HYATT REGENCY CHICAGO, CHICAGO IL

MAY 17-19, 2024

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ASPO

AMERICAN SOCIETY OF
PEDIATRIC OTOLARYNGOLOGY

AMERICAN SOCIETY OF PEDIATRIC OTOLARYNGOLOGY **ANNUAL MEETING**

KEYNOTE SPEAKERS

BRUCE A. SCOTT, MD

President-elect
American Medical Association
Otolaryngologist, Facial Plastic Surgeon

Bruce A. Scott, MD, has been a leader in medicine throughout his career—and in June 2023 he was voted president-elect of the American Medical Association. In this role he serves, along with the current president and immediate past president, as a lead spokesperson for the AMA. Concurrently he continues to serve on the AMA Board of Trustees.

Dr. Scott has previously served on the AMA Foundation's board of directors and as the president of the foundation. He has been president of his county and state medical associations and continues to serve on the boards of the Greater Louisville Medical Society and the Kentucky Medical Association (KMA).

He was awarded the KMA Distinguished Service Award in 2022 in recognition of his work on behalf of Kentucky's physicians and patients. Dr. Scott is passionate about practicing medicine. He is consistently voted by his patients and peers as a "Best Physician" and "Top Surgeon." He is the president of his six-physician independent private practice Otolaryngology group, medical director of a multispecialty ambulatory surgery center and holds a clinical appointment at the University of Louisville School of Medicine.

A graduate of Vanderbilt University, Dr. Scott completed his medical education and residency at University of Texas Medical Branch in Galveston, Texas, and a fellowship at the University of Texas Health Science Center at Houston. Subsequently he returned to his hometown of Louisville, Ky., to practice. He is board-certified in both otolaryngology and facial plastic surgery.

Dr. Scott has been happily married for over 30 years and is the proud father of 3 young adults.

2024 ASPO ANNUAL MEETING PROGRAM CHAIR

Margo K. McKenna, MD, FACS

ASPO ANNUAL MEETING PROGRAM COMMITTEE

Jacob Brodsky, MD, FACS, FAAP
Jake Dahl, MD, PhD, MBA, FACS
Douglas Johnston, MD, FACS
Meredith Lind, MD, FACS, FAAP
Sonal Saraiya, MD, FAAP
Douglas Sidell, MD, FACS, FAAP
Zahrah Taufique, MD
Carlton, Zdanski, MD, FACS

KENNY H. CHAN, MD, FACS, FAAP

Dr. Kenny H. Chan is Professor of Otolaryngology at the University of Colorado School of Medicine. He was Chief, Department of Pediatric Otolaryngology at Children's Hospital Colorado from 1993 to 2022. His received his MD degree from Loma Linda University and his graduate medical education from Oregon Health Sciences University, Loma Linda University Health, and Children's Hospital of Pittsburgh. He has been in Colorado since 1993.

His clinical interests are diverse, but he is most interested in pediatric otology and anterior skull base surgery. His research focus is on mucosal inflammation as it relates to chronic rhinosinusitis and otitis media. His most interesting current research projects include the impact of early childhood antibiotic exposure on obesity and obstructive sleep disordered breathing as well as the impact on mental health symptoms in pediatric tinnitus and misophonia.

Dr. Chan has been active in several professional organizations. His leadership roles in ASPO include Chair, Program Committee (1995); Chair, Fellowship Committee (2009-2011); Chair, GME/CME Taskforce (2010-2012) and President (2015). He leadership roles in AAOHNS include Governor of ASPO, Board of Governors (2005-2007); Co-chair, Home Study Course Faculty (2008-2010) and Chair, AAO Pediatric Otolaryngology Education Committee (2012). He was a member of the ABOHNS Complex Pediatric Otolaryngology Sub-certification Committee.

ANDREW J. TOMPKINS, MD, MBA

Dr. Tompkins is a practicing otolaryngologist in Columbus, OH with Ohio ENT & Allergy Physicians. After residency training at Ohio State, he served 8 years in the United States Navy, during which he obtained a business degree at the University of North Carolina and chaired the department at his last duty station in Jacksonville, FL. With this outside perspective, Dr. Tompkins began taking significant interest in value-based care, health policy, and our workforce. In 2022, he was appointed chair of the American Academy of Otolaryngology workforce task force, which produced the most recent comprehensive report on the otolaryngology workforce in 2023. Dr. Tompkins is married with 3 young boys who keep him busy and entertained.

The ASPO Program Committee would like to thank our invited speakers, moderators, and panelists:

KEYNOTE SPEAKERS:

Bruce Scott, MD; President-elect American Medical Association
– *Kerschner Lecture; Saturday, May 18th, 8:30 – 9:15 am*

Kenny Chan, MD; Children's Hospital Colorado/University of Colorado School of Medicine
– *Bluestone Lecture; Friday, May 17th, 1:35 – 2:10 pm*

AJ Tompkins, MD, MBA; Ohio ENT & Allergy Physicians
– *Keynote Lecture; Friday, May 17th, 2:15 – 2:50 pm*

PODIUM AND QUICKSHOT SESSION MODERATORS:

General/Sleep podium presentations:
Hannah Burns, MBBS, BSc, FRACS; St Vincent's Private Hospital Northside, QLD

Otology podium presentations:
Madelin Drusin, MD; Oregon Health & Science University

Peds VideOto presentations:
Jamie Funamura, MD; UC Davis Health

Airway and Craniofacial quickshot presentations:
Ben Hartley, MBBS, BSc, FRCS; Great Ormond Street Hospital for Children and Honorary Senior Lecturer at University College London

Highest Rated podium presentations:
Kris R. Jatana, MD, FAAP, FACS; Nationwide Children's Hospital & Wexner Medical Center at Ohio State University

Surgical Techniques in Pediatric Otolaryngology presentations:
Doug Johnston, MD; Lurie Children's Hospital

Airway quickshot presentations:
Carol Li, MD; Cincinnati Children's Hospital

Head and Neck and Rhinology podium and quick shot presentations:
Richard Nicollas, MD, PhD; La Timone Children's Hospital

Otology quickshot presentations:
Jason Park, MD; Vanderbilt University Medical Center

Sleep, General, Rhinology quickshot presentations:
Prasanth Pattisapu, MD; Nationwide Children's Hospital and Ohio State University

Airway podium presentations:
Marilena Trozzi, MD, PhD; Bambino Gesu Children's Hospital

MODERATORS AND PANELISTS:

Rosenfeld Panel: Otology
Sharon Cushing, MD; Hospital For Sick Children (Moderator)
Kristan Alfonso, MD; Children's Healthcare of Atlanta, Emory School of Medicine
Michael Cohen, MD; Medical Director of the ProHealth Day-Op Ambulatory Surgical Center
Albert Park, MD; University of Utah
Eliot Shearer, MD, PhD; Boston Children's Hospital, Harvard Medical School
Nancy Young, MD, FACS, FAAP; Lurie Children's Hospital, Northwestern Feinberg School of Medicine

Cotton-Fitton Panel: Airway
Stephanie Zacharias, PhD; Assistant Professor of Otolaryngology, Mayo Clinic (Moderator)
Sam Daniel, MDCM, FRCSC, CPC(HC); McGill University
Alessandro DeAlarcon, MD, MPH; Cincinnati Children's Hospital
Deepak Mehta, MD; Texas Children's Hospital
Doug Sidell, MD, FAAP, FACS; Stanford University School of Medicine
Marshall Smith, MD, FACS; University of Utah Health
Karen Watters, MD; Boston Children's Hospital

Healy Panel Sponsored by TRIO: Navigating the Digital Transformation: An Exploration of Informatics and AI in Pediatric Otolaryngology
Romaine Johnson, MD; University of Texas Southwestern Medical Center (Moderator)
Michael Dunham, MD; Louisiana State University School of Medicine
Carla Giannoni, MD; Baylor College of Medic
Amal Isaiah, MD, DPhil; University of Maryland School of Medicine
Patrick Walz, MD, FAAP; Nationwide Children's

Head and Neck Innovations:
Ken Kazahaya, MD, MBA, FACS, FAAP; Children's Hospital of Philadelphia (Moderator)
Jennifer Brooks, MD, MPH; University of Rochester Medical School
Jake Dahl, MD, PhD, MBA; Seattle Children's Hospital
Doug Johnston, MD; Lurie Children's Hospital
Jeff Rastatter, MD, MS, FACS, FAAP; Lurie Children's Hospital
Carlton Zdanski, MD, FAAP, FACS; University of North Carolina School of Medicine

Plastics and Craniofacial Innovations:
Scott Rickert, MD; NYU Langone (Moderator)
Kelly Evans, MD; Seattle Children's Hospital
Melissa Scholes, MD; University of Mississippi Medical Center
Andrew Scott, MD; Tufts Medical Center
Jon Skirko, MD, MHPA, MPH; University of Arizona

Plastics and Craniofacial Practical approaches:
Zahrah Taufique, MD; NYU Langone (Moderator)
Ryan Belcher, MD, MPH, Vanderbilt Children's Hospital
Brianne Roby, MD; Children's Minnesota
Kathy Sie, MD; Seattle Children's Hospital

Rhinology Innovations:
Hassan Ramadan, MD; West Virginia University (Moderator)
Adam Kimple, MD, PhD, FACS, FARS; University of North Carolina School of Medicine
Amanda Stapleton, MD; UPMC Children's Hospital of Pittsburgh
Frank Virgin, MD; Vanderbilt University Medical Center

ASPO-SENTAC Panel; Otology Practical Approaches:
Daniela Carvalho, MD, FAAP, MMM; University of California, San Diego (Moderator)
Jacob Brodsky, MD, FACS, FAAP; Harvard Medical School
Kavita Dedhia, MD; Children's Hospital of Philadelphia
Sonal Saraiya, MD, FAAP; Baylor College of Medicine, Texas Children's Hospital
Mai thy Truong, MD; Stanford University

Rhinology Practical Approaches:
Austin Rose, MD; University of North Carolina (Moderator)
Randall Bly, MD; Seattle Children's
Charles Elmaraghy, MD; Nationwide Children's Hospital, The Ohio State University College of Medicine
Uma Ramaswamy, MD; Texas Children's Hospital
Nikolaus E. Wolter, MD, MSc, FRCSC, FACS; University of Toronto

Committee-Sponsored Panel (DEI): Leading Cultural Humility in Clinical and Administrative Pediatric Otolaryngology
Sanjay Parikh, MD, FACS; University of Washington - Seattle Children's Hospital (Moderator)
Romaine Johnson, MD; University of Texas Southwestern Medical Center (Moderator)
Gurpreet Ahuja, MD; Children's Hospital of Orange County
Lisa Elden, MD; Children's Hospital of Philadelphia
Erynne Faucett, MD; Phoenix Children's Hospital
Valerie Flanary, MD, FACS; Children's Wisconsin, Medical College of Wisconsin
Jad Jabbour, MD; Charlotte Eye Ear Nose & Throat Associates
Maithilee Menezes, MD; Washington University St. Louis

Vascular Anomalies Innovations:
Gresham Richter, MD; Arkansas Children's Hospital (Moderator)
Reema Padia, MD; University of Utah Health
Jon Perkins, DO; Seattle Children's Hospital
Tara Rosenberg, MD, FAAP; Texas Children's Hospital
Ali Shaibani, MD; Northwestern Feinberg School of Medicine

