



Canadian Society of Otolaryngology-Head and Neck Surgery

74th ANNUAL MEETING (Virtual)
September 26 – November 14, 2020
“Quality and Excellence in Otolaryngology-Head and Neck Surgery”

Saturday October 17, 2020 @ 12:45 p.m.

Pediatric Otolaryngology - Moderator: Dr. Joanna MacCormick

12:05 p.m. - 12:10 p.m.

Chronic Suppurative Otitis Media due to Nontuberculous Mycobacteria: A Case Series - M.-C. Quintal, E. Sedillot, B. Voizard, Montreal, QC

LEARNING OBJECTIVES

Define the clinical presentation, infectious strains, as well as diagnosis and therapeutic means in cases of nontuberculous mycobacteria.

ABSTRACT

Background: 8 new cases of chronic otitis media with atypical mycobacteria were reported at CHU Sainte-Justine between 2008 and 2018. In the literature, only 89 cases have been described since 1972. **Objectives:** This series of cases aims to define the clinical presentation, infectious strains, as well as diagnosis and therapeutic means employed in cases of nontuberculous mycobacteria encountered in our reference center. **Methods:** All cases of atypical mycobacteria diagnosed at CHU Ste-Justine between 2008 and 2018 were reviewed. Strains' identification was extracted from the data of the Public Health Laboratory of Quebec. **Results:** Over 8 cases, all were immunocompetent. Typical presentation was chronic otorrhea on transtympanic tubes with abundant granulation tissue for 7/8 cases. CT scan demonstrated coalescent mastoiditis in 3/8 cases. Average time between initial presentation and identification of atypical mycobacterium was 119 days. The majority (7/8) of patients had Mycobacterium abscessus infection. Treatment consisted of a weekly cleaning of the middle ear, a systemic antibiotic triple therapy of an average duration of 21 weeks, as well as instillation of boric acid in the middle ear. While 3/8 cases required at least one mastoidectomy, 2/8 cases were treated only medically. **Conclusion:** Atypical mycobacterium otitis is a rare clinical entity, for which high clinical suspicion minimizes diagnostic delay. The use of boric acid as a desiccant may minimize surgical procedures.

12:10 p.m. - 12:15 p.m.

Clinical Management of Choanal Atresia: A National Study of Tertiary Care Centers in Canada- J. Paradis, A. Dzioba, M. Wojtera, M. Husein, London, ON

LEARNING OBJECTIVES

- To evaluate the clinical presentation of choanal atresia in tertiary centers across Canada - To allow Otolaryngologists- Head & Neck Surgeons to compare their management practices of choanal atresia with those of their peers in Canada - to identify factors that influence surgical outcomes in patients with choanal atresia

ABSTRACT

Background: To date, no agreement regarding best practices for management of choanal atresia (CA) exist. Controversies regarding surgical technique, use of stents, need for a planned second look, as well as the use of adjunct procedures including laser and Mitomycin-C remain unresolved. The objective of this national study is to evaluate the clinical presentation and management of CA across Canada. **Methods:** A retrospective chart review of patients born between 1980 and 2010 diagnosed with choanal atresia across six tertiary care pediatric hospitals across Canada was undertaken. **Results:** The health charts of 215 patients (60% female) with CA were reviewed and included in this study. Familial history of CA was confirmed in only 2% of cases. Half of patients with CA presented with one or more associated anomaly and 31% were identified with a syndrome. Technique of surgical repair consisted of endoscopic transnasal (31.7%), non-endoscopic transnasal (42.6%), and transpalatal (25.2%). Stents were used on 71% of patients. Forty-nine percent of patient were brought back to the OR for a planned second look, primarily for stent removal (86%). Surgical success rate of initial surgeries was 54%; restenosis was the most common reason for surgical failure. Surgical technique was not associated with rate of re-stenosis [$t(2) = 1.56, p = .46$]. **Conclusions:** Patients with CA present with a breadth of co-morbidities and variability in presentation. The optimal surgical approach, age at surgical repair, use of stents, surgical adjuncts, need for planned second look and CA risk factors warrant further investigation.

