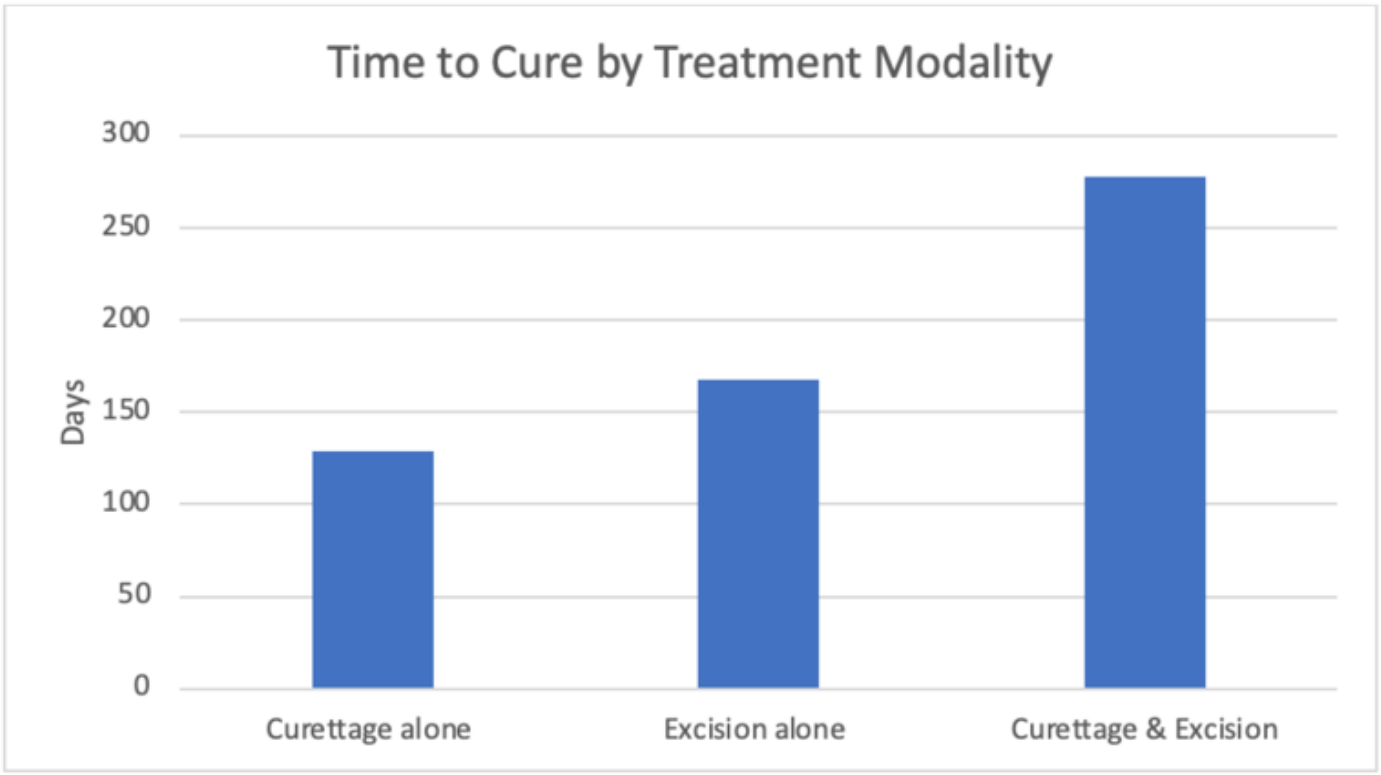
Methods: Retrospective observational cohort study of children diagnosed with NTM lymphadenitis between 2011 and 2022 at a tertiary pediatric medical center. Descriptive statistics regarding treatment modalities, outcomes, and complications are provided.

Results: Among 37 children diagnosed with NTM lymphadenitis, 20 were male (54.1%) and average age was 33.1±29.8 months. Six (16.2%) patients were treated with antibiotics alone and 3 were simply observed. The remainder (n=28) underwent procedural intervention, including curettage alone (42.9%), excision alone (21.4%) or both (35.7%). 43.2% of patients who had a procedure required another operation. The average number of procedures performed was 1.9. Overall average time to cure was 191.3 days. For curettage alone, average time to cure was 128.7 days. For excision alone, average time to cure was 167.3 days. Those undergoing multiple procedures had an average time to cure of 277.7 days. Three patients developed marginal mandibular nerve injury following complete excision.

Table 1. Patient Demographics

	All Patients (n=37)
Age, median, months	33.1±29.8
Gender, % (no.)	
Female	45.9 (17)
Male	54.1 (20)
Race, % (no.)	
White	83.8 (31)
Black	2.7 (1)
Other	5.4 (2)
Unknown	0.2 (3)
Ethnicity, % (no.)	
Hispanic or Latino	16.2 (6)
Not Hispanic or Latino	81.1 (30)
Unknown	2.7 (1)





Conclusion: Children diagnosed with NTM lymphadenitis predominantly underwent surgical intervention. Almost half required reoperation. Nerve injury was only observed in patients who underwent complete excision. Clinical presentation, risks of complications, and extended time to cure should be weighed when counseling patients about treatment options.

Speaker Bio

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The Red Rubber Will Not Pass: Diagnosis of Unilateral Choanal Atresia during Adenoidectomy

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Dr. Benjamin Bernard

Abstract

Background: Choanal atresia is a congenital disorder in which the nasal choanae do not recanalize during fetal development. It can be either unilateral or bilateral. Unilateral choanal atresia tends to present with symptoms of unilateral nasal obstruction, rhinorrhea, and sinusitis. It is usually diagnosed in childhood but can go undiagnosed into adulthood.

Methods: Case report with information taken from the electronic medical record in accordance with hospital policies.

Results: We describe the case of an 11-year-old obese male who presented to clinic with snoring, bilateral nasal congestion, and a sleep study confirming severe obstructive sleep apnea. Anterior rhinoscopy confirmed bilateral inferior turbinate hypertrophy however nasal endoscopy was deferred. There was no history of unilateral rhinorrhea. The patient underwent a tonsillectomy, adenoidectomy, and bilateral inferior turbinate reduction. During the adenoidectomy, a red rubber could not be passed in the right nasal cavity. After placement of the Crowe-Davis retractor, a right-sided unilateral choanal atresia was noted and was confirmed with nasal endoscopy and further CT imaging.

Conclusions: Unilateral choanal atresia can go undiagnosed in children due to sometimes vague symptomatology. In-clinic nasal endoscopy should be strongly considered in any patient with nasal congestion. Further, choanal atresia and other posterior nasal cavity abnormalities should be ruled out by close inspection during all adenoidectomies.

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Designing a Patient Navigator to Promote Health Equity and Outcomes for Children who are Deaf or Hard-of-Hearing

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Neema Rashidi

Dr Dylan Chan

Abstract

Background: Infant hearing loss is the most common neonatal sensory disorder, with an incidence of 1.7 per 1000 births. Vulnerable parent populations, including immigration status, socioeconomic status, and low English-comfortability, are primarily at risk for delays in care navigation for supporting children born deaf/hard of hearing (DHH). These delays in care navigation place the child at higher risk for delays in hearing loss intervention and, consequently, lead to language and developmental delays.

Methods: Utilizing Human-Centered Design, we performed semi-structured interviews focused on identifying barriers in the care navigation process from the perspectives of providers. We conducted thematic analysis and derived insight statements as areas of opportunity for the prospective design of the Patient Navigator role. We interviewed 12 providers across four independent children’s hospitals, prioritizing diversity in role.

Results: All interviews demonstrated a need for a patient navigator. Further analysis revealed language, transportation, and socioeconomic status as observed barriers to care. In addition, interviews uncovered how the educational and medical systems can feel overwhelming for families and cause them to lose touch with providers, leading to delays in care. Since hearing loss diagnoses carry an emotional burden, providers felt that a family-centered emphasis of care is paramount in preventing delays.

Conclusions: Our study demonstrates a major need for a Patient Navigator. Our thematic analysis will inform our prospective design of the role as according to Human Centered Design principals. Next steps will include interviewing families of DHH children for shared themes prior to final design of the intervention.

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Pediatric Tracheostomy Practices and Rates of Postoperative Complications during the COVID-19 Pandemic

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Adam Sheikali

Abstract

Background: During the early months of the COVID-19 pandemic, aerosol-generating procedures, including tracheostomies, were generally avoided. We aim to investigate whether practices in tracheostomy placement were affected by the COVID-19 pandemic, and if there were changes in tracheostomy-related complications when compared to the prior year.

Methods: We conducted a retrospective chart review of tracheostomies placed prior to COVID-19 (Cohort 1: March 1, 2019-February 29, 2020) compared to the first year of the COVID-19 pandemic (Cohort 2: March 1, 2020-February 28, 2021). Demographics, medical comorbidities, duration of intubation, and post-tracheostomy complications were collected and analyzed. Additional sub-analyses were performed on neonatal intensive care unit (NICU) patients.

Results: A total of 47 tracheostomies were performed during the study period (Cohort 1: 34 patients, Cohort 2: 13 patients). The median ages of patients in cohort 1 and 2 were 5.46 months and 6.46 months, respectively. Among NICU patients, the mean duration of intubation for non-excluded individuals in cohort 1 was 114.48 days, which was similar to cohort 2 at 118.82 days. The mean number of extubation trials was similar between the two cohorts (2 for cohort 1 and 2.27 for cohort 2). Rates of post-op complications between the cohorts were not statistically significant ($p>0.05$).

Conclusion: Post-op complication rates between patients in the pre-COVID19 era and early COVID19 era were not statistically significant. Although there were perceived changes in practices regarding aerosol-generating procedures, this did not appear to impact timing of tracheostomy placement or post-operative complication rates.

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Head and Neck Injuries in Youth Sports: An NEISS Database Study

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Mr. Ayomide Isola-Gbenla

Ms. Dominique Paderin

Abstract

Background: Over 60 million children and adolescents compete in sporting events each year according to the National Council of Youth Sports. To date, no study has conducted comparative analysis of sports with a focus on the prevalence of pediatric head and neck injuries.

Methods: The National Electronic Injury Surveillance System was utilized to create a dataset of emergency room visits by patients aged 2 to 18 who sustained head/neck injury while participating in sports in the 5 year span of 2018 to 2022. Data was extracted to analyze the frequency of injuries, average age, sex, monthly/yearly totals, treatments administered, body parts injured, and injury type for 17 different sports.

Results: Football had the most head/neck injuries (4,066), followed by hockey (3,265), soccer (3,100), and swimming (3,040). The fewest injuries occurred in tennis (97). The most common head/neck injuries of football were concussions, internal injuries of the head, and neck strain/sprains. Of the sports injuries, those due to horseback riding were most likely to result in hospitalization (11.77%). Horseback riding was the only sport that did not have a significant decrease in injury rate at the onset of COVID-19 in 2020. Swimming had the youngest average age of injured athletes (9.62).

Conclusion: The collected data represents the different patterns in which head and neck injuries occur in children and adolescents who participate in various sports activities.

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Preoperative Oxycodone Utility in Perioperative Pain Management after Pediatric Adenotonsillectomy

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Abstract

Background: Postoperative pain following pediatric adenotonsillectomy can be significant, and is associated with both discharge delays and increased hospital costs. Although preoperative narcotics are effective in reducing perioperative pain, the introduction of opioid sparing protocols has created controversy as to an optimal regimen.

Methods: Following IRB approval, the electronic medical records of 1366 pediatric patients aged 1-18 years undergoing adenotonsillectomy at Children's Hospital Colorado between 11/1/2020 and 11/1/2022 were retrospectively reviewed. Surgeries occurred at both the main hospital campus (a free-standing tertiary care center) and two outpatient satellite campuses. The primary aim of our analysis was to compare the risks vs benefits of administering preoperative opioids, as well as the impact of these regimens on PACU discharge criteria.

Results: Preoperative oxycodone use was associated with less rescue opioid use (34% vs 61%, $p < 0.001$), reduced need for intraoperative opioids ($p = 0.034$), and less overall postanesthesia/PACU opioid use ($p < 0.001$). The duration of PACU stay was also decreased in patients who received opioids preoperatively.

Table 1. Patient Demographics and Outcome Differences Stratified by Pre-Operative Narcotic Use.

	No Pre-Op Narcotics (N=979)	Pre-Op Narcotics (N=387)	P-Value	Overall (N=1366)
Sex				
Male	473 (48.3%)	167 (43.2%)	0.096	640 (46.9%)
Female	506 (51.7%)	220 (56.8%)		726 (53.1%)
Race				
White	676 (69.1%)	261 (67.4%)	0.388	937 (68.6%)
Black	32 (3.3%)	9 (2.3%)		41 (3.0%)
Other	219 (22.4%)	88 (22.7%)		307 (22.5%)
Unknown/Not Reported	52 (5.3%)	29 (7.5%)		81 (5.9%)
Ethnicity				
Not Hispanic or Latino	696 (71.1%)	251 (64.9%)	**0.029**	947 (69.3%)
Hispanic or Latino	283 (28.9%)	136 (35.1%)		419 (30.7%)
Insurance				
Governmental	551 (56.3%)	176 (45.5%)	**0.001**	727 (53.2%)
Commercial	417 (42.6%)	207 (53.5%)		624 (45.7%)
Other	11 (1.1%)	4 (1.0%)		15 (1.1%)
Procedure Duration				
Mean (SD)	23.9 (14.0)	20.4 (8.36)	**<0.001**	22.9 (12.8)
Median [Min, Max]	20.0 [0, 184]	19.0 [5.00, 76.0]		20.0 [0, 184]
Rescue Opiod Use				
No	351 (35.9%)	255 (65.9%)	**<0.001**	606 (44.4%)
Yes	628 (64.1%)	132 (34.1%)		760 (55.6%)
PACU Time (mins)				
Mean (SD)	49.7 (24.3)	46.1 (24.3)	**0.026**	48.7 (24.3)
Median [Min, Max]	45.0 [6.00, 211]	41.0 [2.00, 143]		45.0 [2.00, 211]
Missing	26 (2.7%)	6 (1.6%)		32 (2.3%)
Behavior Assessment				
Smooth	591 (60.4%)	274 (70.8%)	0.08	865 (63.3%)
Moderate	47 (4.8%)	10 (2.6%)		57 (4.2%)
Difficult	15 (1.5%)	6 (1.6%)		21 (1.5%)
Missing	326 (33.3%)	97 (25.1%)		423 (31.0%)
Intra-Operative Opioid Free				
Yes	2 (0.2%)	5 (1.3%)	**0.034**	1359 (99.5%)
No	977 (99.8%)	382 (98.7%)		7 (0.5%)
Post-Operative Opioid Free				
Yes	351 (35.9%)	255 (65.9%)	**<0.001**	606 (44.4%)
No	628 (64.1%)	132 (34.1%)		760 (55.6%)
Weight Adjusted Intraop Opioids				
Mean (SD)	0.135 (0.0596)	0.125 (0.0483)	**0.033**	0.132 (0.0567)
Median [Min, Max]	0.128 [0, 0.496]	0.122 [0, 0.289]		0.127 [0, 0.496]
Weight Adjusted Postop Opioids				
Mean (SD)	0.0296 (0.0337)	0.0201 (0.0338)	**<0.001**	0.0269 (0.0340)
Median [Min, Max]	0.0250 [0, 0.208]	0 [0, 0.191]		0.0246 [0, 0.208]

Conclusions: Preoperative oxycodone demonstrates significant utility in reducing intraoperative and postoperative opioid administration after pediatric adenotonsillectomy, with shortened PACU time requirement and less need for rescue opioid use.

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Effects of Social Determinants of Health on Pediatric Tonsillectomy Utilization: A Systematic Review

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Abstract

Background: Tonsillectomy is one of the most common procedures performed in children. Individual studies have shown that sociodemographic factors impact pediatric tonsillectomy utilization. We aimed to perform a systematic review of the social determinants of health (SDOH) related to pediatric tonsillectomy rates.

Methods: A systematic review was performed in accordance with the PRISMA guidelines using the PubMed, Scopus, and CINAHL databases. Included articles evaluated tonsillectomy rates in patients less than 21 years old for the treatment of tonsillitis and/or sleep-disordered breathing in relation to one or more SDOH.

Results: A total of 22 articles (N=777,334 patients) were included for data extraction. Black (n=9 articles) and Hispanic (n=3) children had lower rates of tonsillectomy than their White counterparts when race and ethnicity were used as demographic descriptors. Children with public insurance underwent tonsillectomy at higher rates than children with private insurance (n=4), although 2 studies did not note a difference in tonsillectomy based on insurance. There was considerable variation in tonsillectomy rates based on socioeconomic status (SES) with some studies showing higher rates of tonsillectomy among lower SES (n=3), higher SES (n=4), and no difference in tonsillectomy rates based on SES (n=2).

Conclusions: This systematic review suggests that SDOH impact pediatric tonsillectomy rates, particularly when stratified by race and ethnicity. However, the impact of insurance type and SES on tonsillectomy rates remains unclear. Future research should focus on understanding the driving factors behind these variations in tonsillectomy rates to achieve health equity

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Access to the Medical Home Among US Children with Deafness and Hearing Problems

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[2]Division of Pediatric Otolaryngology, Department of Otolaryngology–Head and Neck Surgery, San Francisco, California, USA

Inderpreet K. Khalsa

Abstract

Background:

Since 2001, the American Academy of Pediatrics has advocated for improving the effectiveness of newborn hearing screening, diagnosis, and intervention and reducing hearing health disparities through the medical home model of care (MHMOC). However, to date, the extent of MHMOC access as well as its components among US children with deafness/hearing problems and the demographic characteristics associated with being served in a MHMOC among these children has not yet been identified.

Methods:

Data from the National Survey of Children's Health, an annual serial cross-sectional survey, from 2016-2020 were analyzed. Participants were 12,121 children with deafness/hearing problems (DHH children); 171,523 without deafness/hearing problems (non-DHH children); 38,722 with other special health needs (other SHCN children); and 9,315 with SHCN and asthma without deafness/hearing problems (SHCN children with asthma) ages 0-17 years, representing a total population of approximately 73 million US children and adolescents. Univariate statistics and multivariate logistic regression analyzed the association of hearing problems with overall medical home care and its components and cohort disparities. After adjusting for sex, race/ethnicity, primary household language, household education, federal poverty level, and insurance status, odds ratios were computed.

Results:

	DHH children vs. Non-DHH Children		*DHH children with SHCN vs. Other SHCN Children*		*Only DHH children with SHCN vs. SHCN Children with Asthma*	
Outcome Measure	AOR (95% CI)	*P* Value	AOR (95% CI)	*P* Value	AOR (95% CI)	*P* Value
Medical Home	0.74 (0.57, 0.97)	0.028*	0.72 (0.55, 0.93)	0.011*	0.64 (0.47, 0.86)	0.003*
Component 1: Had a personal doctor/nurse	1.15 (0.88, 1.51)	0.305	1.07 (0.77, 1.50)	0.671	1.04 (0.68, 1.58)	0.872
Component 2: Had a usual source of sick care	1.33 (1.00, 1.76)	0.052	0.95 (0.66, 1.38)	0.797	1.03 (0.66, 1.60)	0.892
Component 3: Received family-centered care	0.65 (0.45, 0.92)	0.014*	0.70 (0.45, 1.09)	0.116	0.56 (0.33, 0.95)	0.030*
3i. Provider spent enough time	0.84 (0.60, 1.17)	0.308	0.93 (0.64, 1.36)	0.711	0.74 (0.46, 1.18)	0.206
3ii. Provider listened carefully	0.59 (0.40, 0.86)	0.007*	0.82 (0.54, 1.26)	0.368	0.66 (0.39, 1.12)	0.127
3iii. Provider was sensitive to family values and customs	0.67 (0.45, 1.01)	0.053	0.91 (0.58, 1.45)	0.699	0.75 (0.42, 1.34)	0.327
3iv. Provider provided needed information	0.47 (0.28, 0.79)	0.005*	0.60 (0.31, 1.19)	0.145	0.38 (0.16, 0.87)	0.022*
3v. Provider made family feel like partners in care	0.42 (0.26, 0.67)	<0.001*	0.50 (0.27, 0.93)	0.028*	0.40 (0.18, 0.88)	0.022*
Component 4: Received needed referrals	0.59 (0.41, 0.84)	0.004*	0.66 (0.44, 0.98)	0.040*	0.59 (0.37, 0.95)	0.030*
Component 5: Received effective care coordination	0.53 (0.39, 0.72)	<0.001*	0.66 (0.48, 0.89)	0.007*	0.54 (0.37, 0.78)	0.001*
5i. Received all needed extra help with care coordination when needed	0.70 (0.46, 1.07)	0.099	0.78 (0.53, 1.14)	0.197	0.70 (0.44, 1.10)	0.118
5ii. Satisfaction with communication among child's doctor and other health care providers	0.61 (0.45, 0.82)	0.001*	0.65 (0.47, 0.90)	0.009*	0.53 (0.36, 0.78)	0.001*
5iii. Satisfaction with communication among doctors and school, child care provider, or special education program	0.52 (0.28, 0.96)	0.037*	0.81 (0.55, 1.19)	0.290	0.53 (0.35, 0.80)	0.002*

Conclusions:

Despite over two decades of efforts to improve EHDI through the medical home, rates of MHMOC among DHH children remain disparately low compared to non-DHH children, other SHCN children, and SHCN children with asthma. Thus, systems-level quality improvement efforts, building on the medical home, will be necessary to allow the MHMOC to support EHDI systems.

Speaker Bio

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Geographic and Sociodemographic Factors Associated with Pediatric Obstructive Sleep Apnea Quality of Life

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Inderpreet K. Khalsa

Abstract

Background:

Sleep disordered breathing, including obstructive sleep apnea (OSA), is estimated to affect 1-10% of children and has been associated with an increased risk for failure to thrive, cardiopulmonary disease, behavioral disturbances (e.g., hyperactivity and ADHD), poor academic performance, as well as decreased quality of life (QoL). However, the effects of geographic and sociodemographic factors on OSA-related QoL have not been well-described.

Methods:

We conducted a retrospective cohort study of patients who received care in a pediatric otolaryngology department at a tertiary academic center and had OSA-related ICD-10 codes in their encounter diagnosis or problem list. 5,100 patients ages 0-18 completed the validated OSA-18 QoL questionnaire, and total OSA-18 scores were classified according to the impact on QoL: mild (< 60), moderate (60 – 80), and severe (> 80). Residential addresses were geocoded to “neighborhood-level,” census block groups and assigned 2020 California state Area Deprivation Index (ADI) rankings, a multidimensional measure of sociodemographic disparity. Univariate and multivariate analyses were conducted using demographic variables, including sex, URM status, insurance type, primary home language, and age at survey, and Bonferroni correction for multiple comparisons was used with an adjusted alpha value of 0.008.

Results:

	Severe Impact on QoL (vs. Mild)			Severe Impact on QoL (vs. Moderate)			Moderate Impact on QoL (vs. Mild)		
	AOR	P-value	[95% CI]	AOR	P-value	[95% CI]	AOR	P-value	[95% CI]
Age at survey	0.97	0.001*	[0.95, 0.99]	1.01	0.582	[0.98, 1.03]	0.96	<.001*	[0.95, 0.98]
Sex	0.90	0.209	[0.76, 1.06]	0.81	0.034	[0.67, 0.98]	1.09	0.224	[0.95, 1.25]
Insurance	2.05	<.001*	[1.67, 2.53]	1.55	<.001*	[1.23, 1.96]	1.29	0.005*	[1.08, 1.54]
URM	1.21	0.059	[0.99, 1.47]	1.19	0.116	[0.96, 1.49]	1.02	0.81	[0.87, 1.2]
Language	0.59	<.001*	[0.47, 0.75]	0.81	0.123	[0.62, 1.06]	0.75	0.006*	[0.61, 0.92]
Area Deprivation Index	1.10	<.001*	[1.07, 1.14]	1.06	<.001*	[1.03, 1.10]	1.04	0.003*	[1.01, 1.07]

Conclusions:

Both neighborhood socioeconomic variables and individual-level demographic factors, such as public insurance, are associated with increased OSA-related QoL burden. Given the role

of the social determinants of health and neighborhood characteristics in modulating OSA QoL, these findings suggest a need to approach OSA care through an environmental justice lens.