Vascular Anomalies Practical Approaches:
Megan Gaffey, MD; NYU Langone (Moderator)
Juliana Bonilla, MD; Seattle Children's Hospital
Sean Evans, MD, FACS; Children's Healthcare of Atlanta, Emory University
Adam Johnson, MD; University of Arkansas Medical Center
Charlie Meyer, MD; Cincinnati Children's Hospital Medical Center
Kara Prickett, MD FACS; Children's Healthcare of Atlanta, Emory University

Special Interest Panel: Leveraging Social Media to Enhance Your Career and Practice
Jeremy Prager, MD, MBBA; University of Colorado School of Medicine, Children's Hospital Colorado (Moderator)
Eric Gantwerker, MD, MMSc(MedEd), FACS, AFAMEE; Zucker School of Medicine at Hofstra/Northwell
Sohit Kanotra, MD; UCLA Health
Meredith Lind, MD, FAAP, FACS; The Ohio State University, College of Medicine
Soham Roy, MD; Children's Hospital Colorado
Koral Blunt; The Ohio State University, College of Medicine

Sleep Medicine and Surgery Panel:
Cristina Baldassari, MD; Children's Hospital of the King's Daughters/Eastern Virginia Medical School (Moderator)
Norman Friedman, MD; Children's Hospital Colorado
Chris Hartnick, MD; Massachusetts Eye and Ear Infirmary, Harvard Medical School
Stacey Ishman, MD, MPH; Cincinnati Children's Hospital Medical Center
Erin Kirkham, MD, MPH; University of Michigan
Derek Lam, MD, MPH; Oregon Health and Science University

ASPO-ABEA Panel: Airway
Catherine Hart, MD; Cincinnati Children's Hospital Medical Center (Moderator)
David Francis, MD; University of Wisconsin – Madison
Alex Gelbard, MD; Vanderbilt University
Julina Ongkasuwan, MD; Baylor College of Medicine/Texas Children's Hospital
Clare Richardson, MD; University of Washington/Seattle Children's Hospital
Chris Wootten, MD; Vanderbilt University

Head and Neck Practical Approaches:
John Russell, MB Mch, FRCS (ORL); Trinity College Dublin (Moderator)
Diane Chen, MD; Indiana University School of Medicine
Jeff Koempel, MD, MBA; Children's Hospital Los Angeles
John Maddalozzo, MD; Lurie Children's Hospital
Diego Preciado, MD, PhD; Children's National Medical Center
Jeffery Yeung, MD, FRCSC; Montreal Children's Hospital

HOURS OF OPERATIONS

FRIDAY, MAY 17, 2024

1:00 PM-5:30 PM • General Session

5:30 PM-7:00 PM • Poster Reception; *Exhibit Hall*

6:30 PM-7:30 PM • Early Career Development Committee Reception; *Grand Hall G*

SATURDAY, MAY 18, 2024

6:30 AM-7:30 AM • Past President's Breakfast (invite only);

7:30 AM-8:30 AM • ASPO Business Meeting (members only); *Grand Ballroom EF*

8:30 AM-9:15 AM • Kerschner Lecture; *Grand Ballroom EF*

9:15 AM-10:00 AM • Healy Panel Sponsored by TRIO; *Grand Ballroom EF*

10:00 AM-5:40 PM • Concurrent Session 1; *Grand Ballroom EF*

10:00 AM-5:40 PM • Concurrent Session 2; *Grand Hall GHIJ*

7:00 PM-10:00 PM • ASPO Social; *Hyatt Regency Chicago, Plaza Ballroom*

SUNDAY, MAY 19, 2024

6:15 AM-7:15 AM • ASPO Fun Run;

7:15 AM-12:00 PM • General Session; *Ballroom EF*

SPEAKER READY ROOM

All presentations must be handed in to the technician in the Speaker Ready Room at least four (4) hours prior to the start of your scheduled session start time. The Speaker Ready Room is in Grand Suite 2AB at the Hyatt Regency Chicago.

SPEAKER READY ROOM HOURS (GRAND SUITE 2AB, HYATT REGENCY CHICAGO):

Tuesday, May 14: 4:00 pm – 8:00 pm

Wednesday, May 15: 6:00 am – 6:00 pm
Thursday, May 16: 6:00 am – 6:00 pm
Friday, May 17: 6:00 am – 6:00 pm
Saturday, May 18: 6:00 am – 4:00 pm

Sunday, May 19: 6:00 am – 10:00 am

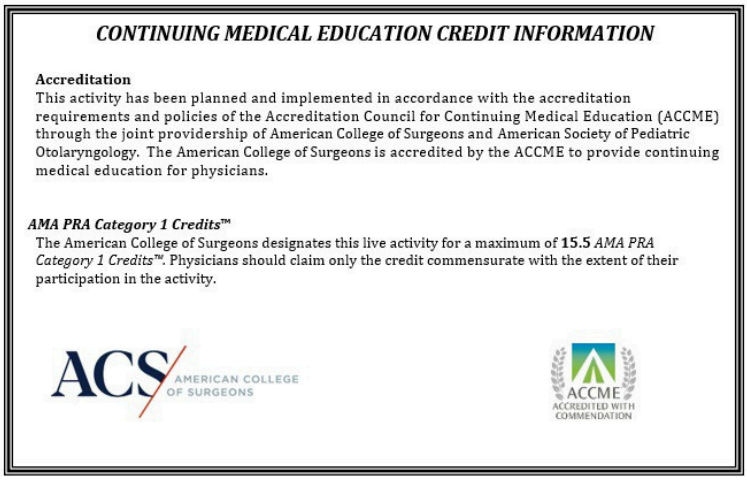
Presentations turned in after 10:00 am on Sunday, May 19 should be handed in to the technician in the back of the session room in which you are presenting.

CME ACCREDITATION & CLAIMING

In accordance with the ACCME Accreditation Criteria, the American College of Surgeons must ensure that anyone in a position to control the content of the educational activity (planners and speakers/authors/discussants/moderators) has disclosed all financial relationships with any ineligible company held in the last 24 months. Please note that first authors were required to collect and submit disclosure information on behalf all other authors/ contributors, if applicable.

Please see view the ASPO homepage for the complete disclosure list.

CME CLAIMING



CONTINUING MEDICAL EDUCATION CREDIT INFORMATION

Accreditation
This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of American College of Surgeons and American Society of Pediatric Otolaryngology. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

AMA PRA Category 1 Credits™
The American College of Surgeons designates this live activity for a maximum of **15.5** *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ACS AMERICAN COLLEGE OF SURGEONS

ACCME ACCREDITED WITH COMMENDATION

	Room	Session Name/Track	Presentation Title
5/17/2024 - Friday			
01:00 PM – 01:35 PM	Grand Ballroom CD		Introduction and Remarks
01:35 PM – 02:10 PM	Grand Ballroom CD	Bluestone Lecture	Pediatric Otolaryngology in North America: Our Journey; Kenny Chan, MD
02:10 PM – 02:15 PM	Grand Ballroom CD	Q and A	
02:15 PM – 02:50 PM	Grand Ballroom CD	Keynote Lecture	The Pediatric Otolaryngology Workforce; AJ Tompkins MD, MBA
02:50 PM – 02:55 PM	Grand Ballroom CD	Q and A	
02:55 PM – 03:05 PM	Grand Ballroom CD	Break	
03:05 PM – 03:50 PM	Grand Ballroom CD	Surgical Techniques in Pediatric Otolaryngology	
03:50 PM – 03:55 PM	Grand Ballroom CD	Q and A	
03:55 PM – 04:35 PM	Grand Ballroom CD		**Highest Rated Podium Session**
03:55 PM – 04:01 PM	Grand Ballroom CD	Karina Theoret	Otologic Safety of Mastoid Powder: Combination of Ciprofloxacin, Trimethoprim-Sulfamethoxazole, and Amphotericin B
04:01 PM – 04:07 PM	Grand Ballroom CD	Reema Padia MD	Acid Suppression Therapy for Laryngomalacia: A Prospective, Randomized Controlled Trial
04:07 PM – 04:13 PM	Grand Ballroom CD	Audrey Abend	Characterizing Sleep Stages of Drug-induced Sleep Endoscopy for Pediatric Patients with OSA*
04:13 PM – 04:19 PM	Grand Ballroom CD	Nicholas Rossi, MD	Critical Assessment of GPT-4's Adherence to Pediatric Otolaryngology Clinical Practice Guidelines*
04:19 PM – 04:25 PM	Grand Ballroom CD	David Lee MD	Cisplatin drives mitochondrial dysregulation in sensory hair cells
04:25 PM – 04:31 PM	Grand Ballroom CD	William Cohen	Pneumococcal Revaccination in Pediatric Patients with Rhinosinusitis
04:31 PM – 04:35 PM		Q and A	
04:35 PM – 05:25 PM			Rosenfeld Panel: Otology Innovations
05:25 PM – 05:30 PM		Q and A	
05:30 PM – 07:00 PM		Meet the Authors Poster Reception	
06:30 PM – 07:30 PM		Early Career Development Committee Sponsored Happy Hour	
5/18/2024 - Saturday			
06:30 AM – 07:30 AM		President's Breakfast - Invitation Only	
07:30 AM – 08:30 AM	Grand Ballroom EF	ASPO Business Meeting	
08:30 AM – 09:15 AM	Grand Ballroom EF	Kerschner Lecture	Past Challenges, Present Obstacles and What Lies Ahead for Physicians
09:15 AM – 09:50 AM	Grand Ballroom EF		Healy Panel Sponsored by TRIO: Navigating the Digital Transformation: An Exploration of Informatics and AI in Pediatric Otolaryngology
10:00 AM – 10:20 AM	Break or Concurrent Session 2 Begins		
CONCURRENT SESSION 1			
10:20 AM – 11:20 AM	Grand Ballroom EF		Cotton-Fitton Panel Airway: Innovations EA/TEF; Laryngeal cleft type I; Pediatric Voice