12:15 p.m. - 12:20 p.m.

Endoscopic Management of Tracheal A-Frame Deformity: Easy and Effective- M. Bergeron, Montreal, QC, H. Qualls, Spokane, WA, M. Rutter, Cincinnati, OH

LEARNING OBJECTIVES

(1) Describe the presentation of symptomatic tracheal A-frame deformity. (2) Describe the CO2 laser technique for tracheal A-frame deformity

ABSTRACT

Objectives: Tracheal A-frame deformity is a known consequence of tracheostomy that may lead to obstruction after decannulation. The goal of this study is to demonstrate the feasibility and success of endoscopic carbon dioxide (CO2) laser-assisted resection of tracheal A-frame deformity in children. **Methods:** Retrospective case series of symptomatic children with tracheal A-frame deformity with no other site of airway obstruction. All patients underwent CO2-laser assisted resection of tracheal A-frame. Success was defined as a relief of obstructive symptoms. **Results:** Eight patients (six male) were included with a median age of 15.4 [IQR 12.3-17.9] years. Patients had a median of two previous open airway surgeries [IQR 1-2.5]. Tracheal A-Frame deformity presented as dyspnea on exertion for all patients (n=8, 100%). Obstructive sleep apnea was confirmed for all patients who underwent polysomnography (4/4, 100%) and an obstructive airway disease pattern was demonstrated on pulmonary function testing for 5/6 patients (83.3%). Median interval from decannulation to development of symptoms was 8.7 years [IQR 5.8-9.3]. CO2 laser-assisted resection was successful for 7/8 (87.5%) patients and was performed with overnight observation. Unilateral A-frame resection was performed successfully for 5 patients (62.5%), bilateral A-frame resection was performed successfully for 2 patients (25.0%), and 1 patient (12.5%) did not have complete resolution of symptoms after bilateral A-frame resection due to multi-level airway obstruction. **Conclusion:** CO2 laser-assisted resection is an innovative endoscopic technique to relieve symptoms of airway obstruction for selected patients with tracheal A-frame deformity while avoiding the morbidity associated with tracheal resection.

12:25 p.m. - 12:30 p.m.

School-age Children's Ear Health and Hearing Loss in Northern Saskatchewan - L. Pacey, P. Spafford, R. Kabir, S. Nair, Saskatoon, SK

LEARNING OBJECTIVES

After reading the poster, the reader will be able to discuss the risk for hearing abnormality in rural and Indigenous communities in Saskatchewan.

ABSTRACT

Objective: To explore rates of poor aural health and hearing loss in rural Saskatchewan communities, and to identify any associated demographic factors. **Background:** There is high prevalence of ear infections and hearing loss in Indigenous and rural Canadians. With Saskatchewan hearing screening programs in their infancy, and school-aged screening generally absent, there is the risk of missing hearing loss when children enter school. Hearing loss of any degree increases children's struggle to succeed in the classroom. **Method:** The study took

place in two northern Saskatchewan communities. A sample of 136 students in grades 3 and 4 completed otoscopy and hearing testing using SHOEBOX Audiometers. Health and developmental background were provided via parent/guardian questionnaire. **Results:** Rates of hearing abnormality ranged from 17-30%, substantially higher than the general Canadian population of this age. Indigenous ethnicity and abnormal otoscopy were significant predictor for abnormal hearing results. The location of the participant was a significant predictor for abnormal results, but at this time there was no urban comparison group. **Conclusions:** Indigenous ethnicity and abnormal otoscopy were predictors for abnormal hearing results. The high rate of hearing abnormality has important implications for acoustic, academic, and academic challenges of school-age children, as well as the resources needed to better screen and intervene for aural problems in northern Saskatchewan.

12:30 p.m. - 12:35 p.m.