Speaker Bio

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Knowledge and Attitudes Surrounding Breastfeeding in Pediatric Otolaryngology

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Kimya Manouchehri

Abstract

Background: Despite well-established benefits to breastfeeding, only 44% of infants are exclusively breastfed worldwide. Physician support has been demonstrated to influence breastfeeding behaviours; however, knowledge and attitudes of this group are inconsistent. This topic has not been studied in pediatric otolaryngologists, despite our clinical focus in swallowing and airway. This study seeks to understand the knowledge and attitudes of pediatric otolaryngologists around breastfeeding to potentially inform future educational efforts.

Methods: This cross-sectional survey recruited pediatric otolaryngologists from an international WhatsApp group comprising 213 participants. Demographics, knowledge, attitudes, and experiences with breastfeeding were investigated using Likert scales. Descriptive statistics and correlational analyses were used. Statistical significance was set at $p<0.05$.

Results: 60 complete responses were gathered over four weeks (28% response rate). The majority of participants were female (59%) and had children (86%). Most participants and/or their partners breastfed for 4-12 months (67%). Previous breastfeeding education was limited in both medical school (20%) and residency (15%). Most agreed that otolaryngologists should be knowledgeable about breastfeeding (83%), however male respondents felt significantly less comfortable counseling ($p<0.003$), addressing breastfeeding difficulties ($p<0.044$), and suggesting means to change milk supply ($p<0.007$). Knowledge gaps were identified with assessing aspiration risk and airway anomalies. Breastfeeding experience did not significantly influence attitudes and comfort around breastfeeding, or the knowledge of participants.

Conclusion: While attitudes towards breastfeeding amongst pediatric otolaryngologists are very positive, comfort and knowledge levels are more limited, especially amongst our male otolaryngologist colleagues. Educational efforts may improve the support our specialty offers to breastfeeding patients.

Speaker Bio

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Batter Down- A 10 Year Analysis on Pediatric Baseball And Softball injuries of the Head and Neck

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Ms. Nina Gallo

Abstract

Background: Youth baseball/softball fields are community cornerstones in fostering camaraderie and health. However, participation is not without danger, particularly regarding head and neck injuries. This study aims to estimate the nationwide incidence of ED visits attributed to pediatric head and neck injuries sustained during baseball/softball activities.

Methods: The National Electronic Injury Surveillance System (NEISS) was queried regarding ED visits of pediatric head and neck injuries involving baseball/softball from 2013-2022. Data utilized includes patient demographics, age, type and location of injury, patient outcome, and a 1-2 sentence event description.

Results: 15,527 injuries were recorded, yielding an estimated 486,648 injuries from 2013-2022. The mean age was 9.9 years. 68.5% of patients were male. 56.1% of patients were white, 8% were black, and 30.8% had unspecified race. The majority (75.2%) of injuries were baseball-related. Common injuries were internal (22.1%), contusions (19.0%), lacerations (18.0%), fractures (12.7%), and concussions (1.4%). 96% of fractures were of the nasal bones or maxilla, and 4% were skull fractures. 96.1% were treated/examined and released, 1.8% were treated/hospitalized, 1.2% left without evaluation and 0.6% were treated/transferred.

Conclusion: The study highlights pediatric head and neck injuries in baseball/softball, with 486,648 ED cases. Males and whites were mostly affected. Baseball caused more injuries than softball, mainly lacerations and contusions. Concussions and fractures were less common but significant. Though most patients were treated and released, the percentage requiring hospitalization indicates the importance of preventive measures, including using proper equipment and implementing rule modifications in youth sports.

Speaker Bio

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Simulation-based Trial of a Pediatric Tracheostomy Emergency Crisis-Checklist in a Tertiary Care Neonatal Intensive Care Unit

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Abstract

Background: Pediatric tracheostomy emergencies, including accidental decannulation and tube obstruction, necessitate swift, coordinated team-based care to prevent morbidity and mortality. However, mistakes can occur even in well-trained teams due to provider variability, cognitive overload, or knowledge decay. Crisis-checklists provide a framework by which to mitigate these errors and improve team performance, but their effect on pediatric tracheostomy emergencies is unknown.

Methods: A pediatric tracheostomy emergency crisis-checklist was piloted in a single institution’s neonatal intensive care unit (NICU) during 5-minute in-situ simulated emergency scenarios of an infant with a partially dislodged, obstructed tracheostomy tube. Multidisciplinary teams were randomly assigned to checklist (intervention) or no-checklist (control) groups. Additional variables included presence of respiratory therapist(s) and participant tracheostomy training and clinical experience. Time-to-event univariate analysis was performed for time to successful tracheostomy tube replacement (primary outcome) and suctioning.

Results: 18 in-situ simulations (75 participants) were conducted from May 2021 to March 2023, with 11 teams (61.1%) assigned to the crisis-checklist group. A significantly shorter time-to-tracheostomy tube replacement was observed in teams assigned the checklist (hazard ratio (HR)=5.02; 95% CI 1.05-24.04; p=0.04) and teams including a respiratory therapist (HR=5.09; 95% CI 1.28-20.2; p=0.02). There was no difference between the checklist and control groups in time-to-first suction.

Conclusions: These findings suggest that integrating crisis-checklists into pediatric tracheostomy protocols can enhance patient safety and expedite life-saving interventions in critical situations. Further research is warranted to explore barriers and facilitators to checklist adoption and clinical implementation.

Speaker Bio

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Proliferative myositis presenting as a rapidly enlarging neck mass

Mr. Anderson White BS, Mr. Benjamin Clark BS, Dr. Adam Van Horn MD
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Mr. Anderson White

Mr. Benjamin Clark

Dr. Adam Van Horn

Abstract

Title: Proliferative myositis presenting as a rapidly enlarging neck mass

Background: Proliferative myositis is a rare, benign proliferative process that can produce a soft tissue mass. Sometimes termed a pseudosarcomatous lesion, proliferative myositis can present as a rapidly enlarging mass concerning for malignancy. Proliferative myositis most often presents in adult patients in the upper extremity or trunk. Head and neck involvement is less frequently seen, and pediatric cases are rare.

Methods: Retrospective, single patient case report.

Results: A 2-month-old male presented with a right neck mass. Ultrasound and computed tomography showed a distinct mass within and displacing the sternocleidomastoid muscle. Cytology from fine needle aspiration showed atypical spindle cells, prompting an incisional biopsy due to concern for neoplasm. Ultimately, histopathologic assessment yielded a diagnosis of proliferative myositis with proliferation of benign fibroblasts and myofibroblasts with surrounding ganglion-like polygonal cells and spindle cells. S-100 and keratins were negative throughout on immunohistochemical staining while myofibroblasts and ganglion-like cells stained positive for smooth muscle actin. No further intervention was deemed necessary, and the lesion spontaneously resolved 4 months after initial presentation.

Conclusion: Proliferative myositis can present as a rapidly growing neck mass in pediatric patients. Clinical, radiologic, and pathologic findings confirm the diagnosis and are necessary to distinguish from neoplastic and malignant lesions such as soft tissue sarcomas. The natural progression of the disease is resolution without need for surgical excision.

Speaker Bio

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Presentation of Inverted Papilloma in an Adolescent Male

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Abstract

Background:

Inverted papilloma is a benign, locally aggressive sinonasal tumor with malignant potential. It typically affects adults in their fifth to sixth decades and comprises up to 4% of adult nasal masses. Pediatric nasal masses include congenital, benign, and malignant lesions. Overall, inverted papilloma in the pediatric population is rare and its imaging findings, surgical management, and post operative surveillance are important to consider for optimizing outcomes.

Methods: Case report and review of literature

Results: A 16-year-old boy presented to the pediatric otolaryngology clinic with six months of left nasal mass with complaints of nasal obstruction, purulent rhinorrhea, and intermittent epistaxis. CT imaging demonstrated expansile opacification of the left nasal cavity with broad differential without definitive characteristics of inverted papilloma. Intraoperatively, there was noted to be a left polypoid mass filling the nasal cavity and extending to the nasopharynx. An abnormal bony segment was identified lateral to the left middle turbinate. Pathology returned as inverted papilloma. Decision was made to return to the OR for revision surgery and more definitive resection with plan for long term post operative surveillance.

Discussion:

Though rare, inverted papillomas do present in the pediatric population and should be considered in with unilateral nasal obstruction, especially when the constellation of symptoms or imaging findings do not fit more typical pediatric nasal masses. Given the risk of recurrence and malignant potential, complete excision and post operative monitoring is vital.

Speaker Bio

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The Impact of a Patient Navigator on Time to Intervention for Deaf and Hard of Hearing Children

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Michael Lindeborg

Abstract

Background: Early intervention for pediatric hearing loss (HL) is crucial for speech and language development. The CDC recommends that all children with HL undergo intervention before six months of age. However, only 62% of children meet this goal. We designed and implemented a Patient Navigator (PN), a patient-facing professional who assists families with complex care coordination, educational counseling, and social support. This is a novel intervention that has not been explored for pediatric hearing loss. Our study evaluated whether a PN improves the interval between hearing loss identification and intervention.

Methods: We performed a prospective cohort study at a tertiary children's hospital, comparing 42 children with newly-identified HL who received the PN intervention to a pre-intervention cohort of 42 children. Average pure tone average in the better hearing ear was included as a control variable.

Results: The mean age of hearing loss identification was 190.5 days in the pre-intervention group and 259 days in the post-intervention group. Children who received the PN intervention had a statistically significant shorter interval between hearing loss identification and educational intervention (43 days) compared to those who did not (103 days), p=0.005, [19.4,101.8]. There were no significant differences in the interval to medical clearance or hearing device fitting. This relationship persisted after controlling for hearing loss severity.

Conclusions: Patient navigators can be an invaluable resource for families after receiving a permanent HL diagnosis. Future research should explore how to optimize the patient navigator role and address the healthcare delivery gap for pediatric hearing loss.

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Concurrent Pediatric Lingual and Submental Dermoid Cysts

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Abstract

Background: The etiology of cysts involving the tongue, floor of mouth and submental neck is varied, representing congenital, inflammatory, and neoplastic sources. Dermoid cysts involving these regions are uncommon. This case report describes a novel combination of lingual and submental dermoid cysts, and highlights many aspects described in the literature.

Methods: An IRB-approved pediatric case report of coexisting dermoid cysts in the lingual and submental regions from our institution is reported, along with a review of the literature.

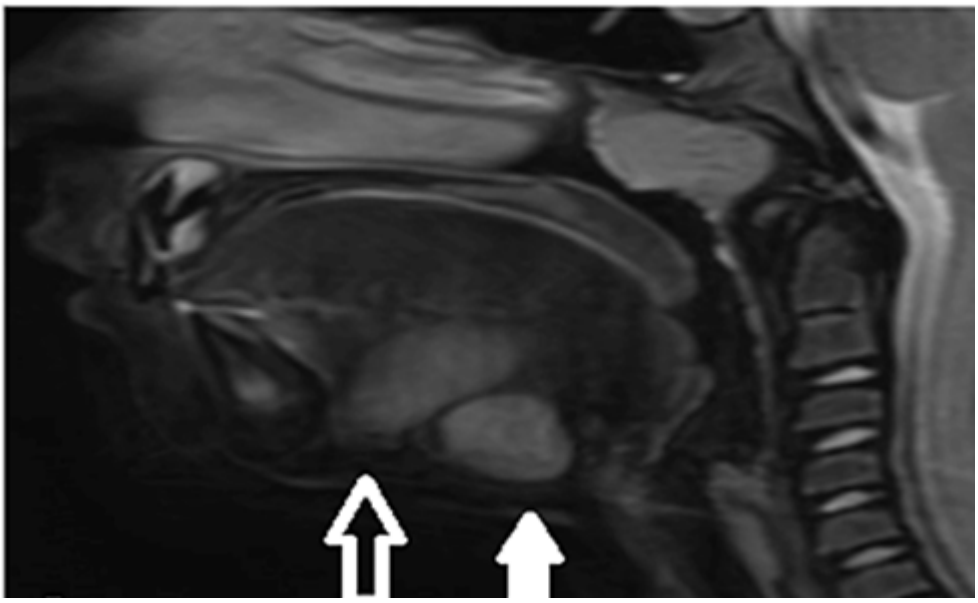

Figure 1: Sagittal T2 MRI demonstrating relative positions of both dermoid lesions (submental space mass: solid arrow, lingual mass: clear arrow).

Results: An otherwise healthy 6-year-old female presented with a slowly enlarging, nontender submental mass. MRI (Figure 1) confirmed two well-circumscribed, nonvascular ovoid lesions in lingual and submental tissues. Surgical excision was performed, and histopathological examination confirmed both masses to be cysts of dermoid origin. Dermoid cysts involving these regions are uncommon, and are most frequently reported in the submental, sublingual, and lingual spaces. Presenting symptoms vary with cyst size and position relative to the mylohyoid muscle. MRI is the preferred modality to differentiate dermoid cysts from other etiologies. While interventional techniques have been utilized in the treatment of dermoid cysts in other head and neck locations, surgical excision remains the preferred treatment for those involving the oral and floor of mouth structures.

Conclusions: This report describes the novel finding of concurrent submental and lingual dermoid cysts, which to our knowledge has not been previously reported in the literature.

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Percutaneous Tracheostomy in Critically Ill Children

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Abstract

Introduction

Tracheostomy is frequently performed on patients with prolonged intubation in the Intensive Care Unit (ICU). Percutaneous tracheostomy (PT) has generally replaced open tracheostomy in adults because of the reduced procedural time and cost savings. However, PT is less routinely performed in children because of anatomical differences in airway anatomy and surgeon comfort. Our objective was to determine the safety and effectiveness of PT in children.

Methods

Charts of children who underwent bedside PT in the Pediatric ICU from 2021 to 2023 were retrospectively reviewed. Time to tracheostomy, procedure time, intraoperative and postoperative complications, and time to decannulation were recorded.

Results

Six children [median age: 15.6 years (range: 12.6-18.0 years)] required PT for ARDS (on ECMO) (n=3), neuromuscular conditions (n=2), and cystic fibrosis (n=1). Median time from consultation to procedure was two days. Median procedural time was 40 minutes (range 28-45 minutes). There were no intraoperative complications. Postoperative complications included minor peristomal bleeding in three patients on ECMO that self-resolved, and four suprastomal granulomata. There were no major postoperative complications. Four patients were decannulated, one died from their underlying condition, and one was lost to follow-up. One child had a persistent tracheocutaneous fistula after decannulation that required surgical closure.

Conclusion

PT was performed effectively in six children at our institution. There were no major intraoperative or postoperative complications in our series. With proper patient selection, PT may be a feasible option for some older children. Continued research is needed regarding the safety and feasibility of PT in children.

Speaker Bio

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Effects of medical and surgical management of pediatric sialorrhea

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Abstract

Effects of medical and surgical management of pediatric sialorrhea

Background: Children with neurological impairment are at increased risk of sialorrhea and associated aspiration. This study examines effects of chemodenervation of the salivary glands with botulinum toxin (CDN) and bilateral submandibular gland excision with parotid duct ligation (DROOL) on patient respiratory status and objective bronchoscopic findings, such as bronchoalveolar lavage lipid-laden macrophage index (BAL LLMI).

Methods: A retrospective case series with chart review of 24 patients was performed at a single quaternary care pediatric hospital. Children <18 years of age who were diagnosed with sialorrhea, underwent medical treatment with CDN and/or surgical treatment with the DROOL procedure, and had a BAL at least post-treatment were included. Demographics, medical comorbidities, treatments, BAL findings, emergency department (ED) visits and hospital admissions for 12 months pre- and post-intervention were recorded. Statistical analysis was performed using a paired t-test.

Results: All 24 patients underwent CDN and 7 patients also underwent DROOL procedure. There were no significant differences in the mean number of respiratory admissions ($p=0.613$ CDN, $p=0.586$ DROOL) or ED visits ($p=0.795$ CDN, $p=0.789$ DROOL) after either treatment. BAL LLMI was also not significantly different after either intervention ($p=0.289$).

Conclusions: Though no significant differences were found, individual patients showed a trend of improvement that was greater after DROOL than CDN. The small sample size with multiple variables is a significant limitation. Additional larger and multi-center studies would help differentiate the role of these procedures in preventing aspiration and subsequent lung insult.

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Trends and variations in the indications for pediatric total thyroidectomy

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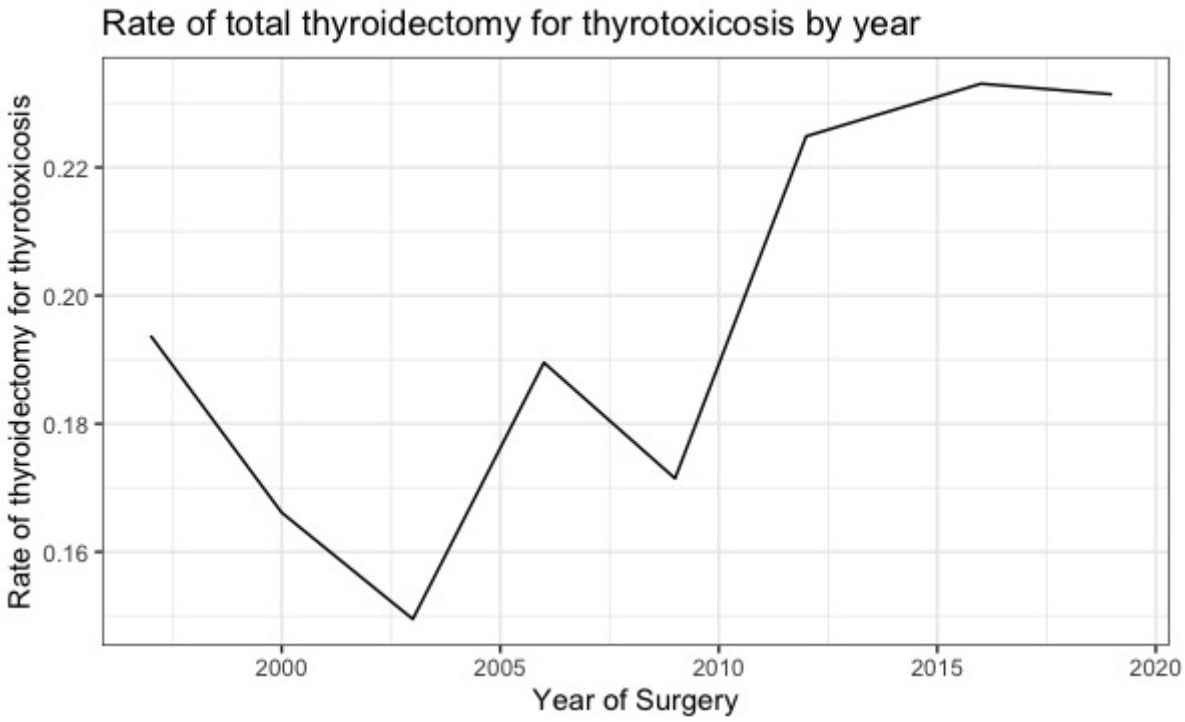
Abstract

Background: The most common indications for total thyroidectomy in children are malignancy and thyrotoxicosis due to Graves' disease. However, the incidence of patients with Graves' disease among patients undergoing total thyroidectomy is unknown. This study aims to examine trends in pediatric total thyroidectomy over time.

Methods: The US Agency for Health Research and Quality Healthcare Cost and Utilization Project (HCUP) Kids' Inpatient Database (KID) was queried to identify patients who underwent total thyroidectomy between 1997 and 2019 and unweighted estimates were obtained. The population was stratified by the diagnosis of thyrotoxicosis compared to another diagnosis. Statistical analysis was completed using univariate logistic regression and one-sided Mann-Kendall Test.

Results: Total thyroidectomy was recorded in 3,102 patients; 764 (24.6%) were diagnosed with thyrotoxicosis. The proportion of total thyroidectomies for thyrotoxicosis increased monotonically over the study period ($p=0.042$). Univariate analysis revealed statistically significant differences between those who underwent thyroidectomy for thyrotoxicosis compared to other indications, as they were more likely to be female (OR 1.288, 95% CI 1.04, 1.604, $p=0.022$), Black, or Hispanic (OR 3.998 [2.947, 5.423], $p<0.001$ and 1.810 [1.448, 2.259], $p<0.001$, respectively). Private insurance (OR 0.959 [0.498, 0.71], $p<0.001$) and zip code median income >50th percentile (OR 0.804 [0.681, 0.950], $p=0.010$) were negatively associated with thyroidectomy for thyrotoxicosis.

Conclusion: There has been an increase over time in the proportion of total thyroidectomies for thyrotoxicosis compared to other indications. Patient characteristics differ from those who undergo total thyroidectomy for other diagnoses.



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Vocal activity development before and after cochlear implant activation in infants and toddlers

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Abstract

Vocal activity development before and after cochlear implant activation in infants and toddlers

Background: The purpose of this study was to evaluate children's vocal activity in a naturalistic setting before and after cochlear implant (CI) activation and compare this to a normative sample of children with typical hearing (TH). Prior work suggests that post-activation, infants and toddlers with CIs advance rapidly through some early stages of speech development; however, how these critical aspects of early vocal development change from pre-activation and develop longitudinally is unclear.

Methods: Twenty-five children with CIs (0-37 hearing months) wore a recorder throughout their daily activities (~16hrs/recording). Recordings pre- and post-implantation were completed semi-regularly for up to three years (4180 total observation hours). Samples were analyzed for child vocal productivity and quantity of conversational turns between child and caregivers, estimated for hearing age and chronological age, and compared to a normative sample of children with TH.

Results: Children with CIs vocalized and engaged in speech-related vocal activity with caregivers pre-implantation. They make sudden development jumps in vocal productivity and caregiver-child communication immediately following implantation and develop these at a faster rate than age-matched children with TH.

Conclusions: These results provide an in-depth observation of vocal development in the home environment immediately after new access to sound, and form a basis for encouraging early aural intervention for children with severe-to-profound hearing loss. Appropriate, timely hearing device intervention can ensure these children access sound to engage in the communicative interactions with caregivers that drive their spoken language development.

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Surgical Learning Curve in Alloplastic Microtia Reconstruction

Marta Kulich MD[1], Vijay Patel MD[2], Beth Osterbauer MD[3], Amit Kochhar MD[3], Gabriel Arom MD[3], Gabriel Gomez MD[3]

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Gabriel Gomez

Abstract

Background: Microtia is a congenital deformity caused by underdevelopment of the external ear and is associated with hearing impairment and psychosocial burden in children. Surgical reconstruction is known to be technically demanding. The learning curve in a high volume center has never been described using an alloplastic (porous polyethylene implant) technique. This technique is performed in one surgical procedure, avoids traditional rib harvest and is gaining popularity.

Methods: This retrospective cohort study included consecutive patients who underwent alloplastic auricular reconstruction between October 2020 and April 2023. Observers blinded to surgical date rated each postoperative ear through a web-based survey. Data on complications and aesthetic scores were collected and compared to surgeon experience.

Results: Fifty-four reconstructions were included. Median patient age was 7 years (range 4-19). Survey grades of aesthetic scores were higher in the second half of the study period (3.9 vs 2.7, $p \leq 0.05$). Amongst all ears, total score was significantly lower ($p < 0.01$) for patients who underwent unplanned revision surgery. There was a trend towards less aesthetic variability and fewer complications in the latter half of the study period.

Example of Early Group

Example of Latter Group

Conclusion: In the first of its kind, this study analyzed aesthetic outcomes and complication rate over time for alloplastic ear reconstruction. There was a trend toward fewer complications and improved cosmetic outcomes over the study period. Increased surgical experience enhanced consistency and minimized complications. This type of analysis is important to provide surgeons, audiologists, patients and their families' information about prospective outcomes.