***Ferguson Clinical Research Award Winner**

	Room	Session Name/Track	Presentation Title
			QUICKSHOT PRESENTATIONS: AIRWAY
11:20 AM – 11:23 AM	Grand Ballroom EF	Michael Belsky MD, MS	Zebra Tracheoplasty For Management of Tracheobronchomalacia
11:23 AM – 11:26 AM	Grand Ballroom EF	Youjin Li MD	Multi-Level Management of Laryngotracheal Stenosis Reconstruction: An In-Depth Exploration
11:26 AM – 11:29 AM	Grand Ballroom EF	Deepa Shivnani, MD	Laryngeal ultrasound: An alternate to rescue laryngoscopy in evaluation of recurrent respiratory papillomatosis in children
11:29 AM – 11:32 AM	Grand Ballroom EF	Samantha Goh MD	Risk Factors for Postoperative Complications After Microlaryngoscopy and Bronchoscopy in Children
11:32 AM – 11:35 AM	Grand Ballroom EF	James Leonard MD	Outcomes of Infant Laryngotracheal Reconstruction in Decannulation and Tracheostomy Avoidance.
11:35 AM – 11:38 AM	Grand Ballroom EF	Sukaina Hasnie MD	Airway Evaluation of Infantile Subglottic Hemangiomas in the Era of Oral Beta-Blocker Use: A Review of Diagnostic Techniques
11:40 AM – 11:55 PM	Grand Ballroom EF	Q & A	
12:00 PM – 01:00 PM	Grand Ballroom EF	Lunch	Lunch with Exhibitors
			PODIUM PRESENTATIONS: AIRWAY
1:00 PM – 01:06 PM	Grand Ballroom EF	Eric Cheon MD	Factors associated with accidental decannulation in pediatric patients undergoing tracheostomy
1:06 PM – 01:12 PM	Grand Ballroom EF	Michael Barbour PhD	Laryngotracheal Surface Reconstruction and Anatomic Quantification via Structure from Motion
1:12 PM – 01:18 PM	Grand Ballroom EF	Elizabeth Fisher	Dynamic airway obstruction in pediatric patients with cerebral palsy
1:18 PM – 01:24 PM	Grand Ballroom EF	Mariah Servos Li MD	The role of childhood diphtheria in the popularization of the tracheostomy
1:24 PM – 01:30 PM	Grand Ballroom EF	Talal Al-khatib MD	Meta-analysis of glottis widening procedures to avoid tracheotomy in neonatal bilateral vocal cord paralysis
01:30 PM – 01:36 PM	Grand Ballroom EF	Alexander Treble MD	The Ingestion Question: Public knowledge of safe food introduction in children
01:36 PM – 01:42 PM	Grand Ballroom EF	Samantha Barr	Thymic Cyst and Mass Perinatal Airway Obstruction: A Quantitative Analysis
01:42 PM – 01:48 PM	Grand Ballroom EF	Meghan Tepsich	Oral Sucrose for Analgesia in Infants Undergoing Flexible Nasolaryngoscopy: A Randomized Pilot Study**
01:48 PM – 01:54 PM	Grand Ballroom EF	Z. Jason Qian MD	Incidence of recurrent respiratory papillomatosis in the post-HPV vaccination era (2007-2022)***
01:54 PM – 02:00 PM	Grand Ballroom EF	Ethan Frank MD	Title: Prevalence of synchronous airway lesions in young children undergoing
02:00 PM – 02:05 PM	Grand Ballroom EF	Q & A	
02:05 PM – 02:55 PM	Grand Ballroom EF	Panel	Head and Neck: Innovations
			QUICK SHOT PRESENTATIONS: AIRWAY AND CRANIOFACIAL
02:55 PM – 02:58 PM	Grand Ballroom EF	Michael Belsky MD, MS	Long-Term Serial Tracheal Stenting and Percutaneous Anterior Suture Tracheopexy for Treatment of Major Tracheal Wall Defect and Tracheomalacia
02:58 PM – 03:01 PM	Grand Ballroom EF	Nicholas Randloph	The significance of Functional Status Scale in Decannulation after Pediatric Tracheostomy

****Richard J.H. Smith Young Faculty Award Winner**

*****Fellow Award Winner**

	Room	Session Name/Track	Presentation Title
03:01 PM – 03:04 PM	Grand Ballroom EF	Wesley Allen	Parent-child Variation in VELO Scores: Highlighting the Value of Dual Perspectives
03:04 PM – 03:07 PM	Grand Ballroom EF	Mele Mafi	Tracheostomy related adverse events: Is there a weight-related association in pediatric patients?
03:07 PM – 03:10 PM	Grand Ballroom EF	Johanna Ellefson	Cleft Spectrum Perinatal Airway Management: A Quantitative Analysis
03:10 PM – 03:13 PM	Grand Ballroom EF	Margaret Mitchell MD	Multidisciplinary and multi-institutional collaboration for at-home nasogastric tube management: Passport Home Program
03:13 PM – 03:16 PM	Grand Ballroom EF	Travis Peng	Laryngeal mask airway in pediatric tonsillectomy and adenoidectomy: a large cohort analysis
3:16 PM – 03:19 PM	Grand Ballroom EF	Shaunak Amin MD	Development of a Novel Diagnostic Modality for Upper Airway Obstruction via Integrating Dynamic Computed Tomography with Computational Fluid Dynamics
03:19 PM – 03:25 PM	Grand Ballroom EF	Break	
03:25 PM – 04:10 PM	Grand Ballroom EF	Panel	Plastics and Craniofacial: Innovations
04:10 PM – 04:55 PM	Grand Ballroom EF	Panel	Plastics and Craniofacial: Practical Approaches
05:00 PM – 05:40 PM	Grand Ballroom EF		**Peds VideOto**
05:00 PM – 05:05 PM	Grand Ballroom EF	Nasser Almutairi MD	ENDOSCOPIC ANTERIOR LARYNGOTRACHEAL RECONSTRUCTION IN AN ANIMAL MODEL
05:05 PM – 05:10 PM	Grand Ballroom EF	Jeremy Feintuch MD	The In Utero Floor of Mouth Mass
05:10 PM – 05:15 PM	Grand Ballroom EF	Steven Engebretsen DO	External Puncture Epiglottopexy for Severe Type III Laryngomalacia
05:15 PM – 05:20 PM	Grand Ballroom EF	Elizabeth Kim MD	Intraoperative real-time localization of a parathyroid adenoma with fluorescence imaging
5:20 PM – 05:25 PM	Grand Ballroom EF	Joseph Sinnwell MD	Strange Thing in the Larynx
5:25 PM – 05:30 PM	Grand Ballroom EF	Derek Lam MD, MPH	Reconstruction of Laryngeal and Tracheal Atresia
5:30 PM – 05:35 PM	Grand Ballroom EF	Margaret Aasen MD	Suspension Endoscopy to Remove Difficult Esophageal Foreign Body
5:35 PM – 05:40 PM	Grand Ballroom EF	Elie Khalifee MD	Tip for Excision of Branchial Cleft Fistulas
7:00 PM – 10:00 PM		ASPO BANQUET / DINNER	
5/18/2024 - Saturday			
CONCURRENT SESSION 2			
10:00 AM – 10:50 AM	Grand Hall GHIJ	Panel	Rhinology: Innovations
	Grand Hall GHIJ		**PODIUM PRESENTATIONS: OTOLOGY**
10:50 AM – 10:56 AM	Grand Hall GHIJ	Brandon Hemeye	Outcome Variation after Short-Term Tympanostomy Tube Placement Based on Tube Type
10:56 AM – 11:02 AM	Grand Hall GHIJ	Raymond So	National and Regional Trends in Congenital Cytomegalovirus Infection from 1998 to 2019
11:02 AM – 11:08 AM	Grand Hall GHIJ	Jacqueline Harris MD	Addressing Disparities in Hearing-Loss Genetics by Improving Inclusion and Variant Classification for Underrepresented Minority Children
11:08 AM – 11:14 AM	Grand Hall GHIJ	Eve Meyer	fNIRS Evaluation of Differential Cortical Responses to Executive Functioning Stimuli in Hearing Impaired Pediatric Patients with and without Language Delay
11:14 AM – 11:20 AM	Grand Hall GHIJ	Steven Engebretsen MD	Pediatric Hearing Loss Intervention Delayed in Association with Lower Socioeconomic Status***

***Fellow Award Winner

	Room	Session Name/Track	Presentation Title
11:20 AM – 11:26 AM	Grand Hall GHIJ	Neema Rashidi	Association of Access Challenges and Family Support with Language Development for Children with Hearing Loss****
11:26 AM – 11:32 AM	Grand Hall GHIJ	Christina Zhu	Clinical and Technologic Factors Driving Adherence to Osseointegrated Bone Conduction Devices in Children
11:32 AM – 11:38 AM	Grand Hall GHIJ	Rose Dimitroyannis	"Does my kid have an ear infection?": A Quality Analysis of Pediatric Acute Otitis Media Videos on TikTok
11:38 AM – 11:43 AM	Grand Hall GHIJ	Q & A	
			QUICK SHOT PRESENTATIONS: OTOLOGY
11:43 AM– 11:46 AM	Grand Hall GHIJ	Zachary Burgess MD	Postoperative antibiotic ear drops in pediatric tympanostomy tubes: an analysis of the 13th statement of the 2022 clinical practice guidelines
11:46 AM – 11:49 AM	Grand Hall GHIJ	Shreyas Krishnapura	Feasibility of a Novel Computer-Assisted Approach to Congenital Aural Atresia Repair Planning
11:49 AM – 11:52 AM	Grand Hall GHIJ	Jasmine Gass	Hearing-Related Quality of Life in Parents of Infants and Toddlers who are Deaf or Hard-of-Hearing
11:52 AM – 11:55 AM	Grand Hall GHIJ	Kimberley Noij MD	Persistent Postural Perceptual Dizziness (PPPD) in Pediatric Patients after COVID-19 Infection
11:55 AM – 12:00 PM	Grand Hall GHIJ	Q & A	
12:00 PM – 01:00 PM		Lunch	Lunch with Exhibitors
01:00 PM – 01:50 PM	Grand Hall GHIJ	Panel	ASPO-SENTAC PANEL: Otology: Practical Approaches
01:50 PM – 02:35 PM	Grand Hall GHIJ	Panel	Rhinology II: Practical Spproaches
			PODIUM PRESENTATIONS: HEAD & NECK AND RHINOLOGY
02:35 PM – 02:41 PM	Grand Hall GHIJ	Nicolette Jabbour, MD	Demographic Predictors of COVID-19 Anosmia in the Pediatric Population as compared to General Population
02:41 PM – 02:47 PM	Grand Hall GHIJ	Ola Soliman	Sialoendoscopy and the Management of Pediatric Sialolithiasis
02:47 PM – 02:53 PM	Grand Hall GHIJ	Elizabeth Shay MD	Airway management in pediatric patients undergoing microvascular free tissue transfer (MVFTT) reconstruction after mandibulectomy
02:53 PM – 02:56 PM	Grand Hall GHIJ	Mark Fadel MD	Utilizing geographic information systems to identify environmental contributors for pediatric thyroid lesions
02:56 PM – 02:59 PM	Grand Hall GHIJ	Zainab Balogun	Prognostic Value of Immunologic and Inflammatory Biomarkers in Lymphatic Malformations
02:59 PM – 03:00 PM	Grand Hall GHIJ	Q & A	
03:00 PM – 03:10 PM	Grand Hall GHIJ	Break	
03:10 PM – 04:00 PM	Grand Hall GHIJ	Panel	Leading Cultural Humility in Clinical and Administrative Pediatric Otolaryngology
04:00 PM – 04:50 PM	Grand Hall GHIJ	Panel	Vascular Anomalies: Innovations
04:50 PM – 05:40 PM	Grand Hall GHIJ	Panel	Vascular Anomalies: Practical Approaches
07:00 PM – 10:00 PM		ASPO BANQUET/ DINNER	
5/19/2024 - Sunday			
6:15 AM – 7:15 AM		ASPO Fun Run	
7:15 AM – 8:00 AM	Ballroom EF	Panel	Leveraging Social Media to Enhance Your Career and Practice
8:00 AM – 8:45 AM	Ballroom EF	Panel	Sleep Medicine and Surgery Panel
			PODIUM PRESENTATIONS: GENERAL/SLEEP
8:45 AM – 8:51 AM	Ballroom EF	Danielle Larrow MD	Upper Airway Stimulation for Children and Adolescents with Down Syndrome and Obstructive Sleep Apnea: Long Term Follow Up*