Use of Smartphone Application Technology to Assist in Pediatric Post-Tonsillectomy Care: A Needs Assessment Survey- W. Yunker, A. Bysice, J. Brookes, Calgary, AB

LEARNING OBJECTIVES

By the end of this session the attendees should be able to evaluate parents understanding and expectations of postoperative pain of tonsillectomy, with or without adenoidectomy.

ABSTRACT

Objective: Surgical procedures, particularly in children, commonly result in pain and distress. Poorly managed pain can result in negatively biased pain memories, fears, and for some, phobias. Post-tonsillectomy pain, in particular, has been identified as an under addressed issue. WE wished to explore the potential for smartphone technology to aid parents in caring for their children in the post-operative period. **Methods:** In conjunction with the Alberta Children's Hospital Family Advisory Committee we developed a survey that examined parental opinions regarding their post-operative experience, as well as technology use. Surveys were administered to parents of children who had undergone tonsillectomy, with or without adenoidectomy, at their 12-week post-operative visit. **Results:** A total of 120 questionnaires were analysed. 91.7% of respondents had a smart phone. 57.5% had used it to access medical information on the internet. 26.7% of caregivers felt that they did not have a very good understanding of what to expect post-operatively, while 23.3% reported that they did not have a very good understanding of when they should contact their surgeon. 84.2% of respondents reported that they would use an application to learn about the post-operative course while 89.2% would use application technology to learn about pain control strategies. **Conclusion:** This study demonstrates that a considerable proportion of parents do not feel sufficiently informed about what to expect for their child post-tonsillectomy. In addition, there exists substantial interest amongst caregivers for an application to assist in pain management and function as resource for information addressing the post-operative period.

Saturday October 17, 2020 @ 12:45 p.m.

Pediatric Otolaryngology - Moderator: Dr. Joanna MacCormick

12:45 p.m. - 12:50 p.m.

Caregiver Concerns After Pediatric Otolaryngology Surgery: A Quality Improvement Project - A Aldea, S. Khalife, M. Peeva, L. Nguyen, J. Yeung, Montreal, QC

Learning Objectives

1) To be aware of the most frequent postoperative caregiver concerns in pediatric otolaryngology; 2) To realize the value of perioperative caregiver education; 3) To appreciate the need for reassurance as reasoning behind post-operative caregiver phone calls.

Abstract

Background: Current follow-up practices of patients who have undergone surgery in pediatric otolaryngology allow caregivers to make postoperative phone calls at all times of the day. **Objective:** This study explored the extent of postoperative phone calls in pediatric otolaryngology surgery and identified postoperative expectations of caregivers. **Methods:** The study design involved mixed methods. Phone call logs were quantitatively assessed to determine the total number of caregiver calls and their timing. Calls were recorded by residents in otolaryngology, detailing patient information and advice provided. Subsequent qualitative descriptions outline the reasons behind these phone calls. **Results:** From November 2018 to February 2019, 145 phone calls were received from caregivers of children that underwent surgery, 43 of which were recorded by residents in otolaryngology. Of 145 calls received, 26.2% (38/145) were after-hours (5pm to 7am). Thirty-six percent (16/43) of recorded caregiver calls referenced patients who underwent pressure equalizing tube insertion, while 35% (15/43) referenced patients who underwent adenotonsillectomy. Sixty-one percent (26/43) of recorded calls were received between postoperative days 0 and 14. The most common complaint was generalized pain (18%). Twenty-one percent (9/43) of recorded calls referenced bleeding or difficulty breathing. Thirty-seven percent (16/43) of caregiver callers were advised to go to the emergency department. **Conclusion:** Communication regarding postoperative expectations needs improvement. All phone calls were predictable and amenable to caregiver education. The majority of calls were not urgent and providing further education to caregivers prior to discharge could limit the distribution of calls throughout the day.

12:50 p.m. - 12:55 p.m.

Comparison of Clinical and Audiometric Outcomes of Active and Passive Transcutaneous Bone Anchored Hearing Devices in Children - U. Khan, P. Hong, N. Shoman, Halifax, NS

Learning Objectives

- To provide the audience with an overview of the advantages and disadvantages of using active and passive BAHDs to treat conductive hearing loss in children. 1) To provide the audience with an overview of surgical methods and complications associated with transcutaneous BAHDs.