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Predominantly unilateral laryngomalacia in infants with unilateral vocal fold paralysis

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Abstract

Background: Neonatal unilateral vocal fold paralysis is characterized by changes in breathing, swallowing, and voice. Management has traditionally been supportive, focusing on diet modification to allow for safe oral feeding, and observation for improvement in voice. We describe the clinical course of six infants with unilateral vocal fold paralysis who developed predominantly unilateral laryngomalacia ipsilateral to the affected vocal fold with associated severe respiratory symptoms and feeding difficulty.

Methods: Retrospective review of six infants with unilateral vocal fold paralysis and predominantly unilateral laryngomalacia. Charts were reviewed for etiology of vocal fold paralysis, presenting symptoms, operative details, postoperative course, and outcomes for breathing and swallowing.

Results: Etiology of vocal fold paralysis included cardiac surgery in four patients and idiopathic in two. Presenting symptoms included stridor, feeding difficulty, respiratory failure requiring noninvasive respiratory support, and weak cry. Direct microlaryngoscopy with unilateral or predominantly unilateral (conservative contralateral aryepiglottic fold division) supraglottoplasty was performed. Respiratory symptoms were relieved in all six infants with the ability to wean respiratory support. All children showed improvement in oral feeding.

Conclusions: Predominantly unilateral laryngomalacia may arise in the context of unilateral vocal fold paralysis. This may be an under-described phenomenon and represents an additional reason to include the otolaryngologist early in the care of infants with suspected possible new unilateral vocal fold paralysis. Breathing and swallow outcomes seem to be favorable following supraglottoplasty. Ongoing follow-up is critical. Future studies should explore the incidence and etiology of this phenomenon.

Speaker Bio

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The effect of intraoperative opioids in children with severe obstructive sleep apnea – A single institution experience

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Abstract

Background:

Postoperative opioid use is associated with increased rates of respiratory compromise in high-risk children. There is no consensus regarding ideal intraoperative pain management during tonsillectomy in children with severe obstructive sleep apnea (OSA). The goals of this study were to review variations in intraoperative analgesics used and to evaluate the effect of intraoperative opioids on pain and oxygen saturation in the Post Anesthesia Care Unit (PACU) in children with severe OSA.

Methods:

Retrospective cohort study at a tertiary care children's hospital.

Results:

A total of 278 patients were included. Opioids (morphine, fentanyl, hydrocodone) with or without non-opioid analgesics were administered in 246 (88.5%) patients intraoperatively, of which 3 (1.1%) received more than one opioid. The majority of patients (n=211,75.9%) received less than half the recommended dosages of opioids. Opioid-free anesthetic medications (acetaminophen, ketamine, ketorolac, dexmedetomidine) were administered to 32 (11.5%) patients. Patients who received opioid-free anesthetics were as likely to require additional pain medication in PACU when compared to patients who received opioids intraoperatively (56.3% vs.67.9%, p=0.23). The average oxygen saturation levels in PACU were similar between groups (93.14±6.72% vs. 94.24±5.55%, p=0.3). Nine patients (3.23%) developed oxygen desaturations during their PACU stay. Opioids were not associated with an increased risk of oxygen desaturation events (p=0.24).

Conclusions:

Intraoperative pain management in children with severe OSA varied between providers. Intraoperative opioids did not reduce the rate of postoperative analgesics given or increase oxygen desaturation events. Prospective studies are needed to establish intraoperative opioid use guidelines for high-risk pediatric tonsillectomy.

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Social Determinants of Health and Effect on Adenotonsillectomy Following Sleep Study

Anna Berezovsky MD[1], Aneesha Penn MS[2], Jazzmyne Adams MPH[1], David Friedland MD, PhD[1], Lauren Castner DO[1], Robert Chun MD[1]
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Anna Berezovsky

Abstract

Background:

Prevalence of pediatric obstructive sleep apnea (OSA) had been reported to be anywhere from 1 to 5%. Clinical practice guidelines recommend tonsillectomy and adenoidectomy as the first line treatment for pediatric patients diagnosed with OSA. The study aims to analyze how social determinants affect adenotonsillectomy after a positive sleep study.

Methods:

Retrospective cohort study. All patients from 0 to 17 who underwent sleep study at a single institution between 2009 and 2019 were assessed to determine if surgery was pursued in patients with OSA. Patients with AHI>1 were noted to have a positive sleep study. Odds ratios were used to calculate the differences between the groups.

Results:

A total of 11,653 patients underwent sleep studies in this time period with a total of 5568 ultimately diagnosed with OSA. 1699 patients with diagnosed OSA underwent adenotonsillectomy. Children who did not undergo surgery were significantly older than those who did. Black and Hispanic patients were more likely to have surgery, OR 1.50 [1.4, 1.79] $p<0.001$ and OR 1.19 [1.03,1.38] $p=0.019$ respectively. Those with public insurance were also more likely to get surgery OR 1.67 [1.48,1.88] $p<0.001$. Gender did not correlate with surgery.

Discussion:

Black and Hispanic patients as well as those with public insurance were more likely to receive adenotonsillectomy following positive sleep study.

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Re-evaluating post-discharge treatment paradigms in pediatric acute mastoiditis

Dr Ethan Frank MD[1,2], Dr Shannon Calaguas MD[2], Dr Gabriel Arom MD[3,2], DR TsungJu O-Lee MD[2]

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Abstract

Objectives: Children having acute mastoiditis are often discharge on prolonged intravenous antibiotics, via peripherally inserted central catheter (PICC) regardless of post-surgical status. This generates additional risk of PICC-related complications, with no clear evidence of superiority over oral antibiotics. We hypothesized the non-inferiority of post-discharge oral antibiotics regimens to intravenous in children undergoing surgery for acute mastoiditis.

Methods: Retrospective review of all patients having operative intervention for acute mastoiditis at an academic children’s hospital from 2014 to 2023.

Results: Thirty-six children were treated with oral antibiotics and twenty-two with intravenous. There were no significant difference in pre-operative laboratory, radiologic, or clinical factors between groups--although sigmoid sinus thrombosis was more frequent in the group treated with long term intravenous antibiotics (18% vs 8%; p=0.4). There were no differences in microbiology or antibiotic resistance rates between group. Recurrence rate was 4.5% in the PICC and 0% in the oral group. No significant disease related complications occurred in either group. PICC related complications occurred in 59% of children, of which 27% were severe complications. Return to emergency room (32% vs 3%; p=0.002) and readmission (23% vs 3%; p=0.03) were both significant increased in the intravenous antibiotic group.

Conclusion: Oral antibiotic therapy upon discharge is safe and effective for children with acute mastoiditis who have undergone surgical intervention.

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In The Rough: Decade-Long Analysis Examining Golf Injuries of the Head and Neck in Children

Ms. Nina Gallo MD[1], Ms. Meghana Chanamolu MD[1], Mr. Justin Soffer MD[1], Mr. Andrew Franklin BS[1], Mr. Robert Tuliszewski MD[1,2]

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Ms. Nina Gallo

Abstract

Background: Golf is a popular sport that provides opportunities for confidence building and physical activity in children, although it is not without the risk of injury. This study aims to investigate the number of emergency department (ED) visits due to golf-related head and neck injuries in pediatric patients.

Methods: The National Electronic Injury Surveillance System (NEISS) was queried regarding ED visits of pediatric head and neck injuries involving golf activity, apparel, equipment, or golf carts. Data utilized includes patient demographics, year of injury, age at injury, type of injury, location of injury on the body, patient outcome, and a 1-2 sentence event description.

Results: 2,002 injuries were recorded, yielding an estimated 65,842 injuries occurring in the ten-year period. Mean age was 8.82 years, and 64.9% of patients were males. The most common injuries were lacerations (42.6%) and internal injuries (25.4%). There were 89.7% of patients who were treated/examined and subsequently discharged from the ED, 7.1% resulted in admission, 1.8% were treated and transferred, 0.9% left without being seen, and 0.4% were held for observation. A singular case (1) included a fatality in the ED. The most common body parts subject to injury were the head (49.2%) and the face (39.3%).

Conclusion: Public health efforts are critical to reducing the morbidity and costs associated with an estimated 6,584 annual ED admissions for golf-related injuries among pediatric patients whose average age is 8.82 years. Supervision of children using golf carts is strongly encouraged.

Speaker Bio

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Psychiatric Outcomes in Pediatric Head and Neck Cancer Patients: A TriNetX Database Analysis

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Abstract

Background: Pediatric head and neck cancer (PHNC) affects 0.25-15% of children globally. The psychiatric impact of PHNC has not been well-studied. This study aims to characterize psychiatric outcomes in a cohort of PHNC patients.

Methods: Two cohorts were created using TriNetX, a global research network encompassing multiple electronic medical records. Both included patients 17 years old or younger. One included PHNC patients based on ICD-10 diagnoses. The other included patients who had a well-child visit with no abnormal findings and who neither had a PHNC diagnosis nor had been admitted to the hospital for more than 1 day. The cohorts were matched based on age, sex, ethnicity, race, and other diagnoses. Incidence of mood disorders, anxiety disorders, developmental disorders, behavioral disorders associated with physiologic disturbances or physical factors, developmental disorders, behavioral/emotional disorders with onset usually occurring in adolescence, and an aggregate of these disorders was compared between the cohorts.

Results: Prior to matching, there were 2,674,702 patients in the non-PHNC group and 8,323 patients in the PHNC group. For the PHNC group, there was a significantly higher incidence of anxiety disorders (OR 1.3, 95% CI 1.1-1.4, $p<0.001$) and a significantly lower incidence of mood disorders (OR 0.75, 95% CI 0.63-0.90, $p=0.001$) and behavioral disorders starting in adolescence (OR 0.72, 95% CI 0.64-0.82, $p<0.001$). There was no significant difference between the groups for the remaining outcomes.

Conclusion: These findings highlight the key role of psychiatric care as part of a multidisciplinary model of PHNC care.

Speaker Bio

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Characteristics, risk factors, and outcomes of pediatric laryngomalacia: A systematic review with meta-analysis

John Mills BS[1], Neil Monaghan BS[1], Shaun Nguyen MD[1], Christopher Nguyen N/A[2], Clarice Clemmens MD[1], Phayvanh Pecha MD[1], William Carrol MD[1], David White MD[1]
[1]Medical University of South Carolina, Charleston, SC, USA. [2]Hilton Head Christian Academy, Hilton Head Island, SC, USA

Abstract

Background: Our objective was to analyze the characteristics of patients with pediatric laryngomalacia to determine risk factors, and to provide an updated meta-analysis on outcomes.

Methods: A systematic review of COCHRANE Library, CINAHL, PubMed, and Scopus databases was conducted according to the 2020 PRISMA guidelines from inception to May 2, 2023. Study screening, data extraction, quality rating, and risk of bias assessment were performed by 2 independent reviewers. Data were meta-analyzed using fixed-/random-effects model to derive continuous measures (mean), proportions (%), and mean difference (Δ) with 95% confidence interval (CI).

Results: A total of 103 articles were identified with information on outcomes of pediatric patients with laryngomalacia (N=18,276). The mean age was 10.6 months (range: 0 to 252, 95%CI:9.6 to 11.6, p=0.00) with a 1.4:1 male to female ratio. Many patients presented with stridor (90.6%, 95%CI:71.5 to 99.6), and the most common comorbidity at time of diagnosis was gastroesophageal reflux disease (48.2%, 95%CI:39.6 to 56.9). Based on the patient population included in our analysis, 87.3% received supraglottoplasty (95%CI:78.0 to 94.3). A total of 76.1% (95%CI:68.3 to 83.1) had reported resolution of symptoms. For patients with a concurrent diagnosis of sleep disordered breathing receiving supraglottoplasty, the apnea-hypopnea index improved with a mean difference of -10.8 (95%CI: -12.6 to -9.1) events per hour post-treatment.

Conclusions: Laryngomalacia continues to be a common problem in the pediatric population. Supraglottoplasty remains an effective treatment option leading to symptomatic improvement in many cases. For those with concurrent sleep disordered breathing, supraglottoplasty lowers the apnea-hypopnea index.

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Understanding Grief Associated with Caring for a Child with Hearing Loss Among Parents of Diverse Backgrounds

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Amritpal Singh

Abstract

Background: Approximately 96% of children with hearing loss are born to typically hearing parents. Despite the well-known connection between stress, depression, and caring for a child with hearing loss, there is limited research on the specific impact of grief on this parenting journey. We sought to investigate how parents of diverse backgrounds experience and manage grief related to having a child with hearing loss.

Methods: A 5-point Likert scale survey with 14 statements about grief stages was developed and administered in four different languages to parents of children (ages 0-10) identified with hearing loss through 2023.

Results: Thirty-nine parents from diverse family backgrounds completed the survey. 82% reported experiencing "surprise" upon first learning about their child’s hearing loss. 89.7% reported feeling "worried" about their child's future, with a significant correlation observed among Asian parents ($p < 0.01$). 33% reported "feeling like a failure" for having a child with hearing loss. Feeling "overwhelmed" supporting their child’s hearing needs was reported by 66.7% of parents and was three times more likely among parents of children >5 years of age ($p < 0.05$). There was no significant association between the child's age since diagnosis and parental acceptance of their hearing loss.

Conclusion: Parental grief associated with having a child with hearing loss persists even as the child ages and may interfere with supporting the child's needs. Findings are being utilized to design support groups for parents to specifically manage grief and optimize utilization of interventions for their children at school and home.

Speaker Bio

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Presentation of Nasal Foreign Bodies in the Emergency Department in Children

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Meghana Chanamolu

Abstract

Background: Nasal foreign bodies (NFBs) result in emergency department (ED) visits within the pediatric population. Given the anatomy of the pediatric nasal cavity, a foreign object may result in many complications. This study aims to estimate the incidence of nationwide ED visits for pediatric NFBs and associated products.

Methods: The National Electronic Injury Surveillance System (NEISS) collected data on ED visits for foreign facial bodies from 2013-2022 for patients <17 years. Cases with FB outside the nares were excluded. Nationwide incidence was calculated, and the data included demographics, age, disposition, and product type.

Results: A total of 11,954 ED incidents of NFB were analyzed after excluding 589 cases. The mean age was 3, with 57.7% females and 42.3% males. The demographic breakdown included 30.2% White, 22.9% African American, and 35.3% unspecified patients. The most common NFBs were jewelry/beads(44.4%), paper products(9.2%), building sets(8.7%), unspecified toys(3.9%), crayons/chalk(3.1%), and batteries(1%). 44% of incidents occurred at home, 3.3% school, and 52% at other locations. 96.2% of the ED encounters were treated/examined, while 3% left without treatment. Batteries, crayons, building sets, and balls were common in males, while jewelry and hair accessories were more common in females.

Conclusion: This study observes recent trends over the past 10 years, estimating over 320,000 ED visits nationwide. Many new consumer products being introduced to markets every year carry a risk of becoming NFBs. Recognition and retrieval of objects is important to avoid any potential medical complications that may arise.

Speaker Bio

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Quality and Readability of Parent Education Resources for Laryngeal Clefts

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Abstract

Background : This study evaluates the quality and readability of websites on laryngeal clefts.

Methods: Google was queried with the search term “laryngeal cleft” and the first 50 results were search for patient education resources, yielding 18 websites. Website quality was assessed using the DISCERN instrument. Readability was evaluated using the Flesch-Kincaid Reading Grade Level (FKGL) and Flesch Reading Ease Score (FRES). Correlations were calculated. Website metrics were compared to information provided on the topic by the online artificial intelligence language model ChatGPT.

Results: Mean DISCERN score for the websites was 38 (SD = 10.2, median = 35.5). Mean score for the FKGL was 10.1 (SD = 2.9, median = 9.9). Only four websites were within the optimal range of 8 and below. Mean FRES was 49.2 (SD = 13.8, median 50), with only two websites in the optimal range of scores above 65. ChatGPT’s FKGL and FRES were 13.8 and 33.2 initially but improved to 7.5 and 65.8 when requesting plain language. Initial DISCERN score was 27 but could be improved to 66 with more nuanced questioning.

Conclusions: Most websites about laryngeal clefts were lacking in quality and above the recommended reading level for public health information. As parents increasingly depend on supplementing their medical information online, available resources need to improve in quality and readability. Advanced artificial intelligence products such as ChatGPT may represent viable solution but ensuring the accuracy of the information provided represents an ongoing challenge.

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The Role of HPV Vaccine in Managing Aggressive Recurrent Respiratory Papillomatosis in Infants and Young Children.

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Abstract

Background: Recurrent respiratory papillomatosis (RRP) is a challenging condition characterized by recurrent growth of airway papillomas. Multiple surgeries are required to manage the disease, leading to significant morbidity. The use of adjuvant therapies, such as the human papillomavirus (HPV) vaccine, has shown promise in reducing recurrence rates and improving outcomes. We present a case of an infant with aggressive RRP who, to our knowledge, is the youngest child in the literature to receive HPV vaccine as an adjuvant therapy.

Methods: A 4-month-old infant presented with stridor, work of breathing, and hoarseness. Clinical examination and nasolaryngoscopy revealed laryngeal papillomas, prompting direct laryngoscopy and bronchoscopy. Biopsy and microdebridement were performed during the procedure. Despite multiple surgeries within a year, the patient experienced recurrent symptoms necessitating further interventions. Subsequently, the patient received Gardasil HPV vaccine according to the recommended schedule.

Results: After completing the three-dose regimen of HPV vaccine, the patient achieved remission from RRP. Follow-up examinations over a period of three years have shown no evidence of papilloma recurrence. Literature review supportsthe use of HPV vaccine as an adjuvant therapy in pediatric RRP management. Studies demonstrate a reduction in papilloma recurrence rates, improvement in disease severity, and potential prevention of high-risk HPV infections.

Conclusion: This case demonstrates the potential efficacy of HPV vaccine in managing aggressive RRP. The remission achieved suggests its valuable role. Current literature supports its use in reducing RRP recurrence rates. Incorporating HPV vaccine as an adjunct to surgical management holds promise for improving outcomes and reducing disease burden.

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You’re going to do what?: The readability of patient education resources for common pediatric otolaryngology surgical procedures

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Abstract

Background: The American Medical Association and National Institutes of Health recommend patient education materials be written at or below a sixth-grade readability level, though available resources typically exceed this standard. The aim of this study was to determine the readability of publicly accessible patient-oriented resources about common pediatric otolaryngology surgical procedures.

Methods: The websites of 85 children’s hospitals across the United States were searched for patient-oriented resources pertaining to 10 common pediatric otolaryngology surgical procedures. Each text was evaluated for readability level using a validated algorithm and an overall grade level score was determined.

Results: 65 hospitals had information for at least 1 of the surgical procedures which met criteria for analysis. 271 education articles were included in final analysis. Only 4 of 271 articles were written at or below the recommended sixth grade level. The mean overall readability grade level was 10.22 (95% CI 9.94, 10.49). The information for bilateral myringotomy with tympanostomy tubes had the lowest mean readability at 9.08 (95% CI 8.49, 9.68), while cochlear implant information had the highest mean grade level at 11.75 (95% CI 11.02, 12.47).

Conclusion: Most of the patient-oriented resources for pediatric otolaryngology surgical procedures are written well above the recommended sixth grade readability level. Efforts should be made to make patient resources regarding surgical procedures more accessible and understandable.

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Pediatric Sensorineural Hearing Loss: Improving Services for Children At-Risk for Future Developmental Delays

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Sophie Sherman

Abstract

Introduction: Research reveals that children born with SNHL are at increased risk for developmental delays. Few studies have investigated the effectiveness of targeted interventions to improve the developmental outcomes of this population. The purpose of this study was to understand the impact of a new screening process implemented to identify potential developmental delays of children (<5 years of age) who were cochlear implant (CI) candidates or who had already received CIs. 31 children were screened; 20 (65.5%) were identified as at-risk for delay in at least one area of development and were referred for further evaluation. **Methods**: Phone interviews (n=17) were conducted with caregivers of children who screened positive. Surveys were collected from therapists (OT, PT, SLP) who 1) received referrals based off the screener 2) had experience treating children with SNHL. Results were analyzed using descriptive statistics and thematic analysis. **Results**: 75% of caregivers reported it would be beneficial to receive more information about the referrals placed. 62.9% of the community therapists (n=35) felt their education and training didn't prepare them for treating this population. The highest reported assessments and interventions focused on sensory and motor development (over 60%); however, one of the highest reported challenges seen in this population was social engagement (75.1%). **Conclusion:** Caregivers would benefit from additional information to further understand potential developmental delays and referred services for their child. Therapists would benefit from additional training about the unique needs of children with SNHL and CIs to better evaluate and implement high-quality interventions for this population.

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Complications of Surgical Management of Velopharyngeal Insufficiency: A Scoping Review

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Abstract

Background: Velopharyngeal insufficiency (VPI) is characterized by an incomplete closure between the nasopharynx and oropharynx, causing air escape through the nose during speech. The objective of this report was to systematically review the existing literature and report on the most common post-operative complications associated with each major VPI corrective surgery technique among pediatric patients.

Methods: A comprehensive search was conducted in January 2023 of the following databases: PubMed, Web of Science, Scopus, and Embase. Studies published in English which described complications associated with VPI surgery and delineated complications for each surgery type or patient were included in this study. Articles were screened at the abstract and full-text levels by two independent reviewers.

Results: Our search yielded 911 unique abstracts. Of these, 55 publications fulfilled eligibility criteria and were included in the study. Across 55 studies, there were 5,947 patients treated for VPI. The most common surgical techniques reported were pharyngeal flap (37/55 studies), sphincter pharyngoplasty (20/55 studies), and Furlow (7/55 studies).

Surgical Technique	Complication (% Frequency)
Pharyngeal flap	Hyponasality (2.9%), obstructive sleep apnea (2.0%), snoring (1.9%)
Sphincter	Snoring (2.1%), hyponasality (2.0%), dehiscence (0.9%)
Furlow	Snoring (1.9%), fistula (1.2%), delayed wound healing (1.2%)

Conclusions: Overall, hyponasality, sleep apnea, and snoring were among the most common complications associated with VPI corrective surgery. While snoring was the most common complication associated with sphincter pharyngoplasty and Furlow, hyponasality was the most common for pharyngeal flap. We believe that our study findings will be informative for surgeons treating children with VPI.

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Challenges in Diagnosing and Managing Third or Fourth Branchial Cleft Cysts in a Neonate

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Abstract

Background: Third and fourth branchial cleft cysts represent rare congenital anomalies with challenging diagnosis and treatment.

Methods: Case report.

Results: A full-term neonate was first admitted on day of life (DOL) three with an enlarging neck mass and positional oxygen desaturations. Interventional radiology performed aspiration and pigtail catheter placement. The patient was treated with gentamicin and subsequently discharged on amoxicillin. The neonate was readmitted on DOL18, whereupon incision and drainage procedures with a 16g angiocath drain and piriform sinus tract cautery were performed. During this stay, flexible laryngoscopy revealed vocal cord weakness attributed to the Bugbee cautery. The patient received inpatient Unasyn and was discharged on Bactrim. Another readmission occurred on DOL31, during which an incision and drainage procedure was performed and a vessel loop drain was placed. A direct laryngoscopy performed at this time did not identify a tract, so no re-cautery was performed. The patient was discharged on Levaquin. On DOL47, repeat flexible laryngoscopy revealed vocal cord recovery and the presence of a persistent tract in the piriform sinus. A left hemithyroidectomy and transcervical excision of the third branchial cleft cyst were subsequently performed. A telehealth follow-up at three months revealed no redness, drainage, or phonation abnormalities with complete resolution of symptoms. To date, the infant has had no complications.

Conclusion: This case underscores the role of comprehensive and iterative diagnostic and therapeutic approaches in managing complex branchial cleft cysts. The management approach and successful outcome, supported by imaging, photographs, and intraoperative video media, provide valuable insights.

Speaker Bio

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Pediatric Malignant Otitis Externa: A Scoping Review and Meta-Analysis

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Abstract

Background: This review sought to answer the following research question: What are the characteristics of pediatric malignant otitis externa? Moreover, we wanted to highlight the clinical importance of current limitations in the literature.

Methods: A scoping review was performed to determine what is known about this disease in the pediatric population. Four databases (COCHRANE Library, CINAHL, PubMed, and Scopus) were queried for articles published in English between 1976 to 2022. Variables extracted included comorbidities, demographics, outcomes, and treatment.