***Ferguson Clinical Research Award Winner**

*****Health Equity Research Award Winner**

	Room	Session Name/Track	Presentation Title
8:51 AM – 8:57 AM	Ballroom EF	Ashwin Reddy	Clinician-parent communication with families of obese and overweight children undergoing consultation for tonsillectomy
8:57 AM – 9:03 AM	Ballroom EF	Jeff Mecham MD	Hypoglossal Nerve Stimulation Outcomes in Pediatric Trisomy 21 Patients with Overweight or Obesity
9:03 AM – 9:09 AM	Ballroom EF	Cristina Baldassari MD	Quality of Life in Children with Mild Sleep Disordered Breathing Managed with Adenotonsillectomy vs. Watchful Waiting: A Randomized Trial
9:09 AM – 9:15 AM	Ballroom EF	Kristina Powers MD	Factors Predicting Adenotonsillectomy for Pediatric Mild SDB: Analysis of PATS Data
9:15 AM – 9:21 AM	Ballroom EF	Alisha Pershad	Understanding Racial and Ethnic Disparities in Perioperative Pain Management Following Routine Pediatric Tonsillectomy
9:21 AM – 9:27 AM	Ballroom EF	Mahmoud Omar	Randomized Clinical Trial of Post-operative Steroids to Reduce Tonsillectomy Morbidity
9:27 AM – 9:33 AM	Ballroom EF	Adrian Williamson MD	Tongue Reduction for the Treatment of Pediatric Obstructive Sleep Apnea: A Systematic Review
9:33 AM – 9:39 AM	Ballroom EF	Akailah Jennings	Newborn Hearing Screening Follow Ups Study
9:39 AM – 9:40 AM	Ballroom EF	Q & A	
9:40 AM – 9:55 AM	Ballroom EF	Break	
9:55 AM – 10:40 AM	Ballroom EF	Panel	ASPO-ABEA Panel: Airway Procedures Across the Age Spectrum: Pediatric and Adult Experts Compare Their Strategies
10:40 AM – 11:25 AM	Ballroom EF	Panel	Head and Neck: Practical Approaches
			QUICK SHOT PRESENTATIONS: SLEEP, RHINOLOGY, GENERAL
11:25 AM – 11:28 AM	Ballroom EF	Cara Fleseriu	Underreporting of pediatric sleep-disordered breathing symptoms in black preschool-aged children when compared to white children with obstructive sleep apnea
11:28 AM – 11:31 AM	Ballroom EF	Caleb Allred	The Effect of Race, Ethnicity, and Language on Adenotonsillectomy Outcomes in Pediatric Otolaryngology****
11:31 AM – 11:34 AM	Ballroom EF	Jeff Mecham MD	The Effect of Age on Hypoglossal Nerve Stimulation Outcomes in Children with Trisomy 21 and Obstructive Sleep Apnea
11:34 AM – 11:37 AM	Ballroom EF	David Barkyoumb	A Randomized Controlled Trial of Ergonomic Risk in Pediatric Adenotonsillectomy
11:37 AM – 11:40 AM	Ballroom EF	Lanye Hu MD	The role of adenoid immune phenotype in polysensitized children with allergic rhinitis and adenoid hypertrophy
11:40 AM – 11:43 AM	Ballroom EF	Maksym Goryachok	Demographic and Clinical Factors Associated with Disease Severity and Persistence in Pediatric-Onset Chronic Rhinosinusitis
11:43 AM – 11:46 AM	Ballroom EF	Emily Aleksa MD	Epidemiology of Complicated Sinusitis in Children: Exploring Changing trends Before and After the COVID-19 Pandemic
11:46 AM – 11:49 AM	Ballroom EF	Grace Nichols	Assessing the Quality of Online Patient Education Materials on Pediatric Functional Endoscopic Sinus Surgery
11:49 AM – 11:52 AM	Ballroom EF	Patrick Barth MD	Use of conversational AI for improving patient engagement and the postoperative patient experience
11:52 AM – 11:55 AM	Ballroom EF	Sofia Olsson	Utility of speech therapy in the treatment of pediatric sialorrhea and associated quality of life
11:55 AM – 11:58 AM	Ballroom EF	Haris Waseem	Relationship between Research Activity and Centers for Medicare Payments for Pediatric Otolaryngology Fellowship Directors
11:58 AM – 12:00 PM	Ballroom EF	Q & A	
12:00 PM – 12:00 PM	Ballroom EF	Closing	

******Health Equity Research Award Winner**

5/17/2024

01:00 PM–01:35 PM

Grand Ballroom CD

Introduction and Remarks

Speaker: Reza Rahbar DMD, MD
Associate Otolaryngologist-in-Chief
Airway Disorder Chair in Pediatric Otolaryngology
Boston Children's Hospital
Professor of Otolaryngology
Harvard Medical School

Speaker: Margo K. McKenna, MD, FACS
Associate Professor of Otolaryngology and Pediatrics
Director, Pediatric Otolaryngology
University of Rochester Medical Center

5/17/2024

01:35 PM–02:10 PM

Grand Ballroom CD

Bluestone Lecture

Pediatric Otolaryngology in North America: Our Journey

KEYNOTE

Speaker: Kenny Chan MD
Children's Hospital Colorado/University of Colorado School of Medicine

5/17/2024

02:10 PM–02:15 PM

Grand Ballroom CD

Q and A

5/17/2024

02:15 PM–02:50 PM

Grand Ballroom CD

Keynote 2

The Pediatric Otolaryngology Workforce

KEYNOTE

Speaker: AJ Tompkins MD, MBA
Ohio ENT & Allergy Physicians

5/17/2024

02:50 PM–02:55 PM

Grand Ballroom CD

Q and A

5/17/2024

02:55 PM–03:05 PM

Grand Ballroom CD

Break

5/17/2024

03:05 PM–03:50 PM

Grand Ballroom CD

Surgical Techniques in Pediatric Otolaryngology

PANEL

Moderator: Doug Johnston MD
Lurie Children's Hospital

5/17/2024

03:50 PM–03:55 PM

Grand Ballroom CD

Q and A

5/17/2024

03:55 PM–04:01 PM

Grand Ballroom CD

Podium # 1

Otologic Safety of Mastoid Powder: Combination of Ciprofloxacin, Trimethoprim-Sulfamethoxazole, and Amphotericin B

PODIUM PRESENTATION

Presenter: Karina Theoret
McGill University

Introduction: Chronic otorrhea in patients with a long-standing history of otitis media poses a significant challenge for otolaryngologists. It can exacerbate hearing loss, impede the use of hearing aids, and cause ongoing discomfort. Clinicians use mastoid powders to battle resistant bacteria and reduce excess moisture in the ear. However, there are concerns about the safety of powders for the exposed middle ear in chronic otitis media cases. In this animal study, we assess the potential ototoxicity of mastoid powder, a combination of Ciprofloxacin, Trimethoprim-Sulfamethoxazole, and Amphotericin B, applied topically to the animal's middle ear.

Methods: 15 male guinea pigs were used in this experiment. The assessment of ototoxicity involved conducting auditory brainstem responses (ABRs) measurements at frequencies of 8, 12, 16, 20, and 24 kHz, along with microscopic examinations and scanning electron microscopy (SEM) of the cochlea. After baseline measurements were taken, a hole was created in the tympanic membrane to deliver the medication. The guinea pigs acted as their own control, with one ear receiving medication and the other receiving boric acid, a proven non-ototoxic powder. ABRs were measured at baseline, immediately after surgery, 2 weeks post-application, and 4 weeks post-application. SEM was performed 2 months post-application.

Results: Inflammation was noted in all experimental ears at 2 weeks post-application, but it seemed to resolve after 4 weeks. A paired samples t-test was performed for ABR measurements and significant differences were found in the experimental ears at 4 weeks post-application compared to baseline (8 kHz: $p=0.006$, 12 kHz: $p<0.001$, 16 kHz: $p=0.016$, 20 kHz: $p<0.001$). Significant differences between control and experimental ears were also noted (12 kHz: $p=0.002$, 16 kHz: $p=0.002$, 20 kHz: $p<0.001$).

Discussion: The tested powder showed signs of ototoxicity, but further studies should be performed to define the exact component and/or concentration that causes ototoxicity.

Sam Daniel
Mohammed Alnoury
Ostap Orishchak
Don Nguyen
McGill University

5/17/2024

04:01 PM–04:07 PM

Grand Ballroom CD

Podium # 2

Acid Suppression Therapy for Laryngomalacia: A Prospective, Randomized Controlled Trial

PODIUM PRESENTATION

Presenter: Reema Padia MD
University of Utah

Background: Gastro-esophageal reflux (GER) is associated with laryngomalacia (LM). A treatment option for infants with LM has been the use of acid suppression therapy (AST); however, the efficacy has not been determined.

Hypothesis: AST for infants with LM will not provide superior GER and airway symptom outcomes after initiation as compared to observation and feeding modifications.

Methods: From 2020-2023 at a tertiary care children's hospital, infants ≤6 months old with a diagnosis of LM on clinical evaluation and flexible laryngoscopy were randomized to receiving famotidine and feeding modifications or feeding modifications alone. Laryngomalacia Airway Symptom Score (LASS) and Infant Gastroesophageal Reflux Questionnaire (I-GERQ-R) were completed by guardians. Block randomization was performed based on LASS severity (mild and moderate). Of 343 patients approached, 257 were excluded due to severe LM on LASS, severe GER (I-GERQ-R≥16), prior AST, no LM on laryngoscopy, recommendation for supraglottoplasty, and/or other airway anomaly. Twenty-one declined participation. LASS and I-GERQ-R were again completed 1-6 months following enrollment.

Results: Sixty-five patients were enrolled; 40/65 (62%) followed up with a mean time of 3.2 months (SD 1.4). Of these 40, 10 (25%) had mild and 30 (75%) had moderate LM. Median I-GERQ-R was 11 (range 5-15) at the initial appointment and 7.5 (range 0-26) at follow-up ($p=0.002$). A significant proportion (13/40; 33%) of patients exhibited resolution of LM at follow-up based on LASS ($p<0.001$). Patients randomized to AST (n=20) and those randomized to feeding modifications only (n=20) had comparable symptomatic improvement on the LASS ($p=0.3$) and I-GERQ-R ($p=0.8$). Additionally, severity of LM at initial consult did not have a significant impact on LASS ($p=0.2$) or I-GERQ-R ($p=0.7$) improvement. LASS ($\rho=0.405$, $p=0.01$) but not I-GERQ-R ($\rho=0.119$, $p=0.5$) improved more with longer follow up time

Discussion: AST did not provide additional benefit for infants with mild/moderate LM based on airway and reflux symptoms compared to feeding modifications alone. This is the first randomized controlled trial to investigate this topic. Given no proven benefit of AST in LM, the side effect profile and individual cases must be carefully considered when prescribing. Multi-institutional collaboration is the next step to further corroborate these results.

Amber Shaffer
Raymond Maguire, DO
Allison Tobey, MD
Jeffrey Simons, MD, MMM
University of Pittsburgh Medical Center

5/17/2024

04:07 PM–04:13 PM

Grand Ballroom CD

Podium # 3

Characterizing Sleep Stages of Drug-induced Sleep Endoscopy for Pediatric Patients with OSA

PODIUM PRESENTATION

Presenter: Audrey Abend
Rutgers Robert Wood Johnson Medical School

Introduction: Drug-induced-sleep-endoscopy (DISE) is a valuable tool for locating upper airway obstructions in pediatric obstructive sleep apnea (OSA) patients. General anesthesia induces sleep-like conditions during DISE, yet understanding the physiological aspects of this simulated sleep remains limited. We conducted a prospective cohort study, recording EEG/EMG data in pediatric OSA patients during DISE as part of their diagnostic evaluation.