Abstract

Purpose: Transcutaneous bone anchored hearing devices (BAHDs) were introduced to address potential complications associated with the abutment of percutaneous BAHDs. Transcutaneous BAHDS can be active or passive, and although both benefit from the advantages of having intact overlying skin, concerns have been raised with soft tissue attenuation affecting hearing outcomes of passive BAHDs. **Objective:** To compare clinical and audiometric outcomes of passive and active transcutaneous BAHDs in children. **Methods:** This was a retrospective, multicenter study comparing results of a cohort of patients \geq 18 years that received either an active or a passive BAHD for conductive hearing loss (CHL), between January 2015 and January 2019. Study outcomes included patient demographics, clinical and surgical data, and audiometric results at one year postoperatively. **Results:** Eighteen patients received the active and 9 the passive BAHD. Age range was 5-17 years. The active and passive devices demonstrated similar mean improvements in hearing thresholds at frequencies of 250Hz (38dB vs 38dB), 500Hz (34dB vs 42dB), 1000Hz (34dB vs 40dB) and 2000Hz (31dB vs 22dB). The active BAHD demonstrated better outcomes at frequencies of 4000Hz (28dB vs 7dB) and 8000Hz (29dB vs 6dB) ($p < 0.05$). There were no significant clinical complications, and no significant association of audiometric outcomes with age or gender. **Conclusion:** This is the first study comparing functional outcomes between an active and passive transcutaneous BAHD in the pediatric population. While both devices were safe and effective in improving hearing outcomes in CHL, the active BAHD demonstrated significantly better functional gain in the higher frequencies.

12:55 p.m. - 01:00 p.m.

Cystic Fibrosis and Chronic Rhinosinusitis in the Pediatric Population: Factors Influencing Disease Progression - K. Pianosi, K. Yeow Tay, A. Dzioba, A. Price, M. Husein, London, ON

Learning Objectives

1. By the end of this presentation, the audience will have a better understanding of factors that may indicate disease presence severity in the pediatric cystic fibrosis chronic rhinosinusitis population. 2. Highlight differences between the pediatric CF population with and without chronic rhinosinusitis.

Abstract

Objectives: Chronic rhinosinusitis (CRS) in the cystic fibrosis (CF) population approaches 100%, with nasal polyposis present in almost half of those with pediatric CF. There are conservative and surgical treatment options, with more severe disease often requiring sinus surgery. Despite this, there is no standardized treatment approach, or prognosticators to determine who may develop disease or need for surgery. **Methods:** Retrospective chart review of CF-CRS and a control cohort of CF patients were assessed for genotype, pancreatic status, nasal polyps, Sinonasal Outcome Test (SNOT-22), CT sinus findings (Lund-MacKay scores), IgA levels, and need for surgery. Data was analysed using independent samples t-tests, chi-square, and Fisher's exact test. **Results:** Data was collected on 33 control patients and 52 CF-CRS patients. In the CRS cohort, 18 (34.6%) had at least one sinus surgery. A statistically significant correlation was found between SNOT-22 baseline scores and need for surgery in the CRS cohort; Lund-MacKay scores were significantly associated with need for surgery. Subgroup analysis revealed that CF control patients had significantly lower mean IgA scores compared to the CRS group. **Conclusion:** Chronic rhinosinusitis is essentially universal in the CF population. Over one third of CF-CRS patients required surgery. Interestingly, our study showed for the first-time serum IgA levels are higher in those patients seen by an otolaryngologist for CRS. More research into the role of IgA would be beneficial, but potentially measuring IgA levels may allow earlier detection of pediatric CF-CRS patients and conservative management of their sinonasal symptoms.

01:00 p.m. - 01:05 p.m.

Discussion

01:05 p.m. - 01:10 p.m.