Results: A total of 20 studies (N=439) were included in the analysis. Patients had a mean age of 9.97 years (range 2 months to 14 years) with a male-to-female ratio of 1.09:1. Mean length of hospital stay was 2.9 days (95%CI:2.7 to 3.0). Demographics included Caucasians (45.8%, 95%CI:40.9 to 50.8), African Americans (37.7%, 95%CI:0.5 to 89.8), and Asian/Pacific Islander (33.0%, 95%CI:13.0 to 99.9). Common comorbidities included anemia (87.3%, 95%CI:49.9 to 99.5) and some form of immunosuppression/organ transplantation (85.4%, 95%CI:26.7 to 99.9). Facial nerve palsy was seen in 82.2% of patients (95%CI:60.2 to 95.0), with persistent facial nerve paralysis existing in 79.5% (95%CI:47.4 to 96.5). Also, 75.0% of patients (95%CI:37.3 to 96.1) had persistent hearing loss.

Conclusions: Malignant otitis externa in adults most commonly affects patients with diabetes, however our analysis reveals that in the pediatric population, the disease most commonly affects patients with immunosuppression or severe health conditions. Complications such as cranial nerve palsy are more common in the pediatric population when compared to adults based on current literature.

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A Multidisciplinary Care Model for Ankyloglossia: Impact on Referral Patterns and Frenotomy Rate

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Alyson Pappas

Abstract

Background: There has been a significant increase in referrals over the last several years to pediatric otolaryngology nationally for assessment of ankyloglossia as an etiology for breastfeeding challenges in newborns. We hypothesize that a substantial proportion of these referrals are better managed with improved breastfeeding support through a multidisciplinary care model.

Methods: A multidisciplinary care model was developed to include an initial assessment by a double-certified pediatric speech-language pathologist and lactation counselor with specific expertise in infant feeding and swallowing. Education and counseling for infant feeding dynamics, optimal breastfeeding positions, and sustaining milk supply were provided. The Bristol Breastfeeding Assessment Tool (BBAT) was utilized to assess breastfeeding outcomes pre and post intervention.

Results: 34 consecutive, otherwise healthy full-term infants were followed. 3/34 (9%) patients underwent frenotomy. 15/34 (44%) had resolution of breastfeeding difficulties without intervention. 14/16 (88%) breastfeeding dyads reported resolution of concerns after SLP/CLC intervention at an average of 2 follow up visits. 3/34 (9%) were lost to follow up. BBAT was collected on 5/34 patients. 4/5 patients were followed for 1 and 1/5 for 2 follow up visits. BBAT scores improved from 4.8 (+/- 0.836) to 6.8 (+/-1.09) at first follow up. The one patient with 2 visits improved from 5 to 8.

Conclusions: Infant breastfeeding difficulties are often multifactorial and seldom exclusively related to anatomic abnormalities. Our multidisciplinary care model resulted in improved triaging, decreased need for frenotomies, and positive outcomes. This may serve as pilot data for future more robust studies.

Speaker Bio

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Clinical utility of Language Environment Analysis (LENA) for caregiver coaching of children with cochlear implants

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Abstract

Clinical utility of Language Environment Analysis (LENA) for caregiver coaching of children with cochlear implants

Background: The LENA device is a wearable audio recorder that gathers data about a child's language environment in a naturalistic setting. Our cochlear implant (CI) center aimed to leverage this data as an innovative caregiver coaching tool in speech therapy sessions for children pre- and post-CI.

Methods: Forty-four patients <48 months old who participated in our CI LENA program completed up to three full days of LENA recordings pre-CI and semi-regularly post-CI. A speech-language pathologist (SLP) reviewed the user-friendly LENA outputs with the caregiver during a clinical therapy visit, and together they identified areas of strength and factors behind them. Areas for improvement were identified and goals established to target in therapy. Additional recordings monitored progress and tracked changes in the child's environment over time.

Results: The majority of families participated in LENA recordings at multiple timepoints, and were motivated by the feedback they received from the LENA reports to generalize therapy skills into their home environment. Caregivers described gaining valuable insight about their child's vocal development, caregiver interactions, and audio environment from the LENA review with SLP. Preliminary findings showed improvements in the quantity of child vocalizations and conversational turns.

Conclusion: Clinicians can use LENA to obtain a snapshot of a child's abilities in a naturalistic setting and as a therapy tool to engage caregivers in their child's development. Future work will evaluate how this approach can influence standardized language testing and patient outcomes.

Speaker Bio

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Family Satisfaction of the Multidisciplinary Aerodigestive Service at a Tertiary Care Children's Hospital in the Middle East

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Dr. Safeena Kherani

Abstract

BACKGROUND

Many tertiary care children's hospitals have multidisciplinary aerodigestive services to care for complex often medically-fragile children with upper and lower airway as well as digestive system issues. The premise is that having the relevant health care providers assess the child together and develop a collaborative plan together is preferred particularly as it minimizes the need for the family to repeatedly visit the hospital for individual appointments. Limited research is present in the literature to confirm this premise.

METHODS

This study retrospectively reviewed patient satisfaction questionnaires completed from March to June 2023 of a 5-year-old Aerodigestive Service in a tertiary care children's hospital in the Middle East. The questionnaires were completed on a voluntary basis after the multidisciplinary clinic appointment and evaluated multiple elements of the service including overall impression, quality of care, appointment scheduling, contact center, registration process, outpatient nursing and outpatient health care providers. Qualitative data was also collected.

RESULTS

A totally of 52 questionnaires were completed including 18 new patients and 34 follow-up patients.

The most common theme for strength of the program was the value of seeing all the providers together. The most common theme for areas for improvement were related to long waiting times until the appointment and waiting on the day of the appointment.

CONCLUSION

Over 80% of families rated most categories as excellent or very good. While clinical care delivery was rated highly, the findings also revealed the need to improve scheduling and administration of the service.

Speaker Bio

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Obstructive Sleep Apnea in Patients with Spinal Muscular Atrophy

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Hajera Afreen

Prasanth Pattisapu

Tendy Chiang

Ethan Bassett

Abstract

Background: Spinal muscular atrophy (SMA) causes otolaryngological limitations and sleep issues that are not well understood. In this case series report, we describe diagnosis and surgical management of obstructive sleep apnea (OSA) in patients with SMA type III treated with novel gene therapies who were referred to Nationwide Children's Hospital's otolaryngology department.

Methods: Two representative cases of otolaryngological SMA are described.

Results: Patient A presents at age 5 with tonsillar hypertrophy and mild OSA with apnea-hypopnea index (AHI) of 6 and lowest O2 saturation of 87%. Post-operative sleep symptoms improved following tonsillectomy and adenoidectomy (T&A) but recurred nine years later. His symptoms are managed with BiPAP and serial polysomnography. Gene therapy included nusinersen injections until the age of 14, and daily oral risdiplam afterwards. Patient B presented at age 18 with severe OSA and AHI of 17 and lowest O2 saturation of 78% that was treated with T&A and turbinate reduction. While post-operative polysomnography reflected improvement, subsequent polysomnography scores and symptoms gradually worsened over the course of three years and are managed with BiPAP. Gene therapy includes daily oral risdiplam.

Conclusion: These cases illustrate temporary improvement and then recurrence of sleep issues in patients with SMA despite treatment with novel gene therapies.

Speaker Bio

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Adverse Events Related to Coblation Adenotonsillectomy: A MAUDE Database Analysis

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Abstract

Background: Many techniques for performing adenotonsillectomy exist, including plasma-mediated coblation. The Manufacturer and User Facility Device Experience (MAUDE) database is an aggregate of reported device-related surgical complications in the United States since 1991. This database was utilized to characterize device- and patient-related complications pertaining to coblation adenotonsillectomy.

Methods: All coblation adenotonsillectomy reports were collected from MAUDE (2003-2023) using search terms: “tonsillectomy”, “adenoidectomy”, and “adenotonsillectomy” + “coblator” or “coblation.” 676 cases total were extracted on April 16, 2023. Duplicate records (n=348) and records related to lingual tonsillectomy or transoral robotic surgery (n=4) were excluded. The remaining reports were then evaluated to characterize adverse events.

Results: 344 reports were retrieved. 201 (58.4%) were device-related, 104 (30.2%) were patient-related, and 39 (11.3%) were device- and patient-related. Device-related issues, when specified, include power/circuit smoking/ablating/programming issues (n=94, 43.1%), device breakage (n=43, 19.7%), thermal/arcing/device melting or smoking issues (n=48, 22%), and irrigation/suction issues (n=27, 12.4%). Short-term patient-related complications include hemorrhage (n=90, 67.7%), thermal injury (n=27, 20.3%), and pharyngeal foreign body (n=13, 9.8%). Long-term patient-related complications include soft palate perforation (n=2, 33.3%), velopharyngeal insufficiency (n=1, 16.7%), tissue regrowth (n=1, 16.7%), nasopharyngeal stenosis (n=1, 16.7%), and persistent OSA (n=1, 16.7%). Finally, 1 case entailed a hemorrhage-related death postoperatively.

Conclusion: This analysis describes several issues with coblation adenotonsillectomy that may lead to extended case duration, reoperation, and/or significant patient morbidity. Interventions aimed at improving surgeon education and comfort with coblation technology may reduce adverse events and better inform patients during the surgical decision-making process.

Speaker Bio

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The Impact of Endoscopic Sinus Surgery in Pediatric Patients with Sinogenic Intracranial Infection: A Systematic Review and Meta-Analysis

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Dr. Elysia Grose

Abstract

Background: Intracranial complications of sinusitis can be life threatening and often necessitate surgical management. The objective of this review is to clarify the impact of endoscopic sinus surgery (ESS) on the outcomes of pediatric patients with sinogenic intracranial infections.

Methods: MEDLINE, Embase, and the Cochrane library were searched for articles that described the outcomes of pediatric patients who had sinogenic intracranial complications and underwent ESS with or without other interventions. Random effects meta-analysis was performed.

Results: 5892 studies were retrieved, and 45 were included involving a total of 587 pediatric patients. The included studies comprised 68 cases of meningitis, 293 cases of subdural empyema, 296 cases of epidural abscess, and 91 cases of intraparenchymal abscess. The pooled estimate for mortality in patients treated with combined ESS and neurosurgery was 2.9% (95% CI 1.1%-4.8%; I^2=0%,. p=0.002) in contrast to neurosurgery only and sinus procedures only which had a pooled estimate of 5.1% (95% CI 0.6%-9.6%; I^2=0,. p=0.027) and 2.7% (95% CI 0.2%-5.2%; I^2=0,. p=0.035), respectively. The pooled estimates for revision surgery were 33% (95% CI 20.3%-46.2%; I^2=82%,. P<0.001) for combined ESS and neurosurgical procedures, 34% (95% CI 22%-45%; I^2=33%,. P<0.001) for ESS alone and 33% (95% CI 19%-47%, I^2=0%,. P<0.001) for neurosurgical procedures alone. ESS was not significantly associated with decreased mortality, revision surgery, reduced length of stay in hospital or long-term neurological disability.

Conclusion: ESS was not associated with improved patient outcomes in pediatric patients with sinogenic intracranial infections, however, the existing evidence is limited to small retrospective studies.

Speaker Bio

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Hypothyroidism-Related Vertigo: a Case Report and Scoping Review

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Emily Oulousian

Abstract

Objectives

Hypothyroidism and vertigo are a rare clinical association. Following the case of a teenager who presented with vertigo and newly diagnosed hypothyroidism, a scoping review was performed. The aim of this study is to better understand the link between both conditions.

Methods

The case report includes clinical data from the patient’s chart and patient outcomes. The scoping review on hypothyroidism and vertigo was conducted in accordance with the PRISMA-ScR checklist. Studies were identified through electronic searches of five databases and citation searches. Data on patient demographics, clinical findings, treatments instituted, and prognosis were collected.

Results

A 15 year-old female seen at a pediatric center in Montreal presented with hypothyroidism and vertigo. No causes of vertigo were initially identified, however symptoms resolved with Levothyroxine. Through scoping review, 27 articles were analyzed. 19 (67.8%) focused on adult population, one (3.6%) focused on pediatric population and three (10.7%) covered both. A total of 2,408 cases of vertigo associated with hypothyroidism were documented. Vertigo was characterized as Meniere’s Disease in 19.5% (95%CI, 17.9-21.1 95%CI) of patients, BPPV in 46.1% (95%CI, 44.1-48.1 95%) of patients, and remained undefined in 34.3% (95%CI, 32.4-36.2 95%) of patients. 56 patients were treated with Levothyroxine, of which 66.1% (95%CI, 53.7-78.5%) saw an improvement of their vertigo symptoms.

Conclusion

There is growing evidence that thyroid disorders, including hypothyroidism are associated with vertigo. Furthermore, an increasing number of studies support the role of thyroid autoimmunity processes as a causative factor in vestibular conditions (Meniere’s Disease and BPPV).

Speaker Bio

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Socioeconomic and etiologic considerations for non-use in pediatric cochlear implant patients

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Abstract

Background

There is extensive research in cochlear implant (CI) indications, surgical technique, programming and outcomes, but the evaluation of driving factors behind patient adherence to care recommendations and implant usage has been relatively overlooked. Our study aimed to determine which demographic, etiologic, and socioeconomic factors correlate most strongly to whether a cochlear implantee becomes a “non-user.”

Methods

We analyzed data for 334 pediatric patients at a tertiary pediatric hospital from 2010 to 2020. Variables assessed included implant user status, age, primary language, distance from the CI center, insurance, etiology, and family history of hearing loss. Statistical analysis was performed with multiple regression analysis.

Results

Of the 334 patients contacted, 304 (90%) were active users, 19 (5.7%) were non-users, and 11 (3.3%) had unknown status. Primary language and hearing loss etiology were the strongest factors in predicting user status. Patients who were non-users had communicated mostly with visual communication or ASL ($p=0.0001$). Patients whose hearing loss was attributed to meningitis or ototoxicity were also significantly more likely to be non-users than all other etiologies ($P<0.05$). Interestingly, many demographic identifiers, including age, distance from the clinic, and family history of hearing loss, had no significant impact on user status.

Conclusions

Cochlear implantation is a complex, expensive, and significant intervention that requires faithful treatment adherence and commitment to follow-up for best outcomes. As cochlear implant indications expand, it will become increasingly crucial that implant centers understand the factors that could predispose patients to become non-users.

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Pediatric tracheotomy: comparison the outcomes in the early and late tracheotomy

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Dr Che Yi Lin

Dr Pey Yu Chen

Abstract

Background:

To assess the influence of the timing of pediatric tracheotomy on hospital stay

Subjects and methods:

We retrospectively recruited children(≤18-year-old) who received tracheotomy at a tertiary referral center between 1997 and 2019. Early tracheotomy is defined as mechanical ventilator(MV) use ≤30 days before tracheostomy, while late tracheostomy is defined as MV use >30 days.

Results:

We enrolled 215 children with 122 boys and 93 girls, including 82 early tracheostomy and 133 late tracheostomy. The average age at tracheotomy was 3.54±5.27 years. Indications of tracheostomy were upper airway obstruction(UO) in 84 children and lower airway disorders(LD) in 131 children.

In the early tracheotomy, those with UO had significantly shorter duration from mechanical ventilator(MV) support to discharge comparing to those with LD(35.5±24.9d and 57.8±31.9d, respectively; p=0.001). In contrast, there was no difference in this duration between UO and LD in the late tracheotomy group(158.3±138.7d and 166.0±140.7d, respectively; p=0.786). Furthermore, early tracheotomy is associated with a shorter duration of MV support in UO compared to LD among 142 children who successfully weaned from MV(18.9±19.4d and 30.8±13.7d, respectively; p=0.009). Early tracheotomy was a positive factor for successful weaning from MV.

Conclusion:

Our finding suggested that early tracheotomy in children was associated with shorter hospital stays, a reduced duration of MV use and increase the possibility of successful weaning compared to late tracheotomy. These findings emphasize the importance of considering early tracheostomy in appropriate cases to optimize patients' outcomes.

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Impact of Chronic Adenoid Hypertrophy on Quality of Life Index in Children and Role of Adenoidectomy

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Dr Deepa Shivnani

Abstract

Objectives: To analyse the effects of chronic adenoid hypertrophy on quality of life (QOL) of children and caregivers and compare quality of life of child before and after adenoidectomy.

Materials & Methods: Prospective, observational before and after questionnaire based assessment study at a paediatric otorhinolaryngology specialty centre in a metropolitan qua- ternary care hospital. Children aged between 2 and 12 years undergoing adenoidectomy were included. Parents were asked to fill the Obstructive Sleep Apnea-18 (OSA-18) Quality of Life Index Questionnaire one day before surgery and after one month of surgery during their scheduled follow-up visit. The study was conducted over a period of 1 year and total of 40 children’s assessment was done. Results were tabulated and analysed.

Results: The mean age of presentation was 6 years. Based on OSA-18 quality of life assessment scoring the total pre-operative mean score was 73.3 and post-operative was 40.5. There was significant change in OSA-18 total score and individual domain scores post-operatively indicating significant improvement in QOL post adenoidectomy. The domains most affected due to chronic adenoid hypertrophy were physical suffering, caregiver concerns and sleep disturbance (p value<0.001)

Conclusion: Chronic adenoid hypertrophy has major impact on quality of life of a child along with caregiver concern and they show significant improvement after adenoidectomy.

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Factors associated with supra-stomal collapse in pediatric tracheostomies

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Abstract

Background: The goal of our study was to review supra-stomal structural changes following pediatric tracheostomy tube placement.

Methods: A retrospective cohort study of all children who underwent tracheostomy tube placement at a tertiary care children's hospital between 2/2018-12/2022.

Results: A total of 146 patients underwent 149 tracheostomy placements and followed by interval Microdirect Laryngoscopy and Bronchoscopy (MLB). The average age at tracheostomy was 3.4 ± 5.2 months old. Comorbidities most commonly included prematurity (n=69, 47.2%), Genetic/ syndromic disorder (n=85, 58%), and hypotonia (n=118, 81%). At the time of tracheostomy, 123 patients (84.2%) were ventilator-dependent, and 30 (20%) had been diagnosed with distal tracheobronchomalacia. Supra-stomal collapse was seen in 27/103 (26%) patients one month after tracheostomy, compared to 24/73 (33%) patients at six months, 41/83 (49.4%) patients at 12-18 months, and 11/17 (78%) patients at three years post-tracheostomy. Age at tracheostomy tube placement (1.84±3.8 months vs. 5±6.3 months, p=0.007), bronchopulmonary dysplasia (n=23 (56.1%) vs. n=12 (28.5%), p=0.015), and the presence of supra-stomal granulation tissue at interval MLBs (n=37 (90.2%) vs. n=28 (66.68%), p=0.015) were associated with an increased risk of supra-stomal collapse one year after tracheostomy. The presence of hypotonia, distal tracheobronchomalacia, and the use of flextend vs. non-flextend tracheotomy tubes one year from surgery were not associated with supra-stomal collapse.

Conclusions: The incidence of supra-stomal collapse increased with time from tracheostomy tube placement and is associated with young age at tracheostomy, bronchopulmonary dysplasia, and finding of supra-stomal granulation tissue.

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Maxillary Frenulum Classification in Children

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Douglas Nanu

Abstract

Background: The Kotlow maxillary frenulum classification ranges from 1-4 depending on the depth of insertion on the anterior alveolar ridge. The goal of this study was to describe the Kotlow classification of maxillary frenulae of children of different ages.

Methods: All children who visited a pediatric otolaryngology clinic between July 1 and December 1 2022 had their maxillary frenulum scored using the Kotlow classification system. Age, gender, race, and co-morbidities were recorded. Children who had undergone maxillary frenotomy were excluded.

Results: 547 children were included, 258 (47.2%) females and 289 (52.8%) males. Mean age was 5.8 (95% CI 4.3-7.2) years. 21 (3.8%) had a frenulum score of 1, 127 (23.2%) had a score of 2, 262 (47.9%) had a score of 3, and 137 (25%) had a score of 4. 71 were palpated and of these 12 (16.9%) were taut.

There were significant racial differences in frenulum scoring with a score of 1 more common (N=12, 26.7%) in Black/African American children and a score of 4 more common (N=118, 26.0%) in white children.

Children with a frenulum score of 4 had a significantly lower mean age (1.3 years, 95% CI 1.0-1.6) than children with a score of 1 (8.7 years, 95% CI 6.6-10.8, p<.001).

Conclusion: Almost half of children have a Kotlow 3 maxillary frenulum. As children grow older and the dentition develops in the alveolar ridge, the frenulum score decreases. This may be of value to otolaryngologists when considering maxillary frenectomy in young children

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Dynamic airway obstruction in pediatric patients with cerebral palsy

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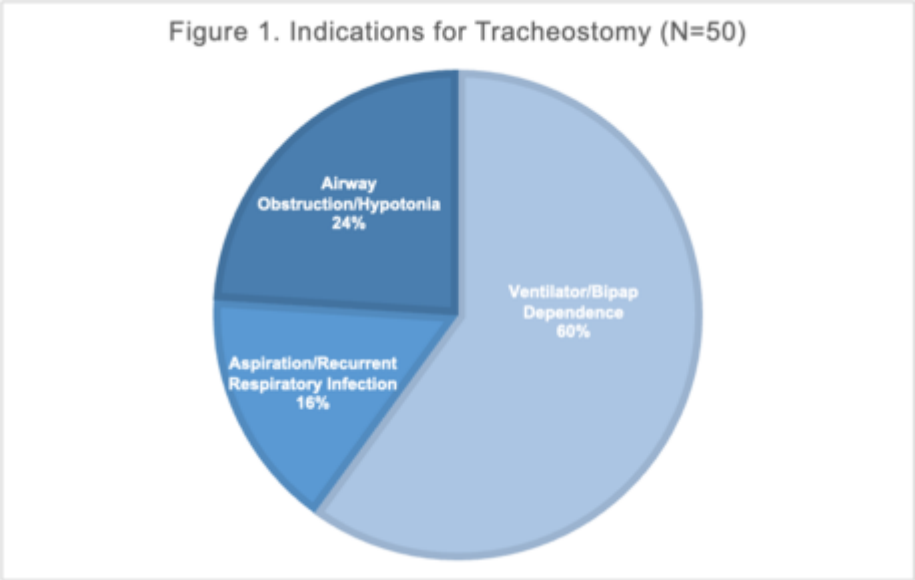
Abstract

Background: Cerebral palsy (CP) is the most common neuromuscular disorder in children. This population is at increased risk of airway obstruction and pulmonary issues, potentially requiring tracheostomy placement. Previous studies have characterized indications for tracheostomy in neurologically compromised children, however no studies focus specifically on children with CP. This study aims to characterize the indications for tracheostomy placement in children with CP.

Methods: A retrospective chart review was completed of patients who underwent tracheostomy placement and received care between 2015-2023 at a single tertiary care medical center.

Results: 933 patients with tracheostomies were identified, of whom 269 (28.8%) had cerebral palsy. Currently, 50 patients, with an average age of 5.44 years, have been characterized. The most common indications for tracheostomy placement were: ventilator or Bipap dependence (60%), upper airway obstruction or hypotonia (24%), and aspiration and/or recurrent respiratory infection (16%). At the time of surgery: 46% of patients had upper airway obstruction; 34% had no airway obstruction; and 20% of patients had distal airway etiologies, such as tracheobronchomalacia. Among all patients, 3 of 50 (6%) were ultimately decannulated.