Objectives: 1. Characterize the sleep stages of pediatric patients undergoing DISE for pediatric OSA

2. Report the demographic and pertinent medical history for pediatric patients undergoing DISE for pediatric OSA

Methods: Patients between two (2) and 18 years of age (inclusive) with a history of obstructive sleep apnea and a sleep study were recruited. Patients with known craniofacial abnormalities were excluded. Patients were limited to English or Spanish-speaking. Evaluation of sleep stages during DISE was made using EEG and EMG. Data was analyzed independently by a board-certified sleep medicine specialist.

Results: We recruited 5 males and 4 females (N=9) ranging in age from 3 to 13 years. Seven (7) of 9 of the study participants had comorbidities other than OSA, notable asthma. Following DISE start time, 5 of 9 study participants experienced N1 sleep, 8 of 9 study participants experienced N2 sleep, and 3 of 9 study participants experienced N3 sleep. The percentage of procedure time spent in N1, N2, or N3 sleep was 20-54.5%, 15.4-100%, and 20-100% respectively. Patients either experienced N1 sleep or N3 sleep, no participants experienced both. Average DISE time was 6.4 minutes.

Discussion: This pilot study gives the first insight into the sleep stages of patients undergoing DISE, notably that REM sleep is absent during DISE. Additional investigation of drug-induced sleep, as compared to natural sleep, during the DISE procedure is warranted.

5/17/2024

04:13 PM–04:19 PM

Grand Ballroom CD

Podium # 4

Critical Assessment of GPT-4's Adherence to Pediatric Otolaryngology Clinical Practice Guidelines

PODIUM PRESENTATION

Presenter: Nicholas Rossi, MD
UTMB Department of Otolaryngology

Introduction: Despite the potential benefits of artificial intelligence in otolaryngology, current large language models (LLMs) lack peer review for scientific accuracy. The use of LLMs in otolaryngologic care may be limited without external validation. Generative Pretrained Transformer 4 (GPT-4) remains one of the most widely used LLMs. The American Academy of Otolaryngology – Head and Neck Surgery Foundation (AAO-HNSF) has published several clinical practice guidelines (CPGs). The objectives of this study were to critically examine the scientific accuracy and thoroughness of responses by GPT-4 to queries based on statements from three pediatric otolaryngology CPGs.

Methods: Consensus statements were extracted from three pediatric otolaryngology CPGs: "Tympanostomy Tubes in Children (Update)," "Tonsillectomy in Children (Update)," and "Polysomnography for Sleep-Disordered Breathing Prior to Tonsillectomy in Children." Questions were asked to GPT-4 by two independent reviewers based on statements in the CPGs. Accuracy was graded on a Likert scale of 1 to 5 (1 = completely incorrect, 2 = more incorrect than correct, 3 = approximately equal correct and incorrect, 4 = more correct than incorrect, 5 = correct), and completeness was graded on a Likert scale of 1 to 3 (1 = incomplete, 2 = adequate, 3 = comprehensive).

Results: Thirty-seven statements were extracted from the three AAO-HNSF pediatric otolaryngology CPGs. After querying GPT-4, mean accuracy score was 4.7 (SD = 0.7), and mean completeness score was 2.8 (SD = 0.3). Twenty-six statements (70.3%) were rated with both maximum accuracy and completeness. Interrater agreement was calculated to be 78.1% with Cohen's kappa.

Discussion: GPT-4 demonstrated commendable accuracy and completeness, indicating its potential as a supportive tool in pediatric otolaryngology. However, given its lack of peer review, practitioners should employ GPT-4 judiciously, cross-referencing with established CPGs. Pediatric otolaryngologists should be aware of the limitations of GPT-4 and exercise caution when considering its recommendations.

Harold Pine, MD, FAAP, FACS
Kassandra Corona
Yuki Yoshiyasu, MD
Charles Hughes, MD, MBA, MPH
UTMB Department of Otolaryngology

5/17/2024

04:19 PM–04:25 PM

Grand Ballroom CD

Podium # 5

Cisplatin drives mitochondrial dysregulation in sensory hair cells

PODIUM PRESENTATION

Presenter: David Lee MD
Washington University in St. Louis

Background: Cisplatin is a commonly used chemotherapy that causes irreversible hearing loss through excessive reactive oxygen species (ROS) formation in cochlear hair cells, but the mechanisms of ROS production remain undefined.

Hypothesis: Mitochondrial dysfunction has been implicated in cisplatin-induced ROS production. We hypothesize that mitochondrial dysregulation drives hair cell death following exposure to cisplatin.

Methods: In vivo time-lapsed imaging of 6-day-old zebrafish with genetically encoded biosensors of hair cell mitochondrial calcium, mitochondrial oxidative stress, and cytosolic calcium were used to investigate mitochondrial dynamics after cisplatin exposure. Time-lapsed images were acquired at baseline and every 10 minutes throughout treatment exposure. Changes in fluorescence relative to baseline of individual hair cells in the presence or absence of cisplatin treatment were measured. Transgenic zebrafish expressing a ratiometric indicator of cumulative mitochondrial redox activity in hair cells were then used to explore whether cumulative

mitochondrial activity affects susceptibility to cisplatin. Baseline ratios of red:green fluorescence of living and dying hair cells that underwent treatment with cisplatin as above were compared.

Results: Time-lapsed imaging of transgenic zebrafish demonstrated a slow rise in hair cell mitochondrial calcium, mitochondrial oxidative stress, and cytosolic calcium followed by a rapid elevation immediately prior to death. The maximum change in fluorescence of dying hair cells exposed to cisplatin were 3.49-fold (95%CI=3.19-3.70), 1.66-fold (95%CI=1.39-1.87), and 1.34-fold (95%CI=1.29-1.41) greater than non-exposed hair cells, respectively. These spikes in dysregulated cellular bioenergetics in response to cisplatin occurred in a delayed and progressive fashion. The time to half maximum fluorescence prior to hair cell death for mitochondrial calcium, mitochondrial oxidative stress, and cytosolic calcium were 36.4 (95%CI=32.8-40.0), 24.9 (95%CI=22.5-27.4), and 25.4 (95%CI=23.6-27.2) minutes, respectively, yet the median time to hair cell death after cisplatin exposure was 140 (95%CI=130-140) minutes. These results suggest a potential therapeutic window after cisplatin but before mitochondrial dysregulation that may prevent hair cell death.

Discussion: Hair cell mitochondrial dysregulation following cisplatin is an early cellular event that culminates immediately prior to hair cell death. Future studies should explore whether intervention after cisplatin exposure but prior to terminal peaks in mitochondrial dysfunction may prevent hair cell death.

Lavinia Sheets, PhD
Angela Schrader
Mark Warchol, PhD
Washington University in St. Louis

5/17/2024

04:25 PM–04:31 PM

Grand Ballroom CD

Podium # 6

Pneumococcal Revaccination in Pediatric Patients with Rhinosinusitis

PODIUM PRESENTATION

Presenter: William Cohen
Perelman School of Medicine at the University of Pennsylvania

Background: Rhinosinusitis, in its recurrent and chronic disease form, is one of the largest single drivers of healthcare utilization in the United States. A subset of patients with acute recurrent or chronic rhinosinusitis is found to have low anti-pneumococcal titers when tested, and some adults in this cohort have been shown to benefit from a booster dose of pneumococcal vaccination. No analysis of pneumococcal revaccination has been conducted in pediatric patients in this population.

Hypothesis: Pediatric patients with low pneumococcal titers will have decreased sinonasal related healthcare utilization following a pneumococcal booster.

Methods: Patients at our institution with a chart diagnosis of sinusitis and pneumococcal immunoglobulin titers obtained between 1/1/2014-5/5/2021 were abstracted. Only patients aged 2-16 at time of titers were included. Data was collected ± 2 years from date of pneumococcal revaccination (polysaccharide or conjugate). Abnormal titers were defined as <1.3 ug/ml in >50% of serotypes under age 5 and >30% over age 5. Healthcare encounters entailed any office visit or hospital admission associated with sinusitis. Antibiotic courses included only those associated with sinusitis.

Results: In total, 419 patients were identified; 287(68.7%) were confirmed to have received an additional polysaccharide or conjugate pneumococcal vaccine. Of those, 250 (92.6%) had abnormal titers and 82 (28.6%) were immunocompromised/immunodeficient(IC/ID). Mean age was 8.46 ± 10.47 years, 161 (56.1%) were male, 223 (78.5%) were White, 22 (7.8%) were Black, and 26 (9.2%) were Hispanic. The complete childhood pneumococcal vaccination schedule was completed in 274 (96.1%) patients. Healthcare encounters decreased from an average of 2.70(±3.1) visits in the 2 years prior to revaccination to 1.30(±1.96) visits in the 2 years following revaccination (p<0.001). Antibiotic courses decreased from an average of 2.56(±3.04) to 1.23(±1.94) during the same 2-year time intervals (p<0.001). Among IC/ID revaccinated patients, healthcare encounters decreased from 2.92(±3.48) to 1.56(±2.42) (p<0.001) and antibiotic courses from 2.82(±3.58) to 1.41 (±2.27) (p<0.001).

Discussion: A majority of identified pediatric patients with rhinosinusitis screened for low pneumococcal titers demonstrated a non-immune status. Pneumococcal revaccination successfully decreased healthcare utilization and antibiotic use in the two years following immunization.

Adva Buzi, MD
Chau Phung
Dominick Rich
Mark Rizzi, MD
Children's Hospital of Philadelphia

5/17/2024

04:31 PM–04:35 PM

Grand Ballroom CD

Q and A

5/17/2024

04:35 PM–05:25 PM

Grand Ballroom CD

Panel #1

Rosenfeld Panel: Otology Innovations

PANEL

Moderator: Sharon Cushing MD
Hospital For Sick Children

5/17/2024

05:25 PM–05:30 PM

Grand Ballroom CD

Q and A

5/17/2024

05:30 PM–07:00 PM

Meet the Authors Poster Reception

5/17/2024

06:30 PM–07:30 PM

Early Career Development Committee Sponsored Happy Hour

5/18/2024

6:30 AM–7:30 AM

President's Breakfast

Reza Rahbar

5/18/2024

7:30 AM–8:30 AM

Grand Ballroom EF

ASPO Business Meeting

5/18/2024

8:30 AM–9:15 AM

Grand Ballroom EF

Kerschner Lecture

AMA Keynote: Past Challenges, Present Obstacles and What Lies Ahead for Physicians

KEYNOTE

Presenter: Bruce Scott MD

Bruce A. Scott, MD, has been a leader in medicine throughout his career—and in June 2023 he was voted president-elect of the American Medical Association. In this role he serves, along with the current president and immediate past president, as a lead spokesperson for the AMA. Concurrently he continues to serve on the AMA

American Medical Association President-elect

5/18/2024

09:15 AM AM–10:00 AM

Grand Ballroom EF

Panel #2

Healy Panel Sponsored by TRIO, Navigating the Digital Transformation: An Exploration of Informatics and AI in Pediatric Otolaryngology

PANEL

Moderator: Romaine Johnson MD, MPH,

University of Texas Southwestern Medical Center

Panelists: Michael Dunham, MD, Amal Isaiah, MD, DPhil, Carla Giannoni, MD, Patrick Walz, MD, FAAP

5/18/2024

10:00 AM–10:20 AM

Grand Ballroom EF

Break

5/18/2024

10:20 AM–11:20 AM

Grand Ballroom EF

Panel #3

Cotton-Fitton Panel Airway 1: Innovations - EA/TEF; Laryngeal cleft type I; Pediatric Voice

PANEL

Moderator: Stephanie Zacharias PhD

Assistant Professor of Otolaryngology, Mayo Clinic

Panelists: Sam Daniel, MD; Doug Sidell, MD; Karen Watters, MD; Deepak Mehta , MD; Alessandro DeAlarcon, MD; Marshall Smith, MD

QUICK SHOT PRESENTATIONS

MODERATOR

Moderator: Carol Li MD
Cincinnati Children's, Division of Pediatric Otolaryngology - Head and Neck Surgery
Assistant Professor, UC Department of Otolaryngology, Head and Neck Surgery

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5/18/2024

11:20 AM–11:23 AM

Grand Ballroom EF

QS #A1

Zebra Tracheoplasty For Management of Tracheobronchomalacia

QUICK SHOT PRESENTATION

Presenter: Michael Belsky MD, MS
Stanford University

Introduction: Laser tracheobronchoplasty is a technique for managing tracheobronchomalacia in adults. This case report describes a novel implementation of this method in a pediatric patient.