Development and Validation of a Tool to Assess Patient Satisfaction for Minor Paediatric Surgical Procedures - K. Gandhi, J. Davidson, V. Fantillo, J. Strychowsky, London, ON

Learning Objectives

1. By the end of this session, participants will be able to describe how to measure patient satisfaction and how to apply a tool to the outpatient minor paediatric surgical procedure setting. 2. By the end of this session, participants will be able to acknowledge the importance of including all relevant stakeholders in the development of patient experience tools, which importantly includes the involvement of patients and their families.

Abstract

Background: Patient satisfaction surveys provide insight into the patient's perspective on healthcare quality. There is currently no gold standard to measure patient satisfaction in pediatric surgery necessitating the development of a novel tool. **Methods:** For development of this tool patient advisors and an expert panel comprised of hospital stakeholders were given a patient satisfaction tool developed based on current literature. Data was collected using the "Think Aloud" method and was used to revise the survey. The revised tool was pilot tested in 3 paediatric surgical subspecialties and included 30 patients/caregivers. Questionnaires were administered within 48 hours of the procedure and at a second timepoint within 14 days. **Results:** Ten patient advisors and hospital stakeholders participated in the focus group and interviews. The "Think Aloud" method was used to establish cognitive and content validity. Patient satisfaction domains in the revised tool included: arriving for surgery, level of preparedness (before surgery, after surgery), staff (communication, care, empathy), environment (comfort, cleanliness), and overall satisfaction. Pilot testing showed a high level of satisfaction with pediatric surgical procedures. The median overall satisfaction of patients/caregivers was rated as 9/10 (interquartile range [IQR]: 9-10) and 9/10 (IQR: 8-10) at 48 hours and 14 days postoperatively. **Conclusions:** This is a novel instrument designed to capture satisfaction metrics in pediatric outpatient surgical procedures. Administering a brief patient satisfaction questionnaire during the post-operative period is both feasible and well received by hospital staff. Overall patient satisfaction levels are high for pediatric surgical procedures. Questionnaires can help guide quality improvement initiatives.

01:10 p.m. - 01:15 p.m.

The Feasibility of Magnetic Resonance Imaging Without General Anesthesia Using the "Bundle and Scan" Technique for Infants with Sensorineural Hearing Loss - E. Grose, M. Pigeon, N. Abdeen, M. Belanger, D. Schramm, J.-P. Vaccani, Ottawa, ON

Learning Objectives

1) To describe our institution's magnetic resonance imaging (MRI) protocol using the bundle and scan technique for the diagnostic work-up of infants with sensorineural hearing loss (SNHL). 2) To assess the effectiveness of using the bundle and scan technique in producing clinically useful images in infants with SNHL.

Abstract

Background: The bundle and scan technique involve inducing natural sleep in infants with the help of immobilization techniques to reduce the need for general anesthesia (GA) during magnetic resonance imaging (MRI). The purpose of this study is to determine the feasibility of MRI without GA in infants being evaluated for sensorineural hearing loss (SNHL) using the bundle and scan technique. **Methods:** A retrospective review was conducted of all infants at a paediatric tertiary care hospital who underwent MRI using the bundle and scan technique as part of the diagnostic work-up for SNHL between June 2016 to April 2019. The primary outcome was the proportion of clinically useful images produced. **Results:** We reviewed 21 bundle and scan MRI examinations in infants being evaluated for SNHL. Patients had a median age of 10 (range: 6-25) weeks at the time of MRI. Motion artifact was noted in 40% (8/20) of cases. Eighty-six percent (18/21) of the magnetic resonance images produced using the bundle and scan technique were sufficient to identify the etiology of hearing loss and/or enable surgical planning for cochlear implantation. Repeat imaging with GA was required for 3 of the cases as the initial images were not clinically useful. **Conclusions:** The results of our study demonstrate that it is feasible to perform MRI using the bundle and scan technique in the majority of young infants being evaluated for SNHL. This has the potential to help determine cochlear implant candidacy earlier, reduce exposure to GA, and reduce healthcare costs.

01:15 p.m. - 01:20 p.m.

Discussion