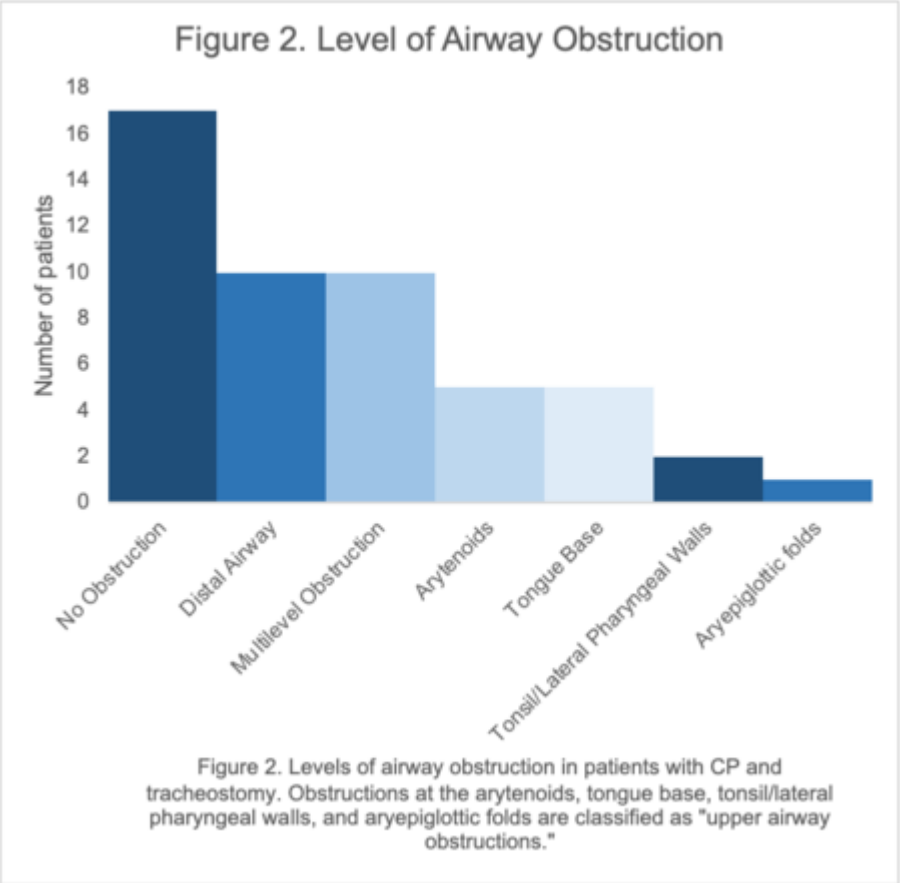


Figure 2. Levels of airway obstruction in patients with CP and tracheostomy. Obstructions at the arytenoids, tongue base, tonsil/lateral pharyngeal walls, and aryepiglottic folds are classified as "upper airway obstructions."

Conclusions: Children with cerebral palsy most often receive tracheostomy after failure of noninvasive therapies. Our initial data suggests low rates of tracheostomy decannulation for the CP population. Completion of our data collection will be help in guiding management and expectations for this medically complex population.

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Social determinant of health indices association with sociodemographics, health outcomes, and healthcare utilization in pediatric sleep apnea

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Mr. Shravan Asthana

Abstract

Background: Obstructive sleep apnea (OSA) is a prevalent chronic health condition in children, affecting their overall well-being and cognitive functioning. While previous research has primarily focused on clinical aspects and management strategies, there is a growing recognition of the significant role played by social determinants of health (SDOH) in sleep health disparities. This study aims to investigate the associations between the social vulnerability index (SVI), area deprivation index (ADI), and environmental justice index (EJI) with sociodemographics, health outcomes, and healthcare utilization in pediatric OSA.

Methods: Medical records of pediatric OSA patients between 2010 and 2023 is currently being queried for relevant variables such as sociodemographic risk factors, health outcomes, and healthcare utilization. Descriptive statistics will be employed with SVI, ADI, and EJI stratifications. Associations between SDOH indices and variables of interest will be examined using ANOVA and multivariate regression.

Expected Results: The analysis is expected to reveal associations between comprehensive SDOH indices and the social factors that contribute to health disparities in pediatric OSA. Higher SVI, ADI, and EJI scores may be associated with sociodemographic risk factors, poorer health outcomes, and reduced healthcare utilization.

Expected Conclusions: The use of neighborhood level granular SDOH indices provides new insight into the factors underlying social risk in pediatric OSA. Consequently, the results may inform targeted interventions and policies aimed at improving health equity and reducing disparities in care for pediatric sleep apnea, emphasizing the need to address social determinants as an integral part of pediatric sleep apnea management.

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Social Determinants of Health & the Aerodigestive Population

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Abstract

Background: Social Determinants of Health (SHD) create barriers that impair equitable access to

healthcare. Limitations in access are highest in families living in rural areas, families of color, and families

of low socioeconomic status. We aim to assess the impact of a dedicated social worker (SW) for our

aerodigestive patient population and determine if can better recognize SDH and allow equitable service

delivery.

Methods: A retrospective chart review was completed between July 2022 and June 2023. 39 families

received Aerodigestive SW support after screening positive for SDH. Families were identified based on

self-report or completion of SDH Screener. The Aerodigestive SW then completed further assessments

to assess for additional SDH.

Results: All 39 families endorsed transportation as their primary SDH. Additionally, 36 families endorsed

financial strain, 9 unemployment, 1 housing instability, 3 mental health, 2 caretaking stress, and 1 food

insecurity. Families with travel barrier received transportation to ensure appointment completion and

avoid a no-show at an average cost of $95. Attendance of these 8 families supported the completion of

1 tongue base suspension, 3 bronchoscopies, 1 foreign body removal, 2 adenotonsillectomy, 1

outpatient visit, and 1 eartube placement.

Conclusion: Aerodigestive patients generally encompass a medically complex population. Patients are at

higher risk of SDS. Our work identified transportation, financial stress, and unemployment as the

primary SDH. A dedicated SW allowed a pre-clinic assessment of SDH and created an opportunity for

families. The lack of missed appointments can result in revenue opportunity for the hospital and reduce

resource burden.

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Improving Patient-Provider Communication Regarding Obstructive Sleep Apnea for Children with Down Syndrome

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Mahima Dave

Abstract

Background: Nearly 80% of children with Down syndrome (DS) are affected by obstructive sleep apnea (OSA), a condition in which repeated blockage of the upper airway causes difficulty breathing during sleep. The American Academy of Otolaryngology-Head and Neck Surgery states that among children with DS who had abnormal polysomnogram (PSG) studies, only 34% had corresponding parent reports. This study aims to improve health communication between caregivers of children with DS and health care providers through public health education.

Methods: To understand challenges faced by clinicians and caregivers in addressing OSA, a focus group discussion was facilitated with caregivers, and interviews were conducted with pediatric specialists. A health education program was developed to train caregivers to communicate sleep concerns with clinicians. A pre-test and post-test were sent to participants to evaluate the health education program.

Results: During the pre-test, most of the participants correctly answered questions focused on assessing the definition of apnea and the relationship between OSA and sudden cardiac arrest. 30% of the participants were not sure if they had the resources to manage sleep health, and 14% felt they had resources sometimes or didn't have any resources. In the post test, improvement was noticed in the number of participants who recognized the functions of sleep and had sleep health resources.

Conclusion: Through efforts of health education, caregivers of children with DS can understand the severity of OSA. Future health practices should include interdisciplinary efforts, including the field of otolaryngology and public health, to raise awareness about OSA screening.

Speaker Bio

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Infants are more likely to have post-tympanostomy tube otorrhea than toddlers

Alex Corbin BS[1], Douglas Nanu BS[2,3], Beatrice Bacon BS[1], Sharan Prasad BS[1], Dr. Ellen Piccillo MD[1], Dr. Michele Carr DDS, MD, PhD[1]
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Douglas Nanu

Abstract

Background: Otorrhea is a common postoperative complication in children undergoing tympanostomy tube (TT) placement. Our goal is to determine if the incidence of otorrhea following TT placement is higher in infants who meet criteria and have TT placed than in older children.

Methods: Charts of consecutive children aged 3 or younger who presented at a pediatric otolaryngology clinic between January 2017 and Sept 2018 and had TT placed were reviewed. Demographics, comorbidities, TT indication, effusion, tube type, number and management of otorrhea episodes in the first year following insertion were included. Infants <12 months were compared with toddlers aged 13-35 months at the time of surgery.

Results: 237 children were included: 60 (25.3%) infants and 177 (74.7%) toddlers, 87 (36.7%) females and 150 (63.3%) males (p=.219). Mean infant age was 9.7 months (95%CI 9.0-10.3) and mean toddler age was 21.5 months (95%CI 20.6-22.4).

165 (69.6%) patients received TT for recurrent acute otitis media, and 69 (29.1%) for otitis media with effusion, with no difference between the groups (p=.864).

In the year following insertion, 134 (56.5%) children reported at least one otorrhea episode: 49 (81.7%) infants and 85 (48.0%) toddlers (p<.001). Infants had a median of 1 episode and toddlers had median 0 (p<.001). 3 children in each group had continuous otorrhea (5.0% of infants and 1.7% of toddlers, p<.001).

Conclusions: When TT are placed in infants, otorrhea occurred more often than when they were placed in toddlers. Parents can be counselled to expect this prior to TT placement.

Speaker Bio

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To Laser or Not to Laser? A Case Series of Intralesional Steroids as a Novel Treatment for Propranolol-Refractory Airway Hemangiomas

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Abstract

BACKGROUND:

Although propranolol is often effective for managing pediatric airway hemangiomas, there are cases where propranolol is ineffective or rebound growth occurs following cessation of propranolol. We present a case series of pediatric airway hemangiomas refractory to propranolol that were successfully treated with non-ablative therapy using intralesional steroid injections, as well as a literature review regarding current approaches for the treatment of refractory airway hemangiomas.

METHODS:

A single-center retrospective chart review was conducted at an academic tertiary care center between 09/2015 and 08/2022, examining pediatric patients with supraglottic, glottic, or subglottic hemangiomas unsuccessfully treated with oral propranolol. Patients were followed for symptomatic improvement and relief of airway obstruction using laryngoscopy exams. A systematic review of the current literature on management of airway hemangiomas refractory to propranolol was examined using a MEDLINE database without time limits.

RESULTS:

We present three patients with airway hemangiomas refractory to oral propranolol treatment. Two patients presented with subglottic hemangiomas, while one presented with supraglottic hemangioma. Each patient received intralesional triamcinolone injections with serial follow-up laryngoscopy exams. One patient required two additional steroid injections. All three patients had a significant reduction in airway obstruction from hemangiomas and did not require additional ablative resection, tracheotomy, or laser therapy.

CONCLUSION:

Non-ablative options for residual airway hemangiomas may be an alternative treatment to open resection, tracheotomy, or laser ablation for airway hemangiomas refractory to propranolol therapy.

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Prevalence of vestibulocochlear and brain abnormalities in cochlear implantees

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Abstract

Background

Cochlear implantation surgery requires the presence of an intact cochlear nerve and a patent, non-ossified cochlea. Many vestibulocochlear abnormalities, such as cochlear nerve aplasia, cochlear agenesis, intracochlear ossification or fibrosis, introduce challenges and/or contraindications to intervention. Intracranial abnormalities such as arachnoid and periventricular subependymal cysts, microcephaly and ventriculomegaly may also pose significant challenges to surgical approach and postoperative outcomes in cochlear implantation. This study reports the prevalence and concurrence of vestibulocochlear and brain abnormalities in pediatric cochlear implantees.

Methods

We analyzed data for 461 pediatric patients at a tertiary pediatric hospital from 1998 to 2023. Variables assessed included presence of vestibulocochlear abnormalities and of brain abnormalities on imaging. Prevalence and comorbidity were calculated.

Results

Of the 461 patients investigated, 71 (15.4%) had vestibulocochlear abnormalities, 66 (14.3%) had brain abnormalities, and 11 (2.4%) had both vestibulocochlear and brain abnormalities on imaging.

Conclusions

The contraindications and potential challenges related to vestibulocochlear abnormalities in cochlear implantation are relatively well understood. However, the effects of various brain imaging findings like arachnoid and periventricular subependymal cysts, microcephaly and ventriculomegaly on surgical approach and postoperative outcomes remain relatively unexplored. While only an initial reporting of prevalence, this study suggests that the effects of incidental brain findings on surgical and lifestyle outcomes must be investigated.

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Using a Novel Approach to Assess and Improve Otolaryngology Resident Proficiency in Pediatric Foreign Body Aerodigestive Emergencies

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New York University Grossman School of Medicine, New York, NY, USA

Dr. Sandra Tadros

Dr. Megan Gaffey

Abstract

Background: Otolaryngology junior residents must master the surgical equipment necessary to safely manage pediatric airway foreign bodies promptly in their second year of residency. The aim of this project is to assess and improve resident knowledge of and proficiency with the necessary equipment for such cases during timed, unscheduled drills which mimic real world situations, rather than during standard scheduled simulation labs.

Methods: Otolaryngology junior residents were surveyed before and after completing two simulations using official operating room equipment. The residents were scored based on their ability to rapidly select and assemble necessary equipment for foreign body cases, including laryngoscopes, bronchoscopes, esophagoscopes and other supporting equipment. An educational video was made and distributed to equilibrate the knowledge base prior to initiation of drills.

Results: Six junior residents each underwent two unscheduled, random simulation drills, during call shifts. We found statistically significant improvement in subjective comfort in managing pediatric foreign body aerodigestive equipment. While there was not statically significant improvement in the objective score sheets overall, there was a remarkable improvement in time necessary to set up for a pediatric foreign body case, which is clinically significant.

Conclusion: Although not always statistically significant, there is subjective and objective data supporting improvement in Otolaryngology resident proficiency in managing pediatric foreign bodies using our novel unscheduled and spontaneous assessment approach as a tool to prepare Otolaryngology residents for real life pediatric foreign body interventions.

Speaker Bio

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Management of Neonatal Airway -Do We Really Need a Multidisciplinary Team Approach?

Dr Deepa Shivnani MBBS,DNB ENT, AASC, DPSM, MNAMS, Dr Shruthi Kobal MBBS, MS ENT,

Dr Eshwaran Venkata Raman MBBS, MS, DLO, Dr Vekatesh H A MBBS, MD Pediatrics
Manipal Hospitals, Bengaluru, Karnataka, India

Dr Deepa Shivnani

Abstract

Objective: To evaluate the need of a multidisciplinary team approach for the evaluation & management of neonatal upper airway.

Material & Methods: All newborns (upto age 28 days) referred to Otolaryngology unit for upper airway evaluation from January 2022 to December 2022 were included. Children who already enrolled for multidisciplinary team or having gastrointestinal/ congenital anomalies (previously diagnosed) were excluded. A multidisciplinary approach was defined if 3 or more specialties care provider were involved in the management of upper airway of neonate.

Results: Total 118 neonates were included. Male to Female ratio was 1.36(68:50). Mean age-12days. 82%(97/118) patients were referred for the evaluation of noisy breathing, nasal obstruction and persistent respiratory distress. Remaining 18%(21/118) were referred for suspicion of laryngeal cleft. 59%(70/118) managed conservatively in which 77% (54/70) neonates were seen by neonatologist, otolaryngologists and swallowing therapists. 11% (8/70) neonates were additionally seen by gastroenterologist and neurologist. 40% (48/118) neonates were taken up for upper airway evaluation in operating room. Out of which, 62% (30/48) were seen by more than 3 specialties prior to the procedure. Overall, 71% neonates were managed with multidisciplinary team involvement.

Conclusion: A Multidisciplinary team approach should be followed for neonatal airway cases in terms of optimizing hospitalization, promoting communication, managing and minimizing the post operative plans. However, case based heterogenicity can happen in team composition. Further studies are needed to define the best practices, clinical efficacy and cost-effectiveness to implementing airway management teams for such neonates.

Speaker Bio

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Primary vs. Secondary Closure of Tracheocutaneous Fistulas: A Prospective Cohort Study

Dr. Alisa Timashpolsky MD[1], Dr. Luv Javia MD[2], Dr. Ian Jacobs MD[2], Dr. Conor Devine MD[2], Terri Giordano DNP, CRNP, CORLN[2], Dr. Karen Zur MD[2], Dr. Ryan Borek MD[2], Dr. Steven Sobol MD, MSc, FRCS(C), FAAP[2]

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Abstract

Background: Tracheocutaneous fistula (TCF) is a known complication of tracheostomy in children. Rates of TCF in decannulated patients are reported to range between 31.5 – 57.4%. The two most common techniques for TCF closure are de-epithelialization with healing by secondary intention (SI) or primary closure (PC). To date, all studies comparing these techniques have been retrospective in nature. We performed the first prospective study comparing the two surgical techniques and their outcomes.

Methods: All patients who underwent closure of a TCF between 5/1/2022 and 5/30/2023 were eligible for inclusion. Data collected included demographics, tracheostomy history, intraoperative data, postoperative complications, postoperative recovery and healing, and voice outcomes measured by the pediatric voice handicap index (pVHI).

Results: There were 15 patients who underwent PC, and 10 patients who underwent closure by SI. Tracheostomy data, intraoperative, and postoperative data is represented in Table 1. Both cohorts had tracheostomies for at least 2 years, and the length of time from decannulation to closure was longer in the primary vs secondary group (p=.01). The operative time was significantly longer in the PC group (p=.002) and the PC group experienced a significantly higher number of immediate postoperative respiratory complications (p=.05). Preoperative and postoperative pVHI data was compared for 11 patients and represented in Figure 1. Significant improvements were seen in two subdomains and in the total pVHI scores.

Conclusions: This prospective study demonstrated fewer postoperative respiratory complications for SI closure of TCFs compared to PC. Postoperative voice outcomes were improved for both surgical cohorts.

Table 1: History and Intraoperative and Postoperative Data			
	Primary	**Secondary**	
Total Subjects	15	10	p value
Tracheostomy History			
Age at time of tracheostomy in months, median (IQR)	5.32 (3.5-7.3)	8.13 (3.7-9.6)	0.2
Time with trach in months, median (IQR)	35.3 (22.2 - 51)	41.6 (29.1 - 65.6)	0.44
Time from decan to closure in months, median (IQR)	14.0 (10.6 - 34.8)	9.6 (8.0 - 11.0)	0.01
Intraoperative and Post Operative Data			
Operative Time in minutes, median (IQR)	68 (51-79)	39 (34.5-46)	0.002
Fistula size in mm^2, median (IQR)	2 (1.9-4.6)	15.5 (14.25-32.5)	<.001
Distance of TCF from Vocal Cords in mm, median (IQR)	23.5 (17-31.3)	21 (16-25)	0.39
Immediate Post-Operative Complication – Any[a]	6 (40%)	0 (0)	0.05
Mild Stridor	2(33%)		
Moderate Stridor	1(16.6%)		
Desaturation below 90%	4(66%)		
Supplemental Oxygen	2(33%)		
PICU Upgrade	1 (16.6%)		
Any Complications - Immediate or within 90 days	9 (60%)	2 (20%)	0.1
Successful closure at 3 months	15 (100%)	10 (100%)	

a: Proportions are out of the total of 15 patients who underwent primary closure, some patients experienced multiple complications.

Abbreviations - decan: decannulation, IQR: interquartile range, mm: milimeters, PICU: Pediatric Intensive Care Unit, TCF: Tracheocutaneous fistula, trach: tracheostomy

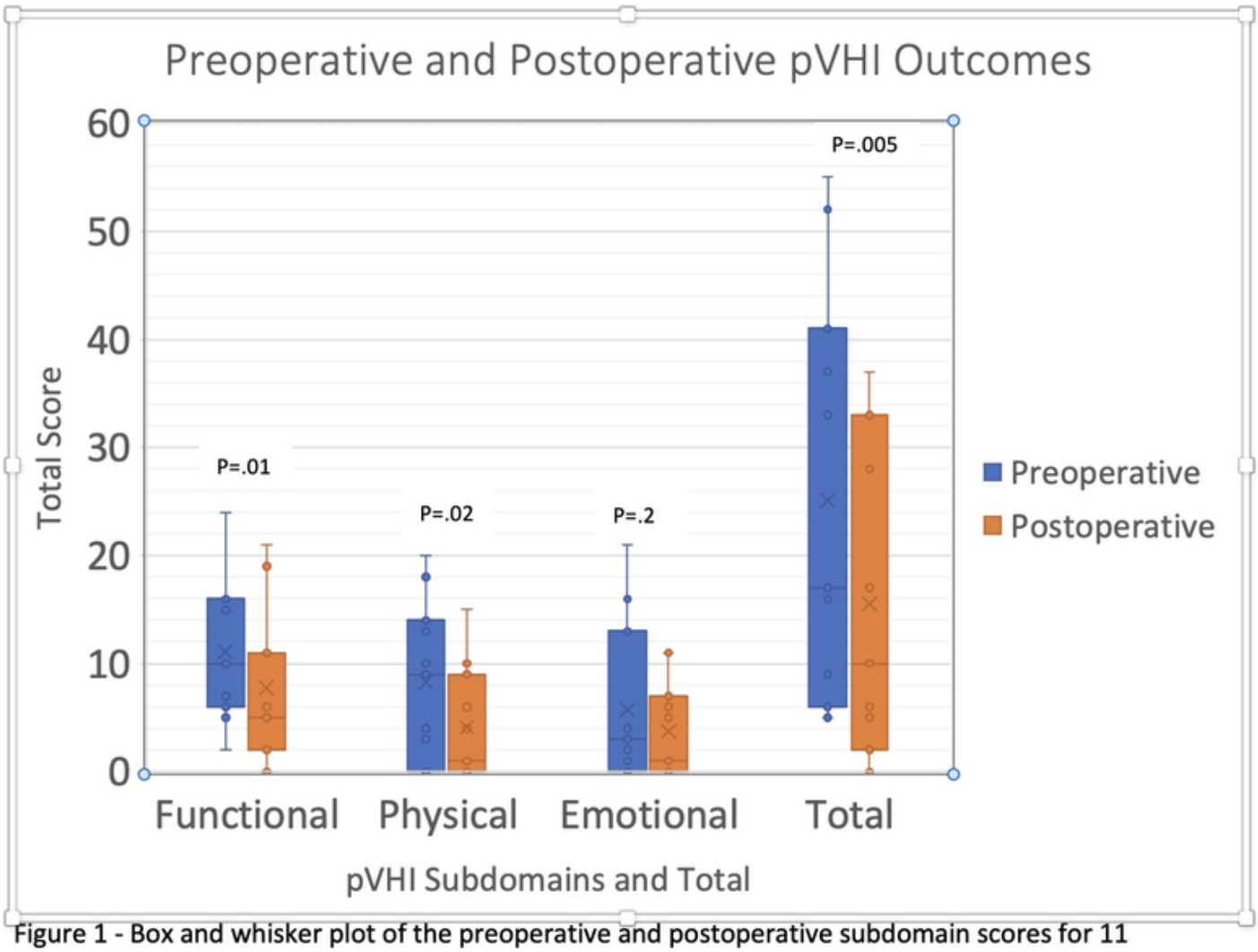

Figure 1 - Box and whisker plot of the preoperative and postoperative subdomain scores for 11 patients who underwent TCF closures. The changes in the Functional and Physical subdomain scores from preop to postop were significant but was not significant in the Emotional subdomain. The total pVHI score also significantly decreased from preop to postop.

Speaker Bio

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Complex/Rare Airway Cases: A Multidisciplinary Approach

Melissa Levy M.S., SLP, Dr. Scott Rickert MD
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Melissa Levy

Abstract

Background: A review of outcomes, lessons learned, and future considerations for complex airway cases jointly treated with interdisciplinary management from ENT, SLP, and additional subspecialties.

Methods: A retrospective review of multiple rare and complex airway cases with a focus on both surgical management, future surgical considerations, and functional treatment and approaches and considerations regarding impacts on voice, swallowing, feeding, and total communication.

Results: Data to support the importance of interdisciplinary collaboration for complex airway cases. Lessons learned including consideration for a formalized counseling approach to cases, including pre-counseling (when appropriate) and facilitating seamless transitions between inpatient and outpatient units.

Conclusions: Strong efficacy of interdisciplinary approach in parental and patient outcomes and expectations. Future research into formalizing programs that could better support both functional speech/language/feeding and surgical outcomes of complex cases.

Speaker Bio

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A Review of Thirty-Three Cases of Paediatric Retropharyngeal and Parapharyngeal Infection – Management Options and Timing of CT Imaging.