Case Description: The patient is an 11-year-old male with congenitally absent left pulmonary artery and left upper lobe emphysema, status-post lobectomy. Pre-operative symptoms included dyspnea and recurrent lower respiratory infections. Preoperative bronchoscopy revealed an abnormally wide membranous trachea with dynamic tracheomalacia. There was severe posterior intrusion from mid-trachea to carina with extension into bilateral proximal mainstem bronchi, intermittently resulting in complete obstruction. Given the patient's prior procedures, the family strongly preferred endoscopic treatment. Laser tracheoplasty was performed using a CO2 laser at the most obstructive/malacic segment of the trachea, approximately 4 cm in length. Six furrows were made in the trachealis muscle in a diagonal fashion, similar to zebra stripes with normal interposing mucosa left intact between each furrow to prevent excessive scarring. This striping technique is less extensive than that reported in adults, during which nearly the entire posterior tracheal wall is treated. There was no blood loss. Flexible esophagoscopy verified no violation of esophageal mucosa. A second round of the procedure was completed 1 week post-operatively. Additional diagonal furrows proximal and distal to the initial operative site were made, addressing the previously untreated segments. Bronchoscopy 1 week later revealed improvement in tracheomalacia with resolution of the obstructive collapse during the respiratory cycle. Prior tracheoplasty sites were healing well with expected evolving mucosal changes and scarring. Bronchoscopy 2 months after the initial procedure revealed a well-healed trachea with stable improvement in tracheomalacia. At this time, the patient endorsed improvement in baseline respiratory symptoms.

Discussion: Stiffening of the posterior tracheal wall secondary to scarring and fibrosis from targeted, diagonally-striated CO2 laser treatment offers a safe and minimally-invasive treatment for tracheobronchomalacia in select pediatric patients.

Karthik Balakrishnan, MD, MPH, FAAP, FACS
Taseer Din, MBChB, MMed, FCORL
Stanford University

5/18/2024

11:23 AM–11:26 AM

Grand Ballroom EF

QS #A2

Multi-Level Management of Laryngotracheal Stenosis Reconstruction: An In-Depth Exploration

QUICK SHOT PRESENTATION

Presenter: Youjin Li MD
Shanghai Children's Medical Center

Background: There is still a challenging question: how should children with concurrent laryngeal and tracheal stenosis be effectively managed?

Hypothesis: To explore the management of multiple level laryngotracheal stenosis, particularly when it coexists with congenital heart disease(CHD).

Methods: We conducted a retrospective analysis of patients with tracheal stenosis or CHD who underwent thoracic surgery involving bypass, along with concurrent laryngeal malformation. Patients were categorized into groups based on whether they underwent simultaneous laryngeal reconstruction or not. Data collection encompassed various aspects, including: demographic information,flexible laryngotracheal examinations,perioperative data(preoperative frequency of respiratory viral infections, onset of pneumonia), and airway-related symptoms (e.g., obstruction, speech difficulties, choking, and swallowing issues). Details regarding the type of tracheal surgery performed, diagnosis and treatment of CHD, length of mechanical ventilation, necessity for continuous positive airway pressure or reintubation after extubation, length of stay in the ICU and post-surgical respiratory symptom evaluation through a questionnaire administered three months post-surgery.
Results: A total of 34 patients (20 boys), were categorized into laryngotracheal groups. These groups underwent procedures such as tracheal plasty combined with laryngeal reconstruction or laryngotracheal reconstruction (LT group). The mean age of these patients was 3.48 ±2.9 years old. Within the LT group, 10 patients were also diagnosed with CHD (4 cases VSD, 2 cases ASD, and 4 cases aortic abnormalities. In the LT group, 24 cases involved complete tracheal ring procedures using slide trachoplasty. Additionally, 10 cases with trachomalacia or tracheobronchomalacia by anterior tracheopexy or external airway splint placement. Furthermore, 4 cases underwent laryngotracheal reconstruction with costal cartilage grafting, 4 cases underwent

laryngeal cyst removal, 17 cases underwent laryngeal cleft repair and aryepiglottic fold release, and 9 cases underwent treatment for laryngomalacia. 30 cases were selected for the tracheal group (T group) for comparability. In comparison to the T group, patients within the LT group experienced more pronounced airway symptoms and activity restrictions before undergoing surgery. However, there were no observed differences between the two groups in terms of swallowing function and the frequency of respiratory infections, outcomes of peri-and post-surgery.

Discussion: Treating multiple levels of laryngotracheal stenosis concurrently has proven to be an effective and safe management approach.

Lanye Hu
Shanghai Children's Medical Center

5/18/2024

11:26 AM–11:29 AM

Grand Ballroom EF

QS #A3

Laryngeal ultrasound: An alternate to rescue laryngoscopy in evaluation of recurrent respiratory papillomatosis in children

QUICK SHOT PRESENTATION

Presenter: Deepa Shivnani
Manipal Hospital

Introduction and **Objective:** Recurrent respiratory papillomatosis (RRP) is an uncommon disease that may cause symptoms ranging from hoarseness to severe obstruction of the airway. In RRP, the preliminary diagnosis and postoperative surveillance are difficult in pediatric age group. Our objective was to evaluate the ultrasonography (US) appearance of papillomatoses lesions of the larynx in pediatric cases and compare the findings with laryngoscopy.

Design: A case series

Method: A retrospective analysis of 16 cases of RRP who underwent planned papilloma resections with ultrasound evaluation before formal endoscopic resection during January 2018 to January 2023 were included. Images and videos of laryngeal ultrasound were taken preoperatively and compared with laryngoscopy findings for its sensitivity and specificity.

Results: Total number of procedures were 52. On US examination, appearance of respiratory papilloma was easily identifiable as discrete, hyperechoic lesions on the relatively hypoechoic background of the true vocal cords. The sensitivity and specificity of laryngeal ultrasound was found to be 97.8% and 50 % respectively. The positive predictive value was 93.7 % and negative predictive value was 75 %.

Discussion & Conclusion: Recurrent respiratory papilloma have a characteristic ultrasonographical appearance that seems to correlate with laryngoscopy findings. This case series of Laryngeal ultrasonography demonstrates that ultrasound of larynx can be a useful diagnostic tool for operative planning for RRP in children with the advantages of simple, highly accurate, non-anesthetic, no radiation exposure, noninvasive, painless and less expensive than other techniques.

Eswaran Raman, MBBS, DLO, MS
Manipal Hospital

5/18/2024

11:29 AM–11:32 AM

Grand Ballroom EF

QS #A4

Risk Factors for Postoperative Complications After Microlaryngoscopy and Bronchoscopy in Children

QUICK SHOT PRESENTATION

Presenter: Samantha Goh MD
The Hospital for Sick Children

Introduction: Inpatient admission to a monitored setting after pediatric microlaryngoscopy and bronchoscopy (MLB) is common, but evidence is lacking to support this practice. In an era of cost-containment and limited resources, consideration of the level of monitoring following pediatric MLB is required.

Objectives: Identify factors associated with postoperative complications following pediatric MLB.

Methods: A retrospective review of 200 consecutive MLBs was performed at a tertiary pediatric center (2019-2023). Cases performed with another major procedure were excluded. The primary outcome was postoperative complication(s), defined as: 1) respiratory events (laryngobronchospasm, significant desaturation(s) SpO2 <80 %, need for airway intervention); 2) escalation of postoperative disposition; 3) prolonged inpatient-stay. Logistic regression was performed to analyze the relationship between demographics, indication for MLB, pediatric early warning system (PEWS) score, and complications.

Results: Ninety-four children were included (median age ± SD, 2.4 ± 4.8 years). Eighty-eight percent (83/94) were planned for admission to a constant observation step-down unit, 11% (11/94) to the intensive care unit (ICU), and 0.01% (1/94) to a standard ward. Indications for MLB were diagnostic [61% (57/95)], surveillance [17% (6/94)], and planned intervention [22% (21/94)]. Complications occurred in 10% (10/94) of children. Complications were prolonged inpatient-stay [10% (9/94)], respiratory events [5% (5/94)] and escalation of postoperative disposition [2% (2/83)]. 50% (2/4) of respiratory events occurred in the post-anesthesia care unit (PACU) and 50% (n=2/4) in the step-down unit. Logistic regression showed that younger age (p=0.04), cardiovascular disease (CVD) (p=0.02) and higher PEWS in PACU (p=0.04) were significant predictive factors of

postoperative complications.

Conclusion: Younger age, CVD, and higher PEWS scores are all factors associated with postoperative complications after MLB. Further understanding of these factors may assist clinicians in determining the appropriate level of postoperative monitoring following MLB in children.

Nikolaus Wolter, MD, MSc, FRCSC
Jennifer Siu
Tal Honigman, MD
Evan Propst, MD, MSc, FRCSC

The Hospital for Sick Children

5/18/2024

11:32 AM–11:35 AM

Grand Ballroom EF

QS #A5

Outcomes of Infant Laryngotracheal Reconstruction in Decannulation and Tracheostomy Avoidance.

QUICK SHOT PRESENTATION

Presenter: James Leonard MD
MedStar Georgetown University Hospital

Background/Hypothesis: Management of laryngotracheal stenosis in the infant is challenging for patients, families, and providers. This study was designed to evaluate the impact of patient characteristics and surgical techniques on rates of decannulation and tracheostomy avoidance in infants managed with laryngotracheal reconstruction (LTR).

Methods: Charts were retrospectively reviewed for all pediatric patients with laryngotracheal stenosis managed with open airway surgery at a tertiary children's hospital between 2008 and 2021. The primary outcome evaluated was decannulation.

Results: Forty infants were included in the study with a median age of 7.5 months and weight of 6.7 kg. More than half (62.5%) of the infants were Black or African American. Seventy percent of patients included had grade 3 Cotton-Myer subglottic stenosis. Infants, compared with children (n=153), were far less likely to have a tracheostomy prior to LTR (22.5% vs 73.2%, p<0.001), undergo double stage surgery (17.5% vs 51%, p=0.001), or use stenting post operatively (7.5% vs 34.6%, p=0.001). Rates of decannulation or tracheostomy avoidance in infants were higher than those in children treated with LTR (82.5% vs 75.2%, p=0.404). In infants, the rate of decannulation or tracheostomy avoidance was far lower in those treated with double stage surgery (OR 0.075, CI 0.01-0.47, p=0.008), with glottic stenosis (OR 0.103, CI 0.015-0.62, p=0.015), or multilevel stenosis (OR 0.075, CI 0.01-0.47, p=0.008).