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Children's Health Ireland at Temple Street, Dublin, Ireland, Ireland

Abstract

Background

There has been an apparent recent increase in the incidence of paediatric retropharyngeal (RPI) and parapharyngeal infection (PPI). While surgical management has long been considered the mainstay, non-surgical management has also been shown to be a viable option. Some authors suggest that a trial of medical treatment before considering CT imaging is appropriate.

We aimed to review our recent cases of RPI and PPI, to examine factors that might influence surgical intervention and to develop an algorithm for the timing of CT scanning.

Methods

A retrospective review of patients admitted with RPI, and PPI between October 2022 and April 2023 was conducted. Data extracted included demographics, symptoms, radiological investigations and findings, antibiotics, steroid use, and surgical intervention. Descriptive and statistical analysis compared surgically and non-surgically managed patients.

Results

There were 33 patients with a median age of 58 months (interquartile range 44-73). CT imaging was acquired for 30/33 (90.9%) of patients, 25 of whom had a CT within 24hrs of presentation.

Fourteen (42.4%) were managed surgically. The mean duration of antibiotics for surgically and non-surgically managed patients was not significantly different (19.9 v. 21.4 days, p=0.73) nor was the length of inpatient stay (6.2 v. 5.6, p=0.61). Surgically treated patients had larger lesions on CT (22.8 v. 15.6mm, p=0.01).

Conclusion

Management of paediatric RPI and PPI can be surgical or exclusively medical. For select patients, an initial trial of intravenous antibiotics before CT imaging is appropriate. Ultimately, treatment is tailored on a case-by-case basis.

Speaker Bio

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Efficacy and Benefits of a Novel Headset Device in Facilitating Optimal Bilateral Cochlear Implant Symmetry

Hannah Becker BFA, Anna Borodianski na, Samyuktha Ravikumar BA, Erica King BS, Hengameh Behzadpour MSHS, Brian Reilly MD
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Abstract

Intro: Cochlear implants (CI) can provide vast quality of life improvements. In bilateral CI surgery, the achievement of symmetric receiver-stimulator (R/S) placement is crucial for optimizing outcomes. Traditional methods rely on marking incision sites, which can create aesthetic concerns due to alignment difficulties. This study aimed to evaluate the efficacy and benefits of a novel adjustable headset device in facilitating optimal bilateral CI symmetry.

Methods: Comprehensive chart review of patients undergoing bilateral CI surgery at a tertiary, stand-alone children's hospital from 2017-2023 with and without the headset alignment device. On postoperative x-ray imaging, symmetry was verified by measuring the angle of the implants in degrees respective to the patients' eye sockets. Symmetry was defined as degrees 0-6 and asymmetry was degree >6. Statistical analysis was used to identify factors associated with successful symmetrical placement.

Results: Of the 48 bilateral CI cases, 15 patients (31.3%) utilized the headset alignment device. Although not significant, the average time of surgery was shorter in those utilizing the device (p=0.2869; 171.6, 188.6 respectively). Placements were significantly more symmetrical when utilizing the device (p = 0.0013).

Conclusion: Utilization of this novel, non-invasive device shows promising results in optimal placement for bilateral CI patients and the potential to improve outcomes for both providers and families through expedited surgical times, functionally, and aesthetics.

Speaker Bio

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To Sent or not to Stent? A Recent Systematic Review on the Surgical Repair of Congenital Pyriform Aperture Stenosis

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Dr Sarah Alghanim

Abstract

Objective: To critically review the current literature regarding wither stenting is needed post sublabial repair of CNPAS in pediatric population. Study design: Systematic review Methods: All the English- language literature published in PupMed database was eligible for inclusion criteria were: 1-the age of the patients to be 0-24 months, 2-Unique patients diagnosed to have CNPAS, confirmed by craniofacial computed tomography scan. 3-patient requires surgical correction by sublabial approach. 4-The study describes wither the patients were stented or not. 5-type of study to be observational; including case series, cohort and case-controls, and case series should include at least 3 patients, 6-individual patient data to be available for comparison and analysis that includes use of stent or not, duration of stenting and complications. 7- Primary outcome described as achievement of satisfactory nasal airway patency, and secondary outcome described as need for additional procedure. 8-Full articles available.Results: Eleven articles with a total number of 85 patients were found to fulfill all the inclusion and exclusion criteria in this review. Two of these studies did not use a stent post operatively and still they achieved satisfactory results without the need for revision surgery. However, to avoid restenosis, some other maneuvers were performed including; reduction of the inferior turbinates in 6 patients and extramucosal pyriplasty in 4 patients. Conclusion: Use of stenting post surgical repair of CNPAS is the standard of care. this review illustrated that success of surgical repair of pyriform stenosis without stenting required an additional procedure .

Speaker Bio

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Exploring Burnout & Strategies to Combat Burnout in Audiologists, Nurses, and Advanced Practice Providers

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Abstract

Background: Burnout has been well documented in healthcare providers in the literature, and awareness of the ill-effects of burnout have perhaps been compounded since the Covid 19 pandemic. Additionally, many healthcare systems strive to understand their staff's perception of both burnout and well-being as a way to promote staff engagement and retention. Our organization recently used a one question validated tool to assess burnout among all providers and staff as a part of our annual engagement survey. This noted high levels of burnout among audiologists, speech-language pathologists (SLPs) and advanced practice providers (APPs) as a whole.

Methods: The aim of our project was to better understand perceived burnout among our audiologists, SLPs, pediatric nursing staff and APPs working in ENT. In addition to the one question tool adapted from the Maslach Burnout Inventory, we utilized a free validated assessment tool from the AMA, the Mini Z, to more comprehensively assess our staff. Staff were surveyed via Qualtrics.

Results: Audiologists were noted to have high reports of burnout compared to other internal providers on our assessment. SLPs and APPs as a whole also noted high perceptions of burnout. This presentation will report specific findings from our survey, highlighting perceptions of burnout among ENT nursing staff/APPs, audiologists, and speech language pathologists.

Conclusions: As organizations work to promote employee well-being, assessing current perceptions of burnout can help tailor programs to those areas at highest risk.

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A Comprehensive Analysis of Auditory Outcomes in Pediatric Acute Bacterial Meningitis: Implications for Steroid Use and Cochlear Implantation

Dr. Hassan Badawoud MBBS[1], Dr. Faisal Zawawi MD, MSc, FRCSC[2], Dr. Afnan Bukhari MBBS, MSc, SBORL[1]

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Dr. Faisal Zawawi

Abstract

Background: Acute bacterial meningitis (ABM) is a serious infection that can lead to various complications, including sensorineural hearing loss. This study aimed to evaluate the auditory outcomes of children with ABM, assess the role of steroids in hearing preservation, and determine the effectiveness of cochlear implantation (CI) in this population.

Methods: A retrospective review was conducted on pediatric patients diagnosed with ABM at a high-volume academic institution between 2018-2022. Demographic data, treatment modalities (including antibiotic and steroid administration), cultures, hearing assessments, radiological findings, and CI outcomes were analyzed.

Results: 43 children had ABM, the mean age at diagnosis was 3.3 years (median =1 year). Steroids were administered in 19 out of 43 cases. Sensorineural hearing loss was present in 11 children, and 7 of them underwent CI due to bilateral profound hearing loss. Ossification was observed in 9 out of 14 ears, limiting electrode insertion. Furthermore, children who received steroids had a significantly lower incidence of hearing loss (10.5%) compared to those who did not (37.5%). Speech perception outcomes were significantly better in children without ossification.

Conclusion: This study highlights the potential benefits of steroid administration in preventing hearing loss in children with ABM. Cochlear implantation proved to be an effective intervention for those with profound sensorineural hearing loss. However, the presence of ossification may pose challenges in achieving full insertion and can impact speech perception outcomes. These findings emphasize the need for early diagnosis, appropriate treatment, and individualized management strategies for children with ABM to optimize auditory outcomes.

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Nasal saline irrigation for the prevention of otitis media in children: a scoping review.

Cyril Devault-Tousignant MDCM candidate, Kelly Ann Hutchinson MDCM, Raihanah Alsayegh MD, Joshua Gurberg MDCM, FRCSC
McGill University, Montreal, Québec, Canada

Cyril Devault-Tousignant

Abstract

Objectives: Acute otitis media (AOM) and otitis media with effusion (OME) affect 90% of children prior to school age. Parents receive conflicting advice regarding the use of normal saline irrigation (NSI) in preventing these conditions. This study aims to determine the efficacy of NSI in preventing otitis media in children.

Methods: Following a systematic scoping review protocol, electronic searches were conducted on Medline (Ovid), Embase (Ovid), CINAHL, and Cochrane databases. Articles were screened by two independent reviewers, with a third acting to resolve disagreements. Data on the effect of NSI on incidence of AOM/OME was extracted from each paper.

Results: Six eligible full-text articles were identified. Two randomized controlled trials (RCTs) evaluated the effect of NSI and educational interventions (e.g. hand hygiene) on the incidence of AOM. While NSI combined with family education reduced the incidence of AOM (64% decrease; P = 0.030), NSI alone did not. A third RCT found no effect of nasal saline nebulization on AOM reduction. A retrospective cohort study found a significant difference in AOM incidence in children using NSI over a 4-month period vs. those who were not (mean 1.03 vs. 2.08; P<.001). Finally, 2 RCTs showed no effect of NSI on OME. Method of saline administration as well as outcome measures were heterogeneous and precluded meta-analysis.

Conclusion: While there may be benefit from integrating NSI in a larger family education framework, there is currently insufficient evidence to recommend NSI as a stand-alone intervention for reducing the incidence of otitis media in children.

Speaker Bio

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Premedication Required for Pediatric Trans nasal Fiber optic Nasopharyngolaryngoscopy

Dr Sarah AlGhanim MD[1], Dr. Mai Al-Nasser MD[2]
[1]king abdulaziz national guard hospital, mubrraz, Ahssa, Saudi Arabia. [2]PDF hposital, Refaa, Bahrain, Bahrain

Dr Sarah AlGhanim

Abstract

objective :

the study aimed to identify the optimal pharmacological method of preparing the pediatric patients for transnasal fiber optic laryngoscopy

Study design:

randomized double blinded prospective – clinical trial questioner research

method:

Four spray bottles of similar external appearance were prepared and labeled as (A- B-C-D);one of the bottles contained normal saline (NS; 0.9% sodium chloride) as placebo effect , one contained 0.05% oxymetazoline ,one contained 0.05% oxymetazoline mixed with 10% lidocaine and the last one contained only10% lidocaine. The nurse who prepared the bottles was the only person who was aware of the contents of the bottles.Heart rate as well as blood pressure were measured trice as following one before applying nasal spray , then after 10 minutes from applying spray , and 10 minutes after performing the endoscopy.One questionnaire was filled by the guardian to indicate the degree of discomfort after spraying the nose and during endoscopy. The endoscopist was asked also to measure the satisfaction of the procedure & to point out any problem was encountered .

results:topical application of decongestant and anesthetic sprays together seems to be a safe ,effective and the best method of pharmacological preparation for anesthesia of the nasal mucosa to allow complete examinations involving Trans nasal Fiber optic Nasopharyngolaryngoscopy in pediatric

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The utility and usefulness of Otoacoustic emissions as an adjunct to automated auditory brainstem response in newborn hearing screening

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Dr. Faisal Zawawi

Abstract

Background: Hearing loss is one of the most disabling congenital birth defects affecting 34 million children worldwide. Early detection through neonatal hearing screening (NHS) programs is crucial for timely intervention. However, screening protocols vary across countries, necessitating the adaptation of guidelines to local needs. This study aims to evaluate the benefit of screening using both OAE and AABR.

Methods: A prospective study was conducted on all infants born in our institution between September 2020 and July 2023. All infants underwent screening using automated auditory brainstem response (AABR) and transient evoked otoacoustic emissions (TEOAE) simultaneously. Infants who failed their tests were referred to audiology for further evaluation and were included in the final cohort.

Results: Out of the 4,592 newborns screened, 390 (8.49%) were referred for comprehensive audiological evaluation. Among them, 19 (0.41%) were diagnosed with hearing loss. Interestingly, 52 infants failed TEOAE but passed AABR. However, upon further assessment, only one of these infants (0.02%) was found to have hearing loss.

Conclusion: TEOAE has higher referral and false-positive rates compared to AABR. Relying on AABR alone without TEOAE may result in reducing unnecessary referrals and can alleviate the burden on healthcare institutions and the anxiety to family.

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Socioeconomic proxies and breast milk feeding in children with cleft palate

Marina Rushchak BA[1], Matthew Ford MS[1], Dr. Allison Tobey MD[1,2], Katherine White MA[1], Dr. Alexander Davit MD[1,2], Dr. Jesse Goldstein MD[1,2], Dr. Lorelei Grunwaldt MD[1,2], Dr. Joseph Losee MD[1,2], Dr. Noel Jabbour MD[1,2], Dr. Amber Shaffer PhD[1]
[1]UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA, USA. [2]University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

Dr. Amber Shaffer

Abstract

Background: We hypothesized that proxy markers of higher SES would predict longer duration of BMF in children with cleft palate (CP).

Methods: BMF history was obtained from a previous infant feeding survey completed by biological mothers of children <4y of age with CP (n=102) and intact palates (n=102) at a tertiary children's hospital. Exclusions were receiving thickened liquids at ≤3m. In the present study, associations between SES proxies and BMF were assessed using Wilcoxon rank-sum, t-tests, and Spearman rank correlation (α=0.05). SES proxies included state and national area deprivation index (ADI), child opportunity index (COI), median household income (MHI), % individuals below poverty level, and % with a bachelor's degree or higher.

Results: Females comprised 44/102 (43.1%) children with CP and 45/102 (44.1%) controls. Median child age at survey was CP: 17.0m (range 1.0-47.0m) and controls: 18.3m (0.3-47.5m). BMF was initiated in 79/102 (77.5%) in both groups. Median duration of BMF was CP: 1m (range 0-18m) and controls: 1.5m (range 0-26m). Children with CP and BMF had lower state (p=0.02) and national (p=0.02) ADI and poverty (p=0.007) and higher MHI (p=0.02) and educational attainment (p=0.02) versus without BMF. In CP, BMF duration increased as state (p=0.0001) and national (p=0.0002) ADI and poverty (p=0.01) decreased and as MHI (p=0.002), education (p=0.007), and COI (p=0.008) increased. There was no relationship between SES and BMF for controls.

Conclusions: Children with CP may require special economic, community, and educational support for BMF. Future interventions should optimize these supports to help reach BMF goals.

Speaker Bio

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Does Ibuprofen Increase the Risk of Post-Tonsillectomy Bleeding in a Pediatric Population?

Panthea Pouramin MSc[1], Dr Victoria Kuta MD[2], Dr Liane Johnson MD, FRCSC[3]
[1]Dalhousie University, Faculty of Medicine, Halifax, NS, Canada. [2]Division of Otolaryngology - Head & Neck Surgery, Department of Surgery, Dalhousie University,, Halifax, NS, Canada. [3]Division of Otolaryngology - Head & Neck Surgery, Department of Surgery, Dalhousie University, Halifax, NS, Canada

Abstract

Background:

Ibuprofen is commonly used to manage post-operative pain in pediatric patients receiving an adenotonsillectomy. However, concerns remain as to the risk for postoperative bleeding. Here, we conducted the first study in the Nova Scotian pediatric patient population assessing the relationship between ibuprofen use, post-operative bleeding, and reoperation.

Methods:

We conducted a preliminary retrospective case control (1:2) chart review of children (0-16 years old), who underwent an adenotonsillectomy from 2014 to 2016 at a tertiary care children's hospital in Halifax, Canada, the only tertiary and quaternary care paediatric hospital in the Maritime provinces. Patients with underlying bleeding disorders were excluded.

Results:

We included 141 patients (47 bleeds: 94 controls), 44.7% were given ibuprofen post-surgery. The median age was 3.42 years [IQR 2.42-6.00], and 46.1% were female. Obstructive sleep apnea (80.9%) was the most common indication. In univariate analysis, ibuprofen was not associated with increased post-operative primary bleeding (16.3% vs. 11.5%, p=0.46), secondary bleeding (25.5% vs. 23.9%, p=0.84), overall bleedings (36.5% vs. 30.8%, p=0.47), or reoperation (22.2% vs. 15.4%, p=0.3). Multivariate logistic regression analyses found no association between ibuprofen and post-operative bleeding (OR: 1.5, p=0.32) or re-operation (OR: 2.0, p=0.19). Age increased the risk for post-operative bleeding (OR: 1.5, p<0.001) and reoperation (OR: 2.1, p<0.001), while weight decreased the risk for post-operative bleeding (OR: 0.95, p=0.023) and reoperation (OR: 0.88, p=0.002).

Conclusion:

This preliminary case control study revealed no association between ibuprofen and post-operative bleeding. We aim to expand this analysis to encompass all patients undergoing adenotonsillectomy up until 2022.

Speaker Bio

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Hearing amplification in children with auditory neuropathy spectrum disorder: one institution’s experience

Melanie Lutz AuD[1], Anthony Tang BS[2], Daniel Awad MS[2], Marina Rushchak BA[1], Amber Shaffer PhD[1], Dennis Kitsko DO[1,2], David Chi MD[1,2]
[1]UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA, USA. [2]University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

Abstract

Background: We hypothesized children with auditory neuropathy spectrum disorder (ANSD) would demonstrate comparable improvements in hearing thresholds with CI to those with sensorineural hearing loss (SNHL).

Methods: A cohort chart review study was performed of all consecutive patients, treated at a tertiary children’s hospital, with ICD-9/10 codes for bilateral SNHL. Included children were 6-10 years old. Exclusions were no SNHL or ANSD (n=208), conductive HL (n=13), unilateral HL (n=12), and management at outside hospital (n=25). Demographics and pure tone and speech reception thresholds (SRT) unaided, with HA, and with CI were compared between ANSD and SNHL groups. Comparisons between hearing unaided, with HA, and with CI were performed.

Results: ANSD was diagnosed in 6/93 (6%) patients. Males comprised 4/6 (67%) patients with ANSD and 47/87 (54%) with SNHL. Median age at diagnosis was 10.5m for ANSD and 4.3m for SNHL. Premature birth was more common in ANSD (3/6, 50%) than SNHL (9/81, 11%, p=0.03). Median pure tone thresholds and SRT were similar in patients with ANSD and SNHL prior to amplification. HA improved median thresholds for patients with SNHL at 500Hz (p<0.001), 2000Hz (p<0.001), and 4000Hz (p=0.007). CI further improved median thresholds for patients with SNHL at 500Hz (p=0.01), 1000 Hz (p=0.03), and 2000 Hz (p=0.004) compared with HA. The one patient with ANSD and CI had pure tone average of 82.5dB unaided, 95dB with HA, and 25dB with CI.

Conclusions: Our limited sample of children with ANSD suggested similar audiometric outcomes with amplification compared with those with SNHL.

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Impact of socioeconomic disparities on longitudinal access to care in pediatric voice patients

E. Berryhill McCarty MD[1], Amber Shaffer PhD, CCRP[2], Gregory Perciavalle MS[2], Joseph Dohar MD, MS, FACS[2]

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E. Berryhill McCarty

Abstract

Introduction

This study investigates the impact of socioeconomic obstacles on access and compliance in pediatric voice patients.

Methods

This case series included chart review of patients seen in voice clinic at a tertiary care children's hospital during 2019. Exclusions: return patient (n=30), age >18y (n=2), and primary complaint not related to voice (n=2). Socioeconomic proxies: race, insurance status, state/national area deprivation index (ADI), and household composition. Associations between proxies and birth history, comorbidities, clinic no-shows, and surgical follow-up were examined using Fisher's exact test, Wilcoxon rank-sum, and Spearman correlation (α=0.05).

Results

Most patients (55/82, 67%) were female and 71 (92%) of the 77 who reported race were White. Median age was 5.4y (30d-18.6y). 46/56 (82%) had private insurance. Having ≥1 no-show to any specialty was more common in children of minoritized races (4/6, 66.7%) compared with White children (8/71, 11.3%, p=0.005). 1/6 (16.7%) children of minoritized races had ≥1 no-show to Otolaryngology compared with 0/71 (0.0%) White children, p=0.08. Time from date of service to surgery decreased as number of children in the household increased (ρ=-0.607, p=0.03).

Conclusions

Most patients in pediatric voice clinic were white and had private insurance. Being a minority increased likelihood of no-show appointments, despite minimal differences in ADI. Further work comparing these obstacles between pediatric Otolaryngology subspecialties is ongoing.

Speaker Bio

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Invasive Fungal Sinusitis: Comparing Pediatric vs. Adult Cases

Ms. Sydney Dacey BS[1], Ms. Preetha Velu BA[2], Mr. Nicholas Wilson BS[2], Dr. Marianella Paz-Lansberg MD[2,3], Dr. Jessica R. Levi MD[2,3]

[1]Alpert Medical School of Brown University, Providence, RI, USA. [2]Boston University Chobanian and Avedisian School of Medicine, Boston, MA, USA. [3]Department of Otolaryngology – Head and Neck Surgery, Boston Medical Center, Boston, MA, USA

Ms. Sydney Dacey

Abstract

Background: Invasive fungal sinusitis (IFS) is a rare infection with high mortality, mainly impacting immunocompromised patients. Given its significant mortality, timely recognition and treatment is crucial. This study aims to highlight the differences in presentation amongst pediatric and adult patients with IFS to promptly diagnose and treat this condition.

Methods: A comprehensive literature search of PubMed, EMBASE, Web of Science, Global Index Medicus, Global Health (EBSCO) and Cochrane Database of Systematic Reviews was conducted to identify articles relating to IFS. Patient demographics, comorbidities, presentation, disease characteristics, treatments and outcomes were extracted from the studies, and statistical analyses were conducted to compare these variables between pediatric and adult patients.

Results: 111 studies identified 22 pediatric and 132 adult patients worldwide. Children were more likely to have hematologic malignancies compared to adults (59.1% vs. 15.2%, $p<0.001$). Facial symptoms such as pain, edema, and numbness were the most common symptoms for both age groups. In the pediatric population, fever and nasal or oral mucosal lesions were more common presenting symptoms (both $p<0.001$). Pediatric patients were more likely to present without disease extension beyond the sinuses ($p<0.001$). There was no significant difference in either medication treatment or mortality between the two cohorts.

Conclusion: Invasive fungal sinusitis often presents with non-specific symptoms and a unique presentation in pediatric and adult populations. As IFS is associated with significant morbidity and mortality in children and adults, clinical awareness of the varying presentations in both populations is important to provide prompt diagnosis and treatment.

Speaker Bio

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Factors Associated with Appointment Attendance in Pediatric Sensorineural Hearing Loss at an Urban Safety Net Hospital

Preetha Velu BA[1], Carolyn Wilson MD[1], Alfonso Garcia BA, MPH[1], Neha Garg BA[1], Bruna Pino BA[1], Jessica Levi MD[1,2]

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Abstract

Background: Sensorineural hearing loss (SNHL) has a significant impact on language and social development in children. Although SNHL has a low incidence in children and is often caused by congenital or infectious etiologies, follow-up for SNHL is important to manage long-term sequelae of the disease. This study aims to identify patient- and appointment-related factors associated with SNHL follow-up appointment attendance to better understand barriers to care.

Methods: A retrospective chart review was conducted of 212 patients who were younger than 18 years old and were seen in an otolaryngology clinic at an urban safety net hospital for SNHL between 5/1/2015 and 12/31/2021. Data was collected on factors such as patient sex, race, language, primary care provider, and timing of appointments. These factors were compared to follow-up appointment attendance rates for otolaryngology and audiology appointments.

Results: 45.1% of follow-up appointments were attended, 32.5% were canceled, and 22.2% were no-shows. Significant factors associated with appointment attendance were sex and language. Males and non-English speakers were more likely to attend more follow-up appointments.

Conclusion: Patient characteristics such as sex and primary language were associated with higher rates of missed follow-up appointments in SNHL. Accessibility of appointments and interventions such as telehealth and reminder systems may be key to ensuring equitable care.

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Seeing Double: An aberrant retroauricular mastoid-cutaneous fistula with duplication of the external auditory canal

Dr. Benjamin Ostranader MD, MSE[1,2], Dr. Ethan Frank MD[2,1], Dr. Daniela Carvalho MD[2,1]
[1]University of California San Diego, San Diego, CA, USA. [2]Rady Children's Hospital of San Diego, San Diego, CA, USA

Abstract

Background: Branchial cleft cyst anomalies can result from embryologic duplication of branchial cleft structures. The Type I first branchial cleft anomaly involves duplication of the membranous external auditory canal (EAC). Numerous genetic syndromes, including Goldenhar syndrome, are known to affect branchial cleft development. However, branchial cleft cysts are classically located in the pre-auricular region and do not involve the temporal bone. We report an unusual case of a duplication of the ear canal with a fistulous tract from the middle ear to the retro-auricular area.

Methods: Case report.

Results: A infant male was referred to clinic for failed newborn hearing screening. He was noted to have right Grade III microtia. Genetic workup was consistent with Goldenhar syndrome. He was followed at 6-month intervals. Parents noted intermittent drainage from the right retroauricular region. He was noted to have recurrent otitis media with effusion and was taken to the operating room for myringotomy with tube placement and computed tomography (CT) of the temporal bone. CT revealed a linear right retroauricular cutaneous fistula posterior and parallel to the EAC, communicating with the mastoid and middle ear. Interestingly, placement of the ear tube resolved the retroauricular drainage.

Conclusions: First branchial cleft anomalies typically involve the pre-auricular region and the formation of the auricle. In syndromic children, unique embryologic variants may lead to rare patterns of congenital cysts, sinuses or fistulas. It is important for the surgeon to be aware of these variants to improve diagnosis and treatment of these children.

Speaker Bio

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Practice Patterns in Pediatric Sialorrhea: A Survey-Based Study

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Albany Medical Center, Albany, NY, USA

Abstract

Background: Sialorrhea is a complex clinical entity with lack of clear guidelines. Current practice is commonly directed by physician or institution preference. We aimed to characterize practice patterns in sialorrhea management for the future optimization of treatment and patient outcomes.

Methods: This was a survey-based study distributed to members of the American Society of Pediatric Otolaryngology (ASPO). Respondents were queried regarding practice models, comorbidities, referral patterns, treatment modalities, complications and factors influencing treatment.

Results: There were 78 survey responses. 83% of participants worked in academic institutions. More than half encountered cerebral palsy, neuromuscular disorders, seizures, gastrostomy tube dependence and dental issues frequently. More than 50% referred to pulmonology, speech language pathology (SLP) and gastroenterology and the same was true in terms of receiving referrals from pulmonology and SLP. For treatment, 81% used surgical interventions and 82% non-surgical. Of the latter, botulinum toxin injections were more frequently used. Parotid duct ligation and submandibular or sublingual gland excision were the most regularly reported surgical intervention. 85% cited recurrence as the main complication followed by dental caries. Subgroup analysis of academic versus non-academic physicians showed a higher proportion of academic physicians encountered seizures and aspiration pneumonia. There were no significant differences in any of the other observed measures.

Conclusions: The multifactorial nature of sialorrhea poses a challenge for the development of evidence-based guidelines. This highlights the need for a multidisciplinary approach and a consensus statement to guide treatment and improve outcomes in this patient population.

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Predictors of Sialorrhea Resolution: A 21-year Experience

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Abstract

Background: Despite the many treatment options for pediatric sialorrhea, there remains no standard of care for management. Herein, we describe our 21-year experience at a tertiary-care academic center to identify practice patterns and elucidate factors predictive of treatment success.

Methods: This was a retrospective review of patients treated for sialorrhea from January 2001 to December 2022. Demographics, comorbidities, treatment modality, surgery type, and botulinum toxin dose were collected. The primary outcome was resolution. Secondary outcomes were botulinum toxin dose, number of injections, and referral to other specialties.

Results: 132 patients were included. The overall resolution rate was 68% (92). Patients with all-cause neurologic issues (OR: 0.215, $p<0.0001$), seizures (OR: 0.273, $p<0.0007$), and tracheostomy (OR: 0.248, $p=0.003$) had lower odds of resolution. Patients with tonsillar (OR:4.992, $p=0.001$) or adenoid (OR: 4.574, $p=0.001$) hypertrophy had higher odds. Cerebral palsy, craniofacial abnormalities, and cleft palate had no effect on resolution odds. Patients with all-cause neurologic issues (OR: 12.629, $p<0.0001$), seizures (OR: 9.148, $p<0.0001$), cerebral palsy (OR: 25.081, $p<0.0001$), or aspiration (OR: 12.0, $p<0.0001$) were more likely to receive botulinum injections. Patients with tonsillar (OR: 0.128, $p<0.0001$) or adenoid (OR: 0.116, $p<0.0001$) hypertrophy were less likely to receive injections. Referral to pulmonology, dentistry, neurology, or gastroenterology was associated with lower odds of resolution.

Conclusions: Sialorrhea is a multifactorial clinical entity with widespread treatment options and a lack of guidelines regarding best practices. A stepwise approach and multidisciplinary care are recommended and factors predicting resolution play an important role in managing patient and caregiver expectations.

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Configuration of Hearing Loss Predicts Success of Feed-and-Sleep Magnetic Resonance Imaging

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Abstract

Background:

Early referral of infants with sensorineural hearing loss (SNHL), age<6 months, introduces an opportunity to perform diagnostic MRI with feed-and-sleep protocols, avoiding general anesthesia and its implications.

Methods:

To determine characteristics that underlie success of feed-and-sleep MRI in infants with SNHL, we undertook a single-institution retrospective review of feed-and-sleep MRI undertaken for infants with SNHL (2020-2023). Age-at-imaging, SNHL laterality and severity were recorded. Scans resulting in adequate interpretation, without needing repeat MRI, were considered successful. Secondary outcomes were 1) prematurely concluded scanning, 2) wakening, 3) repeated sequences and 4) motion degradation.

Results:

Sixty-five infants with SNHL were included (age mean+/-SD; 4.9+/-1.8months), 86% (56/65) had successful MRI. Success rates were higher in bilateral compared to unilateral SNHL (91%, 41/45 vs 75%, 15/20; z=1.74, p=0.04), and in those with severe or worse compared to less than severe SNHL (89%, 50/56 vs 67%, 6/9; z=1.82, p=0.03). Bilateral compared to unilateral SNHL had statistically significant lower rates of prematurely concluded scanning (11% vs 50%, z=-3.43, p<0.01) and wakening (31% vs 55%, z=-1.83, p=0.03). Infants with severe or worse SNHL compared to less than severe SNHL had statistically significant lower rates of motion degradation (11% vs 41%, z=-1.73, p=0.04). Repeated sequences were not significantly different.

Conclusions:

We experienced high success rates of feed-and-sleep MRI for SNHL infants. With poorer access to sound, infants with SNHL, particularly bilateral and severe SNHL may be less disturbed by the scanner’s noise. Further investigation and comparison with normal-hearing infants is ongoing to further test this hypothesis.

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Outcomes of Untreated and Treated Pediatric Ankyloglossia

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Abstract

Background:

The significance of frenotomy in infants with ankyloglossia remains controversial. The purpose of this study is to assess the difference in outcomes between untreated and treated patients.

Methods:

A total of 99 patients (50 untreated and 49 treated) were recruited from Medstar Georgetown University Hospital's pediatric otolaryngology clinic. The study included infants referred for ankyloglossia evaluation between 10/1/2020 and 10/1/2021. Patient demographics, symptoms, and exam were retrospectively collected from electronic charts. A phone survey was conducted to assess the functional impact on nursing, mothers' pain while breastfeeding, weight gain, and sleep.

Results:

Of the 50 untreated and 49 treated patients, 22 and 23 elected to participate in the study, respectively. The mean age of untreated and treated patients at the time of the visit are 31±17.5 and 34.6±27.3 days, respectively. In the clinic visit, mothers of infants who later underwent frenotomy were more likely to report difficulty breastfeeding due to latching ($p<0.00025$). However, no significant difference was observed in breastfeeding difficulty due to pain ($p=0.6$). There was no significant difference in nursing, weight gain, mothers' pain while breastfeeding, and sleep outcomes between the two groups ($p>0.05$). However, the treated group had a significantly shorter duration of nursing in months compared to the untreated group (9.1±4.9 vs 12.6±5.5, $p=0.038$).

Conclusions:

In this study, there appears to be no difference in outcomes of nursing, weight gain, and sleep in infants with ankyloglossia, regardless of frenotomy. Therefore, conservative measures could suffice the management of ankyloglossia.

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Hearing loss in adolescents with Down syndrome

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Abstract

Background: Hearing loss is common among young patients with Down syndrome. While most cases represent conductive hearing loss attributable to chronic otitis media with effusion, children with Down syndrome demonstrate an increased risk of persistent hearing loss even with management of chronic otitis media. Additionally, there is an increased prevalence of sensorineural hearing loss, often seen with advancing age, although literature pertaining to hearing loss in the adolescent population is sparse.

Methods: Retrospective cohort study of 1203 adolescent patients with Down syndrome born between 2002 and 2011 presenting to a single tertiary care institution. Audiologic data were analyzed to determine rate, type, and severity of hearing loss among adolescent patients who completed hearing evaluation.

Results: Overall, 602 patients were evaluated by audiology. Only 300 completed an audiogram during adolescence. Within this group, 114 (38.0%) demonstrated normal hearing; 103 (34.3%) had conductive hearing loss, 33 (11.0%) had sensorineural hearing loss, and 36 (12.0%) had mixed hearing loss. Prevalence of all types of hearing loss were greater among adolescents ($p<0.0001$), compared to those whose last audiogram was completed before age 10. Degree of hearing loss was mild in 43.4% and moderate to severe in 11.4% of patients.

Conclusions: Hearing loss is common among adolescents with Down syndrome. While conductive hearing loss remains the predominant type, there is increased prevalence of sensorineural loss in this age group as well. As rates of testing were low, additional analysis is being performed to determine clinical and demographic factors associated with adherence to routine hearing evaluation.

Speaker Bio

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3D Printed Ear Canals for Advanced Practice Provider Outpatient Simulation

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Abstract

Background: Training with 3D printed pediatric external auditory canals (EAC) was hypothesized to increase advanced practice provider (APP) knowledge and confidence in performing clinic otologic procedures.

Methods: Five APPs in otolaryngology at a tertiary children’s hospital participated in simulation using 3D printed EAC. Trials were performed with otoscopy and included 3 scenarios: removal of cerumen, tympanostomy tube, or foreign body; 2 tools: curette and alligator forceps; and with and without movement. APPs completed surveys before and after the simulation including experience, impression of the model, and knowledge and confidence regarding each procedure from 0 (lowest)-100 (highest). Knowledge and confidence were compared pre- and post-simulation (Wilcoxon rank-sum, $\alpha=0.05$).

Results: Years of experience were 2-3y (1/5,20%), 11-15y (3/5,60%), and >15y (1/5,20%). Nurse practitioners and physician assistants comprised 2/5 (40%) and 3/5 (60%) participants, respectively. Mean(standard deviation) knowledge regarding cerumen debridement [83.8(8.6) vs 75.0(6.1), $p=0.02$] and foreign body removal [75.2(10.6) vs 44.0(17.9), $p=0.008$] increased after the session. Mean confidence increased for all three procedures [cerumen debridement 82.0(9.0) vs 59.0(17.5), $p=0.01$; extruded tube removal 81.2(8.7) vs 55.0(18.7), $p=0.02$; foreign body removal 70.0(7.0) vs 38.0(16.8), $p=0.003$]. Participants thought that the 3D printed ear canal replicated a patient's ear canal extremely well (1/5,20%), quite a bit (3/5,60%), or somewhat (1/5,20%).

Conclusions: APPs with varying prior experience reported increased knowledge and confidence performing common otologic procedures following one session using a 3D printed ear canal. Future work will explore use in new APP training.

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Use of Sociodemographic Data in Studies on Pediatric Unilateral Hearing Loss: A Scoping Review

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Abstract

Social determinants of health (SDOH) have been shown to impact a wide range of health-related outcomes and access to care. Given the costs associated with unilateral hearing loss (UHL), varied insurance coverage for hearing healthcare services, and differences in hearing aid utilization rates among sociodemographic classes, the sociodemographic information of children with UHL enrolled in research studies should be collected to ensure the generalizability of hearing healthcare interventions. Therefore, the objective of this scoping review is to assess the reporting of SDOH data for participants in studies of pediatric UHL and its comparison to population trends.

Two literature searches were conducted by a medical librarian. Two reviewers evaluated all candidate articles. Study inclusion parameters were from 2010 to present, peer-reviewed studies with prospective study design, and participant population including children (age 0 to 18yo) with UHL.

Two literature searches using PubMed Medline and Embase found 442 and 3058 studies each for review. 87 studies were included in final qualitative review, with 22 studies reporting race distribution of participants, 15 reporting insurance status or family income, and 12 reporting maternal education level.

Sociodemographic data is not commonly reported in research studies of children with unilateral hearing loss. In reported samples, research participants are more likely to have private insurance and higher family income compared to overall population distribution. These demographic biases may affect the generalizability of study results to all children with UHL. Further evaluation is warranted to evaluate whether participant recruitment affects outcomes that reflect the overall population.

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Feeding characteristics of hospitalized infants who required non-invasive ventilation

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Abstract

Feeding characteristics of hospitalized infants who required non-invasive ventilation

Background: Hospitalized infants may require non-invasive ventilation (NIV). Feeding practices during NIV use are variable, and the impact of NIV on swallowing is not well-understood. This practice may be associated with increased risk of aspiration with related safety concerns, as one study observed significant airway invasion in neonates orally fed during CPAP use.

Methods: We performed a retrospective chart review of infants hospitalized in 2019 and 2022 in acute care, pediatric intensive care, and pediatric cardiac intensive care in one academic medical center's children's hospital who received respiratory support as indicated by ICD-10 codes. Data were extracted to determine rate of oral feeding during NIV use, including type/level of NIV support, feeding consults, and modified barium swallow study (MBSS) results.

Results: This study includes 549 infants, with a mean age of 3.74 months (SD 3.52). Data analysis will be completed in September, but thus far has revealed these infants are admitted with primary diagnoses of cardiac (80%), pulmonary/airway (10%), and GI/other (10%) etiologies. Of these infants, 25% were orally fed on nasal cannula (mean 0.88 lpm; SD 0.25), 30% on high flow nasal cannula (mean 2.33 lpm; SD 0.52), and 0% on CPAP. SLP or OT were consulted for 15% of patients. No infants received an MBSS.

Conclusions: Hospitalized infants are frequently orally fed on NIV. SLP or OT are not consistently consulted for these infants. Clinical protocols should include safety assessment of feeding on NIV.

Speaker Bio

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Post-operative Management of Pediatric Patients Undergoing Injection Laryngoplasty of Low-grade Laryngeal Cleft

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Abstract

Background:

Congenital laryngeal cleft can lead to dysphagia, chronic cough, recurrent pneumonia, aspiration and respiratory distress. Laryngoscopic injection augmentation of Benjamin Inglis type 1 laryngeal cleft is often utilized as a diagnostic and therapeutic tool for patients with ongoing respiratory and GI concerns recalcitrant to conservative treatment. Post operative management of these patients including need for overnight observation postoperatively is not standardized in this population. We attempt to identify a subset of patients that can be managed safely on an outpatient basis.

Methods:

A retrospective review was performed of patients undergoing Prolaryn injection augmentation extracted from CPT codes related to patient demographics, operative outcomes, and post operative course over 2-year period.

Results:

We identified 100 patients who underwent IA and 89/100 undergoing post-operative observation. Our primary outcome was post-operative events and complications. We had 1 patient with post-operative stridor and prolonged length of stay, two patients with prolonged oxygen requirements outside of PACU, and 5 patients who experienced post procedure emergency department visits/readmissions.

	Without complication	With event/complication	P value
	92	8	

Total patient analyzed			
Average age	2.18	1.38	P=0.07
Previous admission	31/92	5/8	P=0.19
Secondary invasive procedure	2/92	2/8	P=0.76
History of prematurity	37/92	2/8	P=0.51
Avg. oxygen saturation	94.54%	92.37%	P=0.011

Conclusions:

Retrospective data suggests that younger children, children with previous admission related to dysphagia/respiratory concern, or with lower PACU oxygen level could benefit from post operative observation whereas older children without admission could be safe to undergo PACU monitoring of oxygen level and outpatient procedure.

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Bedside observations of infant oral feeding during HFNC: Preliminary results

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Abstract

Bedside observations of infant oral feeding during HFNC: Preliminary results.

Introduction: High flow nasal cannula (HFNC) is often used in the pediatric intensive care unit (PICU) to support infant respiratory status. The medical team must determine the best way to provide nutrition and hydration to infants requiring HFNC, but there is limited data supporting the safety and benefits of orally feeding this fragile population.

Methods: Infants are prospectively observed during bedside feeding assessments. We are collecting data regarding the safety and quality of this feeding. Safety outcomes include bedside markers of aspiration and signs of physiologic decompensation. Quality outcomes include infant stress cues and results from a bedside infant feeding protocol.

Results: Data collection is in process and cannot yet be analyzed/reported. We will report on the frequency of bedside signs of aspiration, physiologic decompensation, and impaired feeding quality in this sample. Overall, we anticipate identifying clinical markers of impaired safety and poor feeding quality in this population. We will identify if there are similarities amongst those with these clinical markers to determine prediction variables.

Conclusions: Conclusions will be determined upon interpretation of results when those are available. However, we expect to remark on the viability of bedside markers to identify safety and quality of feeding issues in infants on HFNC in the PICU. This information would be particularly valuable to clinical decision-making regarding feeding infants on HFNC as well as in determining on-going safety protocols to set markers for discontinuing feeding on HFNC.

Speaker Bio

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Readability and Quality of Online Resources for Pediatric Otolaryngology

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Abstract

Readability and Quality of Online Resources for Pediatric Otolaryngology

Background: Patients are increasingly relying on the internet for obtaining information pertaining to medical conditions which may influence treatment decisions. This is the first study to our knowledge evaluating the readability, complexity, clarity, and quality websites on common pediatric otolaryngology conditions: hearing loss, acute otitis media, and sleep apnea.

Methods: The top thirty websites for “hearing loss/acute otitis media/sleep apnea in children” were identified using Google Chrome and Microsoft Edge. All advertisements, sponsored websites, and references were excluded. Websites were evaluated for readability using the Flesch-Kincaid reading Ease score, complexity of nonprose information using the Peter Mosenthal (PMOSE) Readability formula, clarity using the Center for Disease Control (CDC) and Prevention’s Clear Communication Index, and quality using the Discern rating instrument.

Results: Of the 99 websites identified, 72 satisfied the inclusion criteria. The mean overall Flesh-Kincaid score for readability was 10, giving an average reading age at the tenth-grade level, which is above the recommended level of sixth-grade health literature. The mean overall PMOSE score was 3, rating complexity as “very low”. The mean overall CDC Index score was 74, rating clarity as “poor”. The mean overall Discern score was 59, rating quality as “good”.

Conclusion: Although online information on pediatric otolaryngology conditions is of good quality and has a simple display, it falls short in terms of readability and clarity. Providing information in simple language will increase comprehension and help patients’ decisions about their care.

Speaker Bio

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ENT Manifestations in Pediatric Ehlers-Danlos Syndrome Patients

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Douglas Nanu

Abstract

Introduction: Ehlers-Danlos Syndrome (EDS) is a hereditary connective tissue disorder that manifests clinically with skin hyperelasticity, hypermobility of joints, atrophic scarring, and fragile blood vessels. There are no specific otolaryngological criteria for diagnosis. Are otolaryngologists likely to see this population in their practices?

Methods: Retrospective study was conducted using TriNetX, a global health database. The study was conducted using the US Collaborative Network confined to patients 18 and under, yielding 15,648,542 patients. ICD-10 code Q79.6 was used to identify EDS in 8928 patients. Prevalence of conductive and sensorineural hearing loss, unspecified hearing loss, unspecified acute otitis media, acute suppurative otitis media, unspecified allergic rhinitis, and obstructive sleep apnea were examined.

Results: Mean age for the EDS group was 14 years while the non-EDS group was 10 years. Prevalence of conductive/sensorineural and unspecified hearing loss was 3.79% and 4.45% in the EDS group compared to 1.68% and 2.13% in the non-EDS group respectively (p= <.0001). Prevalence of acute otitis media was 11.42% in children with EDS compared to 10.47% in children without EDS (p=.003). Prevalence of unspecified allergic rhinitis in the EDS group was 11.08% compared to 4.45% in the non-EDS group (p<.0001). OSA was found in 6.8% of children with EDS compared to 1.41% of children without EDS (p<.0001). Acute or chronic sinusitis was identified in 8.23% of the EDS group compared to 3.19% of the non-EDS group (p<.0001).

Conclusion: Children with EDS appear to be more likely to require otolaryngological intervention than do children without EDS.

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Appointment Attendance in Pediatric Otolaryngology Versus Other Pediatric Specialties

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Abstract

Background: Few studies exist specifically analyzing appointment attendance rates in pediatric otolaryngology clinics. Reported attendance rates vary widely based on factors such as the hospital system, patient cohort, and appointment timing. This study seeks to identify patient factors associated with appointment attendance in a pediatric otolaryngology clinic and compare attendance in pediatric otolaryngology versus other medical specialties in the setting of an urban safety-net hospital.

Methods: A retrospective chart review was conducted of 4,331 patients who were younger than 18 years old and were seen in a pediatric otolaryngology clinic between 1/1/2019 and 12/31/2021. Factors such as patient sex, race, ethnicity, language, interpreter use, insurance, housing insecurity, and medical comorbidities were included in the chart review. Additionally, data on appointment attendance in other specialties was collected for the same patient cohort. Univariate and multivariate analysis was performed comparing appointment attendance in pediatric otolaryngology versus other pediatric specialties.

Results: Patients who missed pediatric otolaryngology appointments were also likely to miss appointments in audiology, cardiology, hematology and oncology, neurology, and ophthalmology when adjusted for confounding variables. When adjusted for confounders, there were no significant relationships between attendance in pediatric otolaryngology and other specialties including gastroenterology and pulmonology.

Conclusion: Certain specialties such as audiology, gastroenterology, and pulmonology that are closely related to otolaryngology have varied relationships of appointment attendance with otolaryngology. Further studies must explore reasons for the differences in appointment attendance between specialties.

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Rates and Management of CRS in Pediatric Patients with Craniofacial Anomalies

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Mr. Joseph Berry

Abstract

Background: Craniofacial abnormalities result in anatomic abnormalities that affect the face and airway. Alterations in sinus structures and nasal passageways can predispose the development of chronic rhinosinusitis (CRS) and other otolaryngologic diseases. This study aims to investigate the rate of CRS in patients with craniofacial abnormalities, as well as rates of different treatments and respiratory complications in CRS in this population.

Methods: Using TriNetX database from 2014 to the present, we conducted two retrospective analyses. The first compared pediatric patients with craniofacial abnormalities (n=2,490) to those without (n=9,470), assessing rates of chronic sinusitis, chronic rhinitis, nasopharyngitis, pharyngitis, and chronic diseases of tonsils and adenoids. The second analysis compared pediatric patients with both craniofacial abnormalities and CRS (n=140) to those with CRS alone (n=9,000) and what treatments they received.

Results:

Disease	**Craniofacial Anomalies (n=2,490)**	**No Craniofacial Anomalies (n=9,470)**	**p-value**
Chronic Sinusitis	n=145 (6%)	n=30 (<0.1%)	<0.0001
Chronic Rhinitis, Nasopharyngitis, and Pharyngitis	n=120 (5%)	n=30 (<0.1%)	<0.0001
Chronic Diseases of Tonsils and Adenoids	n=230 (9%)	n=100 (1%)	<0.0001

Treatment	**Odds Ratio (OR)**	**95% Confidence Interval (CI)**
Anesthetics	2.75	[1.628, 4.646]
Nasal Decongestants	2.40	[1.319, 4.368]
Glucocorticoids	1.80	[1.115, 2.906]
Parasympatholytics	4.50	[2.520, 8.035]
Anti-inflammatories	No significance	
Sympathomimetics	No significance	

Cholinergics	No significance	

Conclusion: Patients with craniofacial anomalies have a higher risk of CRS and require more medical treatment compared to those without. This highlights the increased rates and disease burden associated with craniofacial abnormalities. Further investigations should explore interventions to optimize outcomes in patients with CRS and craniofacial abnormalities.