Discussion: We present a large cohort of infants undergoing LTR for decannulation and tracheostomy avoidance demonstrating overall safety with a reduced chance of decannulation with glottic or multilevel stenosis.

Diego Precidao, MD, PhD
Daniel Blumenthal, MD
Nancy Bauman, MD
Hengameh Behzadpour
MedStar Georgetown University Hospital

5/18/2024

11:40 AM–11:55 PM

Grand Ballroom EF

QS #A6

Airway Evaluation of Infantile Subglottic Hemangiomas in the Era of Oral Beta-Blocker Use: A Review of Diagnostic Techniques

QUICK SHOT PRESENTATION

Presenter: Sukaina Hasnie MD
NYU Langone Health

Introduction: Infantile subglottic hemangioma (SGH) is a rare laryngeal anomaly that can lead to airway compromise when left untreated. Operative endoscopy has been the conventional method for visualizing the mass for diagnosis. The discovery of beta-blocker's efficacy in treating infantile hemangiomas (IH) in 2008, along with the advancement of endoscopic technology, has offered an opportunity to diagnose and survey select patients without an operative procedure. The objective of this review is to examine whether endoscopic practices have changed in the diagnosis and surveillance of infantile SGH during the era of oral beta-blocker treatment.

Methods: A comprehensive literature search from 2008 to 2023 was conducted. The articles were screened for relevance based on predefined inclusion and exclusion criteria. Our initial search generated 2,103 articles. Inclusion criteria included the following: articles published since 2008, a diagnosis of infantile SGH, mention of a specific endoscopic technique and/or diagnostic imaging modality, English language, and full-text availability.

Results: After inclusion and exclusion criteria, fifty-nine final studies were identified, describing 231 cases of infantile SGH. The majority of children were diagnosed using operative endoscopy alone (76.2%; n=176/231), 20.3% (n=47/231) using office-based laryngoscopy procedures (OBP) followed by operative endoscopy, 3.5% using OBP alone (n=8/231). There were no reported diagnostic endoscopy-related complications. Twenty-nine studies described using endoscopy plus diagnostic imaging to either confirm an SGH lesion, characterize the extent of disease spread, or rule out other causes of presenting symptoms. The proportion of infants diagnosed with operative endoscopy alone followed by an operative intervention decreased from 2008-2023.

Conclusion: The existing literature indicates that operative endoscopy serves as the standard for diagnosing SGH. However, our review of the literature describes the utilization of OBP as a progressively adopted alternative for SGH diagnosis. Further research studies are warranted to ascertain the optimal approach

for diagnosing and managing SGH.

Max April, MD
Sara Gallant, MD
Megan Gaffey, MD
Francine Blei, MD
NYU Langone Health

5/18/2024
11:58 AM–12:00 PM
Grand Ballroom EF

Q & A

5/18/2024
12:00 PM–01:00 PM
Grand Ballroom EF

Lunch

Lunch with Exhibitors

PODIUM PRESENTATIONS

MODERATOR

Moderator: Marilena Trozzi MD, PhD
BAMBINO GESU' CHILDREN'S HOSPITAL

5/18/2024
01:00 PM–01:06 PM
Grand Ballroom EF

Podium # A1

Factors associated with accidental decannulation in pediatric patients undergoing tracheostomy

PODIUM PRESENTATION

Presenter: Eric Cheon MD
Ann & Robert H. Lurie Children's Hospital of Chicago

Background: Accidental tracheostomy decannulation (ATD) is a life-threatening event. However, factors associated with ATD in children are unknown. Utilizing the National Surgical Quality Improvement Pediatric (NSQIP-P) dataset, we sought to identify the incidence of ATD and factors associated with this event.

Methods: Patients who underwent surgery at a continuously enrolled American College of Surgeons NSQIP-P hospital from January 1, 2012 to December 31, 2021, were included in this study. Patients who underwent a tracheostomy (CPT 31600 or 31601) as a primary or concurrent procedure were included in this study. ATD was defined by the NSQIP-P REINTUB variable which in the context of a new tracheostomy had the following parameters: "Patients with newly placed tracheostomy would be assigned if tracheostomy was dislodged prior to the first planned change" and "(Endotracheal tube) or an emergency tracheostomy due to inability to cannulate existing tracheostomy tract". Univariable analyses were performed to identify any association between demographic variables, relevant comorbidities, and intraoperative factors and ATD.

Results: 5,229 patients undergoing tracheostomy were included in the final analysis. ATD occurred in 93 (1.8%) patients. The majority of decannulations occurred in the first two postoperative days. Female patients (P=0.004) and those with structural pulmonary airway abnormalities (P=0.007) were more likely to have an ATD. Patients with ATD tended to be older (3.24 v 2.68 years, P=0.278). Weight was not associated with ATD (P=0.19).

Discussion: Accidental decannulation is a serious complication following pediatric tracheostomy. Prior literature has shown that discrete measures can reduce unplanned extubation in the pediatric intensive care unit. However, there is a paucity of data specifically addressing patients with pediatric tracheostomy. By identifying 1) patients at higher risk for ATD and 2) the timing at which ATD most commonly occurs, intensivists, anesthesiologists, and otolaryngologists can employ measures targeting these patients in their highest risk time period. Interestingly, older patients tended to experience ATD more frequently, which may reflect the fact that these patients may not be paralyzed as much as their younger counterparts following tracheostomy. Future research will need to be directed at identifying independent risk factors for ATD and prospective implementation of preventative processes.

Taher Valika, MD
Matthew Rowland, MD
Arkadeep Ghosh,

Ann & Robert H. Lurie Children's Hospital of Chicago

5/18/2024
01:06 PM–01:12 PM
Grand Ballroom EF

Podium # A2

Laryngotracheal Surface Reconstruction and Anatomic Quantification via Structure from Motion

PODIUM PRESENTATION

Presenter: Michael Barbour PhD
University of Washington

Introduction: Rigid endoscopy is the gold standard imaging modality for evaluating pediatric airway pathology. However, its diagnostic potential is limited as it doesn't provide quantitative measures of airway anatomy or 3D renderings and relies on subjective interpretation. We aim to improve the diagnostic utility of endoscopy by reconstructing 3D surfaces of the larynx and trachea

directly from clinical endoscopy videos using a computer vision algorithm, Structure from Motion (SfM).

Methods: SfM reconstructions of laryngotracheal surfaces were compared against CT imaging in three patients. Standard laryngoscopy was performed with a 4mm 0-degree endoscope (Storz, Tuttlingen, Germany). Endoscopy videos were recorded at 1080p and 30fps. Prior to endoscopic examination, a series of images were obtained of a chessboard target for calibration of the optical parameters. 3D airway surface reconstruction was performed using COLMAP (Schönberger, Zurich, Switzerland). Accuracy of the SfM reconstruction was evaluated by comparing lateral measurements of airway diameter at the location of the vocal cords and sub-glottis to measurements derived from CT.

Results: A 3D reconstruction incorporating the laryngoscope down through the subglottis was successfully generated for all three patients. Lateral airway diameter measurements from SfM reconstruction (vocal cords: 3.33, 3.79, 1.31mm; subglottis: 4.93, 7.77, 1.13mm) compared well to the same measurements derived from CT images (vocal cords: 3.46, 3.73, 1.35mm; subglottis: 5.02, 8.08, 1.29mm). The average measurement difference and percent error was 0.1 mm and 2% at the vocal cords and 0.2 mm and 6% in the subglottis.

Conclusion: This pilot analysis demonstrates the feasibility of generating anatomically accurate 3D airway reconstructions directly from rigid endoscopy. This technique enables quantitative analysis of complex airway geometries without cross-sectional imaging. It integrates seamlessly with standard clinical endoscopy and has immense clinical potential for improving the understanding and diagnosis of many airway disorders. Work is ongoing to expand the validation of SfM derived surfaces across a larger patient population and integrate the reconstruction modality with computational fluid dynamics and surgical planning.

John Dahl, MD, PhD, MBA
Shaunak Amin, MD
Seth Friedman, MD
Alberto Aliseda (University of Washington)
Seattle Children's Hospital

5/18/2024

01:12 PM–01:18 PM

Grand Ballroom EF

Podium # A3

Dynamic airway obstruction in pediatric patients with cerebral palsy

PODIUM PRESENTATION

Presenter: Elizabeth Fisher
Northwestern University Feinberg School of Medicine

Background: Cerebral palsy (CP) is the most common neuromuscular disorder in children. This population is at increased risk of airway obstruction and pulmonary issues, often requiring tracheostomy placement. While previous studies have characterized sites of dynamic airway obstruction in neurologically compromised children, no studies have focused specifically on children with CP.

Objective: This study aims to characterize the site of airway obstruction in a cohort of children with CP who underwent tracheostomy placement.

Methods: A retrospective chart review was completed of patients who received care for a tracheostomy between 2015-2023 at a single tertiary care medical center. Sites of airway obstruction were identified using operative reports.

Results: 933 patients with tracheostomies were identified, of whom 269 (28.8%) had cerebral palsy and 122 met inclusion criteria. The average age at tracheostomy placement was 4.24 years. The most common indications for tracheostomy placement were: mechanical ventilator dependence (88%), residual upper airway obstruction or hypotonia (13%), and aspiration and/or recurrent respiratory infection (6%). At the time of tracheostomy placement: 38% had a single site of upper airway obstruction, while 27% had multi-level obstruction. The most common sites of upper airway obstruction were the supraglottis (aryepiglottic folds, arytenoids, and epiglottis) (23.0%), tongue base (12%), and the tonsils/pharyngeal wall (8%). 24% of patients had tracheobronchomalacia, and 16% had subglottic stenosis. Among all patients, 4 of 122 (3%) were ultimately decannulated.

Conclusions: Children with cerebral palsy most often receive tracheostomy after failure of noninvasive and surgical therapies. Children with cerebral palsy often receive a tracheostomy at a young age. In addition, many patients present with multi-level obstruction, further mitigating the success rate. Our data also suggests low rates of decannulation in this population.

Taher Valika, MD
Sarah Maurrasse, MD (Yale)

Ann & Robert H. Lurie Children's Hospital of Chicago

5/18/2024

01:18 PM–01:24 PM

Grand Ballroom EF

Podium # A4

The role of childhood diphtheria in the popularization of the tracheostomy

PODIUM PRESENTATION

Presenter: Mariah Servos Li MD
Eastern Virginia Medical School

Introduction: In the mid-nineteenth century, with the world in the grip of repeated diphtheria epidemics, tracheostomy evolved as a potentially lifesaving tool for pediatric patients. Though intubation and antitoxin eventually made it all but unnecessary in diphtheria, this period spurred discussion of technique, complications, and aftercare which advanced the field of airway surgery. Growing

acceptance for tracheostomy allowed twentieth-century physicians to adapt it to chronic respiratory failure and pulmonary toilet and paved the way for it to become one of the most common airway surgeries performed today.

Methods: We performed a literature review with an emphasis on the use of primary sources with the objective of describing the development of tracheostomy during the mid-nineteenth to twentieth century.

Results: Tracheostomy has been used in the treatment of upper airway obstruction from foreign body since the second and third centuries B.C.E. Pierre Fidele Bretonneau and his pupil Armand Trousseau first performed it in cases of diphtheria. Diphtheria was a common childhood illness in the nineteenth century caused by Corynebacterium diphtheriae which was feared for its ability to cause pseudomembrane of the throat. By 1887 over 20,000 tracheostomies had been performed in the treatment of diphtheria in Europe and America. Disagreements abounded over anesthetic, placement, and post-operative care. There was widespread discussion in medical literature. Though intubation and finally diphtheria antitoxin replaced tracheostomy in the treatment of these patients, the rate of tracheostomy use for upper airway obstruction of other etiologies increased after this period of development.