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Can ChatGPT Replace an Otolaryngologist in Guiding Parents on Tympanostomy Tube Insertion?

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Medical Student (MS4) Alexander Moise

Abstract

BACKGROUND

The emergence of ChatGPT, a state-of-the-art language model developed by OpenAI, has introduced a novel avenue for patients to seek medically related information. By interacting with ChatGPT, individuals can ask questions and receive responses that aim to address their healthcare queries. However, concerns have been raised regarding the reliability and accuracy of medical information disseminated by ChatGPT. This study aimed to assess the accuracy of ChatGPT in providing information on indications and management of complications post-tympanostomy, the most common ENT pediatric procedure, by comparing its responses to the gold standard, American Association of Otolaryngologists Clinical Practice Guidelines: Tympanostomy Tubes in Children

METHODS

An evaluation was conducted wherein predetermined questions regarding indications and complications post-tympanostomy were presented to ChatGPT. Subsequently, the responses provided by ChatGPT were compared to the established guidelines by two otolaryngology experts at the Montreal Children Hospital. Both parties' responses were reviewed by the senior author.

RESULTS

A total of 23 responses generated by ChatGPT against the AAO guidelines. Following a thorough review, it was determined that 22/23 (95.7%) responses exhibited a high level of reliability and accuracy, closely aligning with the gold standard.

CONCLUSION

The outcomes of this study hold notable implications for advancing the integration of artificial intelligence (AI) within the medical domain. However, these findings emphasize the importance of ensuring the delivery of precise and dependable medical information to patients, thereby fostering the effective utilization of AI in the medical field

Speaker Bio

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Can ChatGPT Replace an Otolaryngologist in Guiding Parents on Tonsillectomy?

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Medical Student (MS4) Alexander Moise

Abstract

BACKGROUND

Chat GPT is a conversational AI tool developed by OpenAI which utilizes machine learning to analyze and generate human-like text. The accessibility and user-friendliness of this tool to the general public has enabled patients to conveniently access a vast repository of medical knowledge. One of the tool's fundamental strengths is its ability to elucidate complex medical terminology in a succinct manner. The objective of this study was to evaluate the precision of ChatGPT in offering insights on indications and management of complications following tonsillectomy, a prevalent pediatric ENT procedure

METHODS

The responses generated by ChatGPT were compared to the esteemed gold standard, the American Association of Otolaryngologists Clinical Practice Guidelines: Tonsillectomy in Children. An assessment was carried out by presenting predetermined questions regarding indications and complications post-tonsillectomy to ChatGPT, followed by a comparison of its responses with the established guidelines by two otolaryngology experts. The responses of both parties were reviewed by the senior author.

RESULTS

A total of 17 responses generated by ChatGPT were assessed against the guidelines set by the American Association of Otolaryngologists (AAO). After a comprehensive review, it was concluded that 16/17 (94.1%) responses demonstrated a high degree of reliability and accuracy, closely adhering to the standard established by the AAO guidelines.

CONCLUSION

The findings of this study will contribute significantly to the ongoing efforts to leverage AI in the medical field, while also ensuring the provision of accurate and reliable medical advice to patients.

Speaker Bio

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Facilitating Complex Airway Surgery: Using the Transcervical Epiglottopexy to Optimize Laryngoscopic Views

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Abstract

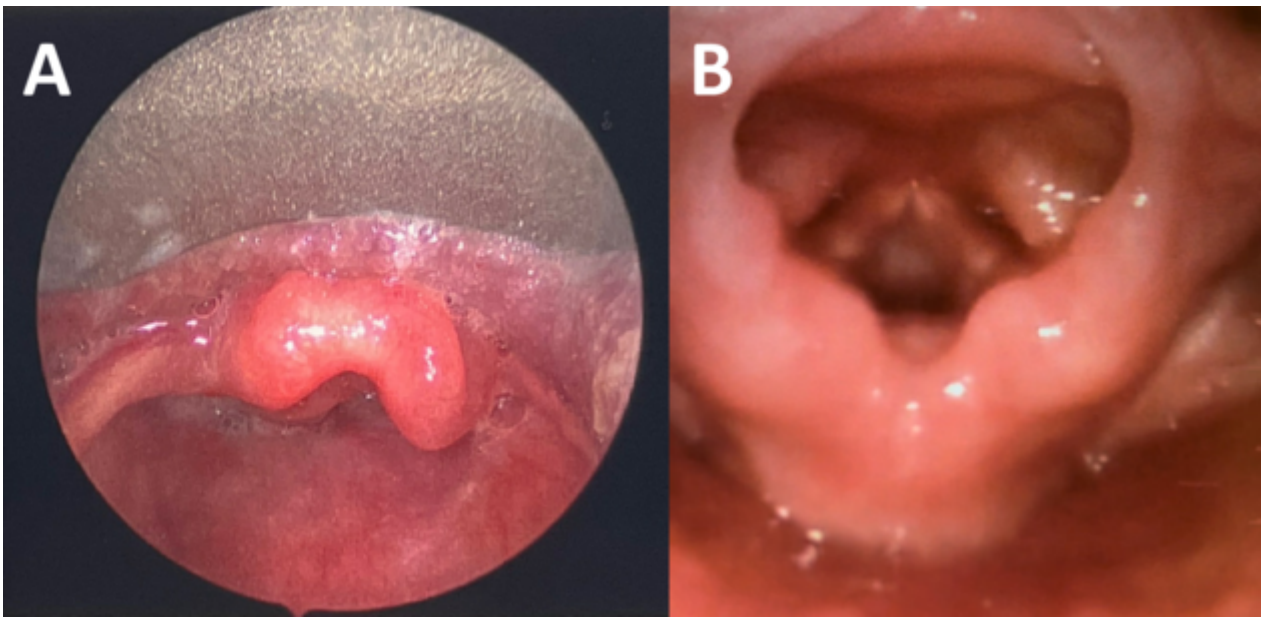
Background: Epiglottopexy has been well-described for treating symptomatic laryngomalacia and severe obstructive sleep apnea while maintaining the swallowing mechanism. Recently, transcervical epiglottopexy (TE) techniques have been described with easily available instruments. We report a novel use of the TE in a complex-airway infant to create a reliable improvement in the laryngoscopic view, facilitating the ability for future airway procedures.

Methods: Case report

Results: A 17-month male with Noonan Syndrome and respiratory distress of newborn requiring prolonged intubation was found to have severe arytenoid prolapse and an anteroflexed, markedly shortened collapsing epiglottis. An initial supraglottoplasty was aborted due to significant difficulty obtaining exposure and intubating and a tracheostomy was performed. The patient then acquired COVID-19 and developed subglottic and tracheal stenosis. A subsequent single stage tracheal resection was also aborted due to difficult airway exposure and the anticipated degree of difficulty in obtaining an intubatable-view emergently. A TE was performed and successfully fixated the epiglottis to the base of tongue. Since then, the patient has had an improved, reliable laryngoscopic view. The patient has been able to tolerate repeat scheduled airway stenosis dilations plus steroid injections and has since been decannulated.

Conclusions: Using easily available instruments, a poor and unreliable laryngoscopic view in a complex airway patient can be optimized with the transcervical epiglottopexy to facilitate further airway procedures in a safe setting.

Figure 1. (A) Pre- and (B) post-transcervical epiglottopexy laryngoscopic views



Speaker Bio

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Characteristics and Outcomes of Children with Congenital Tracheomalacia or Laryngomalacia and Subsequent Tympanostomy Tube Insertion: A Retrospective, Multicenter Study

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Abstract

Background:

Congenital tracheomalacia and laryngomalacia often resolve without surgery, but are associated with systemic abnormalities. Tympanostomy Tube (TT) insertion may be associated with increased ENT-related comorbidities in patients with airway malacia. This is the first study that compares children with airway malacia who have undergone subsequent TT insertion to those without subsequent TT insertion.

Methods:

This retrospective study using the TriNetX database identified patients diagnosed with congenital tracheomalacia or laryngomalacia between ages 0 and 18. Cohort 1 (n=5,455) had a first instance of TT insertion following diagnosis, while Cohort 2 (n=45,273) had no subsequent tube placement. Propensity score matching (1:1) based on 13 demographic characteristics created final cohorts of n=5,491. Data on ENT-related and other conditions were analyzed using Chi-Squared tests and Relative Risks.

Results:

Patients with TT had significantly higher prevalence of otorhinolaryngeal comorbidities (Table 1). After diagnosis of airway malacia, these patients were more likely to use ER services (RR:1.260, 95% CI: 1.155-1.375) and be diagnosed with intellectual disabilities (RR: 1.612, 95% CI: 1.256-2.068). However, there was no significant increase in incidence of aspiration pneumonia, intubation, depression or use of in-patient or critical care services.

Table 1: Characteristics of Children with and without TT (Cohorts 1 and 2, respectively), within 1 year prior to airway malacia diagnosis.

	# (%) Patients Cohort 1	# (%) Patients Cohort 2	Std. Difference	P-Value
ENT-Related Diagnoses				
Sensorineural Hearing Loss (Bilateral)	191 (3.5%)	72 (1.3%)	0.142	<0.001
Chronic Diseases of Tonsils and Adenoids	1,994 (36.4%)	908 (16.6%)	0.461	<0.001
Chronic Rhinitis, Nasopharyngitis, & Pharyngitis	561 (10.2%)	209 (3.8%)	0.253	<0.001
Chronic Sinusitis	169 (3.1%)	93 (1.7%)	0.091	<0.001
Gastro-Esophageal Reflux Disease	2,641 (48.2%)	1,926 (35.1%)	0.267	<0.001
Congenital and Chromosomal Abnormalities				
Down syndrome	530 (9.7%)	179 (3.3%)	0.263	<0.001
Cleft Lip & Palate	443 (8.1%)	109 (2.0%)	0.281	<0.001
Other Chromosomal Abnormalities	951 (17.4%)	407 (7.4%)	0.305	<0.001
Diseases of the Respiratory System				
Acute Upper Respiratory Infection	2,243 (40.9%)	1,469 (26.8%)	0.302	<0.001
Chronic Lower Respiratory Disease	1,042 (19%)	899 (16.4%)	0.068	<0.001
Asthma	925 (16.9%)	809 (14.8%)	0.058	0.002
Other Disease of Respiratory System	4,420 (80.7%)	3,414 (62.3%)	0.415	<0.001
Other Diagnoses				
Mental, Behavioral, or Neurodevelopmental Disorder	1,763 (32.2%)	1,051 (19.2%)	0.301	<0.001
Disorder of Newborn Related to Short Gestation & Low Birth Weight	648 (11.8%)	524 (9.6%)	0.073	<0.001
Tracheostomy Status	343 (6.3%)	263 (4.8%)	0.064	<0.001

Conclusions:

Patients with airway malacia and subsequent TT insertion are more likely to have additional ENT diagnoses and increased disease burden compared to those without TT insertion. Overall, these findings may guide clinicians in optimizing care for this patient population.

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Home sleep apnea tests: Are they sponsored or subsidized?

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Abstract

Background. Home sleep apnea tests (HSAT) have become increasingly popular in recent years and otolaryngologists rely on HSAT literature to guide their diagnostic methods related to obstructive sleep apnea (OSA). Our objectives were to review the rates of presence of funding and/or potential conflict of interest (COI), as well as its relationship to the overall quality of HSAT publications in the literature over the last two decades.

Methods. A review of the literature was performed reviewing publications on HSAT types 3 and 4 from 2000-2021. Oxford Level of Evidence (OLE) was used as a quality metric. COI and funding were recorded verbatim as self-declared in the text of the manuscript.

Results. Amongst the 400 articles included in final analysis, there was an increase in OLE over time (OR 3.6, 95% CI 1.4 to 6.9). Nearly half of all articles (43.0%, n=172) lacked a statement regarding funding or COI. There was a positive correlation between level of evidence and funding, notably of industry funding The largest source of funding was from industry, comprising 39.6% of all studies that had a funding statement. Of these industry-funded studies, 37.5% reported no COI or lacked a COI statement.

Conclusions. Despite a growing interest in HSATs for OSA evaluation, there is heterogeneity in reporting of COI and high prevalence of industry funding and COI. Additional independent studies are needed to further assess potential bias and COI related to industry funding.

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Multidisciplinary Salivary Gland Disorders

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Abstract

Objective: Management of salivary gland disorders in children is oftentimes medically complex with effects that encompass a wide variety of neurological, anatomical, and social/psychiatric comorbidities. A multidisciplinary approach is required to adequately addresses their specific needs.

Methods: This IRB-approved single-institution study describes a multidisciplinary approach in the management of patients with salivary gland disorders. Inclusion criteria consisted of patients seeking treatment at the Salivary Gland Disorder Clinic (SGDC) located at Nationwide Children’s Hospital. We extracted age, gender, comorbidities, referral date, diagnosis, date first seen in clinic, previous interventions, drooling severity, drooling frequency, aspiration risk, stridor, number of specialties seen, number of hospitalizations and number of referrals out. The rating systems utilized for drooling severity in this study, and in the clinic, are Thomas-Stonell & Greenberg rating system and Drooling Severity & Frequency Scale. There were no exclusion criteria.

Results: 149 (65.8% males, 34.2% females) salivary gland disorder patients seen between 2016-2022 with the average age of 8.6 years (range 0 to 40 years). 79.1% of all patients were seen by more than one provider during their encounter. Chief complaints included drooling (85.2%) and 84.6% of patients were diagnosed with sialorrhea. A history of aspiration presented in 39.6% of patients and 67.1% were diagnosed with a neurological comorbidity.

Conclusion: This chart review study provides insights into a multidisciplinary approach for pediatric patients with salivary gland disorders. The findings expand the current limited existing literature on this specific patient population, aiming to educate and inform healthcare providers.

Speaker Bio

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Evaluation of Clinical Utility of Triple Endoscopy in Pediatric Aerodigestive Patients Diagnosed with Aspiration on Modified Barium Swallow (MBS)

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Abstract

Background: Dysphagia and aspiration are common presentations of children in multidisciplinary aerodigestive clinics. Diagnosis and management of aspiration is challenging in the aerodigestive population due to lack of standard clinical diagnostic practices and presentation with multiple comorbidities. The purpose of this study is to evaluate clinical utility of triple endoscopy in evaluation of pediatric aspiration in an aerodigestive population.

Methods: This was a retrospective longitudinal study of patients who were seen in the pediatric aerodigestive clinic at a quaternary academic medical center between 2017-2020. Patients who aspirated on an MBS and underwent a subsequent triple scope were included. Descriptive statistics were used to analyze baseline characteristics and demographic information. We used $\chi 2$ and t tests for categorical and continuous variables, respectively. We considered a p-value of <0.05 as statistically significant.

Results: 95 patients met inclusion criteria. The mean time to triple endoscopy was 111 days. The majority were male (63%) and white (55.8%). Only 5% had down syndrome. Overall, 58.9% required multiple MBS to evaluate aspiration progression. On triple scope 61.5% had overall malacia, 29.2% tracheomalacia, 16.7% laryngomalacia and 14.6% laryngeal cleft. On bronchoscopy, 95% had cultures sent, from which 52% were positive for (35%) bacteria, (11%) fungus and the rest viral. The most common bacteria found were Haemophilus influenzae followed by Streptococcus pneumoniae.

Conclusions: Triple endoscopy is a valuable diagnostic tool for evaluation of pediatric aspiration in the aerodigestive population. It can uncover multiple etiologies and sequelae of aspiration that would not traditionally be detected in single endoscopic evaluation.

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Post-operative Challenges in Pediatric Tracheostomy: Exploring Granulation Tissue Formation, Complications, and the Potential Role of Ciprofloxacin/Dexamethasone

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Pooja Reddy

Abstract

Background: Pediatric tracheostomy presents various post-operative challenges, including granulation tissue formation which may lead to airway obstruction. Amongst pediatric otolaryngologists, anecdotal evidence suggests that off-label ciprofloxacin/dexamethasone may be effective in reducing granulation tissue formation, but further research is necessary to confirm this.

Methods: This cohort study examined pediatric tracheostomy patients at a single academic institution from 2016-2020. Exclusions were: deceased within 1 year (n=37), >16 years of age (n=21), decannulated within 1 year (n=15), lost to follow-up within 1 year (n=6), and revision tracheostomy (n=2). Logistic regression or Wilcoxon rank-sum (α=0.05) were used to compare demographic and clinical characteristics between patients who did and did not receive ciprofloxacin/dexamethasone within 1 year of their tracheostomy.

Results: Patients in this cohort had a median age of 5.3 months (range 0-15.9 years) and were predominantly male (54.4%). Of the 125 patients included, 79 received ciprofloxacin/dexamethasone within 1 year (36.2%), with 35/125 (28.0%) receiving the nebulized form. Granulation tissue occurred in 102 patients (81.6%), predominantly peristomal (68.0%) or suprastomal (35.2%). Notable complications included accidental decannulation (13.6%), suprastomal collapse (11.2%), and bleeding (7.2%). Peristomal granulation tissue was more prevalent with ciprofloxacin/dexamethasone use (OR: 6.04, 95% CI: 2.66-13.7). There were no other significant associations.

Conclusions: We found that use of ciprofloxacin/dexamethasone in any form within 1 year of tracheostomy did not significantly reduce granulation tissue incidence. Future investigation is warranted to explore prophylactic use of ciprofloxacin/dexamethasone and its role in managing and preventing tracheostomy complications.

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The Impact of Demographic Factors on Pediatric Perioperative Experiences

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Abstract

The Impact of Demographic Factors on Pediatric Perioperative Experiences

Background: In order to improve quality of care with a lens of health equity in pediatric surgery, it is important to examine how demographic factors influence the perioperative experience. The objective of this study was to assess the impact of race/ethnicity and language on the perioperative experience of pediatric patients.

Methods: Responses from a hospital quality survey (the NRC Survey) were collected from a tertiary academic institution to assess perioperative parent satisfaction in the pediatric patient population between July 2021 and October 2022.

Results: A total of 1009 survey responses were recorded for a response rate of 17%. When comparing by race/ethnicity, White patients had the highest mean combined satisfaction scores (86.21%, n=338) while Black (83.52%, n=48) and Asian (80.64%, n=154) patients rated the lowest. When comparing by language, English speakers had the highest mean combined satisfaction scores (84.77%, n=786), followed by Spanish speakers (84.05%, n=170), with Asian language speakers (76.26%, n=36) being the least satisfied. The most notable disparities were found in questions regarding patient communication with nurses and doctors, and pain management.

Conclusions: Pediatric perioperative experiences differ by primary language and race/ethnicity with non-White and non-primary English speakers feeling less satisfied with many aspects of their care. Interventions aimed at optimizing team communication and collaboration are critical to improve overall perioperative outcomes.

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Do children with Spanish speaking caretakers experience delays in initiating care for microtia compared to English speakers?

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Flor Jasmin Torres

Abstract

Background: Receiving early, specialized microtia care empowers pediatric patients and their families to navigate differences in appearance and functionality of the ear. Language barriers frequently contribute to healthcare access disparities but its influence on obtaining microtia care is unclear. Evaluating when Spanish-speaking families and English-speaking families are first evaluated in microtia clinic provides insight.

Methods: Retrospective review of patients evaluated for microtia at a tertiary academic children's hospital between 2008 and 2023. Demographic information including sex, ethnicity, primary language, insurance type, and age of first encounter in microtia clinic were recorded. Measured outcome was association between primary language and age at first clinic visit.

Results:

	English (N=344)	**Spanish** (N=101)	**P-value**	**Overall** (N=445)
Sex				
Male	183 (53.2%)	51 (50.5%)	0.715	234 (52.6%)
Female	161	50		211
Ethnicity				
Hispanic/Latino	117 (34.0%)	99 (98.0%)	<0.001	216 (48.5%)
Not Hispanic/Latino	188	0		188

Unknown	39	2		41
Insurance				
Federally Assisted	143 (41.6%)	90 (89.1%)	<0.001	233 (52.4%)
Private Insurance	166	7		173
Missing	35	4		39
Age at 1st Clinic Visit (Years)				
Mean (SD)	2.72 (4.15)	2.82 (3.95)	0.683	2.75 (4.10)
Median [Min, Max]	0.62 [0.011, 17.9]	0.54 [0.066, 14.3]		0.61 [0.011, 17.9]
Missing	4 (1.2%)	0		4 (0.9%)

Conclusions: No significant difference in age at first encounter in microtia clinic between Spanish-speaking families and English-speaking families. This suggests insignificant impact of language barrier on initiating care or sufficient resources to overcome barrier.

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Macrocheilia: The Role of the Otolaryngologist in the Diagnosis of Crohn’s Disease

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Abstract

Crohn’s disease (CD), is a relapsing inflammatory disease known for its gastrointestinal (GI) tract manifestations of abdominal pain, fevers, malaise, bowel obstruction, and diarrhea. CD can involve any region of the GI tract in a “skip lesion” manner and can even demonstrate extraintestinal manifestations. Rarely, theextraintestinal manifestations may be the first or only signs of the disease, and failure to recognize their connection can lead to delays in diagnosis and treatment. One such manifestation of CD is macrocheilia, defined as painless chronic inflammation of the labial mucosa. Recent literature shows that roughly 10% of patients with macrocheilia have an underlying diagnosis of CD. Unfortunately, swelling of the lip is seen in a host of other etiologies including hypersensitivity reactions, angioedema, infectious and inflammatory disorders, and idiopathic processes. This broad differential often leads to referral to a variety of specialists including dermatology, allergy, and ENT, and consultation by gastroenterology may not even be requested in patients whose orocutaneous manifestations precede their GI symptoms.

Herein, we describe three children with macrocheilia as a manifestation of CD, two of whom had swelling of the lip that preceded GI manifestations of the disease. A third child had a diagnosis of CD and subsequently developed macrocheilia. In all cases, lip biopsy revealed granulomatous cheilitis that suggested the diagnosis of CD. Macrocheilia responded to treatment with intralesional steroids in one case, while another responded to treatment with adalimubab (Humira). Gastroenterologists and otolaryngologists should be among those consulted to determine whether patients with macrocheilia have CD.

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Establishment of the efficacy of a power maintenance prototype for use with the bedside Safe Airway Application (SAA), a digital bedside signage model.

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Abstract

Background: Safe Airway Application (SAA) was developed as an interactive tablet with various information and smart algorithms related to a patient with a tracheostomy. A feasibility study conducted identified the loss of the device to a power source as a major pitfall of the device. The goal of this study is to establish the efficacy of a prototype, designed to remain attached to the SAA, and prevent the device from losing power.

Methods: A set of different magnitude force springs was used to determine the force required to detach the charger from the SAA alone (control) and compare it to the force required to remove the charger from the SAA with the prototype in place.

Results: The mean force required to displace the wire alone was 1.38 ± 0.15 N while the force required to displace the wire with the attached prototype was 7.20 ± 0.76. Using a two-sample t-test, there was a statistically significant improvement in detachment force from the use of the prototype device ($p < 0.05$).

Conclusions: The digital application and the prototype have the potential to assist in consistent, rapid, and accurate high-quality tracheostomy care during routine and emergent scenarios. Further efficacy studies in a clinical setting will be conducted with the SAA alone and the SAA with the prototype to determine if the prototype was successful at keeping the SAA connected to its power source during a routine shift in which the patient was moved.

Speaker Bio

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Pediatric-Type Follicular Lymphoma in Adolescence: Two Case Reports

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Abstract

Abstract

We present a report on two adolescents who presented with isolated lymphadenopathy and underwent surgical excision, resulting in the diagnosis of Pediatric-type follicular lymphoma (PFTL). PFTL should be considered in the differential diagnosis of head and neck masses in pediatric patients due to the potential for cure with surgical excision.

Contact SENTAC for the full abstract.