Discussion: The use of tracheostomy in pediatric patients with diphtheria was instrumental in the standardization of the procedure, the treatment of its complications, and social acceptance of the practice as a treatment for upper airway obstruction. Today, although most of us will never see a case of diphtheria, we continue to face patients in what Scottish surgeon James Spence called "the agonies of suffocation." That we have the tools to manage complex airway obstruction comes in part from the heroic efforts of the physicians of the nineteenth century, who despite heartbreaking losses, advanced the technique of tracheostomy in their fight against childhood diphtheria.

David Darrow, MD
Children's Hospital of The King's Daughters

5/18/2024

01:24 PM–01:30 PM

Grand Ballroom EF

Podium # A5

Meta-analysis of glottis widening procedures to avoid tracheotomy in neonatal bilateral vocal cord paralysis

PODIUM PRESENTATION

Presenter: Talal Al-khatib MD
King Abdulaziz University

Objective: to evaluate the efficacy of various glottic widening procedures (GWPs) performed to avoid tracheotomy in neonatal bilateral vocal cord paralysis.

Methods: We searched PubMed, SCOPUS, Web of Science, and Cochrane Library for relevant studies assessing different interventions for the management of pediatric BVCP. These GWP include Botox injection, anterior and posterior cricoid splits, suture lateralization, and other surgical intervention. A risk of bias assessment was performed using the NIH tool. We included the following outcomes: Clinical improvement, incidence of complications, incidence of aspiration, decannulation, requiring additional procedures, and avoiding tracheotomy.

Results: We included 27 studies that met our inclusion criteria. We found that the success for GWPs to avoid tracheotomy was 84.7% for Botox injection, 63.7% for suture lateralization, 61.4% for anterior and posterior cricoid splits, and 60.2% for other surgical interventions. The later included cordotomy, arytenoidectomy, and arytenoid separation. The complication rate was 6.4% for anterior and posterior cricoid splits, 6% for Botox injection, 5% for suture lateralization, and 2% for other surgical interventions. Regarding the clinical improvement, the pooled proportion of Botox injection and suture lateralization was 90% and 84.3%, respectively. Regarding the aspiration outcome, the pooled proportion of other surgical interventions and suture lateralization was 7.2% and 10.3%, respectively.

Conclusion: The various GWPs avoided tracheotomy in 84.7-60.2% of the cases. The complication rate ranged from 2%- 6.4% with anterior and posterior splits having the highest rate. Aspiration was seen with suture lateralization and other surgical interventions. The injection of botulinum toxin showed the highest rate to avoid tracheotomy with a comparable complication rate as other GWPs.

Shahad Abdu
King Abdulaziz University

5/18/2024

01:30 PM–01:36 PM

Grand Ballroom EF

Podium # A6

The Ingestion Question: Public knowledge of safe food introduction in children

PODIUM PRESENTATION

Presenter: Alexander Treble MD
Toronto Hospital for Sick Children

Introduction: National guidelines advise delaying initiation of solid food until after 4-6 months of age and avoiding "high-risk" foods under the age of 4 years. However, foreign body aspiration of food remains a common preventable pediatric otolaryngological emergency. Our primary aim was to investigate public knowledge regarding the safe age of introduction of different foods to children and determine if demographic factors affect this knowledge.

Methods: An online survey was designed following a literature review and adjusted through an iterative process by an expert panel. The final survey included 3 sections: demographic data, knowledge of age of safe food ingestion in supervised and unsupervised environments. Common foods were categorized by

risk: low (e.g. puree), medium (e.g. crackers with seeds, pieces of apple), and high (e.g. whole nuts, hard candy) as suggested by the United States Infant Nutrition and Feeding Guide. The survey was distributed via multiple social media platforms.

Results: There were 169 responses (77.5% completion rate). 78.6% of respondents were aged 25-44 years. The majority of respondents (74.8%) had or cared for children and 34.4% were medical professionals. A high proportion of respondents (n=52, 30.7%) would offer high-risk foods to children <2 years of age and even more (n=114, 67.6%) to children <3 years of age. The majority of respondents (n=125, 74%) would offer whole nuts to supervised children under age 4 and 42.8% would do so in an unsupervised environment. Responses from those with medical training and/or experience caring for children were not significantly different than the rest of respondents.

Discussion: Even though the public has an overall appreciation of low, medium and high-risk foods, a significant proportion would feel comfortable offering high-risk foods to children under 2 and 3 years. Further research into effective public education strategies on safe food introduction in children are warranted.

Nikolaus Wolter, MD, MSc, FRCSC
Jennifer Siu
Blake Pepsin, MD
Evan Propst, MD, MSc, FRCSC
Toronto Hospital for Sick Children

5/18/2024

01:36 PM–01:42 PM

Grand Ballroom EF

Podium # A7

Thymic Cyst and Mass Perinatal Airway Obstruction: A Quantitative Analysis

PODIUM PRESENTATION

Presenter: Samantha Barr
University of Wisconsin School of Medicine and Public Health

Background: Congenital neonatal airway obstruction (CNAO) is one of the most common, life-threatening conditions diagnosed in neonates. Thymic cyst and mass (TCM) are one such pathology of CNAO, which carries the risk of respiratory distress and complications upon delivery. TCM are rare, and lack of data prevents consensus on its management.

Hypothesis: This study aims to support clinical counseling by characterizing the epidemiology, airway interventions, clinical complications and outcomes of neonates with TCM as compared to unaffected birth hospitalization encounters.

Methods: This study was a multi-institutional, retrospective analysis using the Healthcare Cost and Utilization Project database. The database includes a nationally representative sample which we evaluated for all birth hospitalization encounters, including live and stillbirths, from the year 2000 to 2019. The study cohort was stratified by neonatal patients with a coded diagnosis for TCM (n=142) and those without (n=26,974,900). Incidence of TCM was estimated, and the cohorts were compared across gestational age, airway interventions, complications, and survival.

Results: The mean weighted incidence of TCM from 2000 to 2019 was 6 per 1 million birth visits. Preterm birth was more frequent among those with TCM (12.6%) than those without (6.6%), as was overall intervention rate (8.0% vs 1.7%). In the affected group, the most common intervention used on day of life 0 or 1 was intubation and thereafter was thymectomy. Complications were more frequent for those with TCM (77.1% vs 6.9%) with the most frequent complications being acute respiratory distress/failure (37.2%), cardiac arrest (24.4%), and hypoxic-ischemic encephalopathy (5.7%). The affected group had a longer median hospital stay (2.5 ± 0.2 vs 1.6 ± 0.006) and greater total charges ($8,200±600 vs $2,600±16). Additionally, mortality was higher among neonates with a thymic cyst or mass diagnosis (4.3% vs 0.3%).

Discussion: TCM in newborns are associated with increased preterm birth as well as clinical interventions, complications, and negative outcomes. These data are essential to provide clinicians support for counseling families and planning for delivery and management of thymic cyst and mass.

Michael Puricelli, MD
Johanna Ellefson
Maya Matabele
Manasa Venkatesh
University of Wisconsin School of Medicine and Public Health

5/18/2024

01:42 PM–01:48 PM

Grand Ballroom EF

Podium #A8

Oral Sucrose for Analgesia in Infants Undergoing Flexible Nasolaryngoscopy: A Randomized Pilot Study

PODIUM PRESENTATION

Presenter: Meghan Tepsich
The Hospital for Sick Children

Introduction: Flexible nasolaryngoscopy (FNL) is a common, painful procedure performed to assess the upper airway in infants. It is well-established that undertreated pain early in life can alter long-term pain responses. Oral sucrose is used during various painful procedures in infants such as heel lance and venipuncture but has not been used routinely as an adjunct during FNL. Our objective is to understand the impact of oral sucrose on pain in infants undergoing FNL.

Methods: Infants (<12 months-old) undergoing FNL in the otolaryngology clinic were randomized to treatment (0.1 ml 22% sucrose by mouth) or control (no treatment). Sucrose was administered within 2 minutes prior to FNL performed by a single endoscopist. Primary outcome measures included the EVENDOL

pediatric pain rating scale, cry duration, and clinic visit duration. These outcome measures were assessed by dedicated observer who was blinded to treatment group.

Results: 16 infants were treated with sucrose and 18 infants were controls. The median (IQR) age was 3 (2-7.5) months. There were no statistically significant differences between age, gestational age, or sex between groups. The median (IQR) duration of FNL was 35.4 (26-38.1) seconds and 45.5 (26-64.4) seconds for control and treatment groups, respectively. Median (IQR) pain scores were significantly lower in the treatment group [4.5 (3.8-8.6)] than control [7 (5.3-8)] (p=0.01). Cry duration after FNL was significantly shorter in the treatment group [26.7 (15.8-49.7) seconds], compared to control [38.0 (22-85.1) seconds] (p=0.04). Median (IQR) visit duration did not differ significantly between groups (1.1 (0.8-1.3) vs. 0.8(0.7-1.1) hours (p=0.13).

Conclusion: Oral sucrose given to infants before FNL significantly reduced pain scores and cry duration after FNL in this pilot randomized study. Use of oral sucrose did not significantly prolong clinic visits and may be a useful adjunct to airway assessments in infants.

Jennifer Siu
Nikolaus Wolter
Evan Propst
The Hospital for Sick Children

5/18/2024

01:48 PM–01:54 PM

Grand Ballroom EF

Podium #A9

Incidence of recurrent respiratory papillomatosis in the post-HPV vaccination era (2007-2022).

PODIUM PRESENTATION

Presenter: Z. Jason Qian MD
Stanford University

Background: Since initial FDA approval in 2006, HPV vaccination has had a profound effect on the incidence of RRP. However, longitudinal (10+ year) trends in RRP incidence in relation to vaccination programs have not been described.

Methods: New diagnoses of RRP in children were queried from the MarketScan claims database from 2007-2022. To assess for changing trends in national incidence, segmented linear regression was performed with breakpoints identified between linear segments, where slope of each segment represented annual change in cases (ACC [95% CI]). To compare changes in incidence between high and low HPV vaccination states, pairwise comparison of overall regression slopes between states above and below the mean national rate per the CDC was performed.

Results: We identified 2,086 new diagnoses of RRP during 2007-2022. Segmented linear regression identified two breakpoints: 2011.00 (95% CI 2009.36, 2012.64) and 2015.54 (95% CI 2013.46, 2017.61). During 2007.00-2011.00, there was no significant change in incidence (ACC = -2.86 [-14.86, 9.13]); during 2011.00-2015.54, there a steep decrease in incidence (ACC = -36.33 [-53.29, -13.37]); and during 2015.54-2022.00, there was a moderate decrease in incidence (ACC = -12.16 [-21.23, -3.09]). States above the mean national HPV vaccinate rate experienced a greater decline in RRP incidence than states below the national mean (difference = -4.22 cases/year [-6.74, -1.70]).

Conclusion: Incidence of RRP in children has decreased since FDA approval of HPV vaccination, with higher vaccination rates associated with greater improvement in RRP incidence. These results advocate for HPV vaccination in the US and globally.

Daniel Penaranda, MD, MSc
Tulio Valdez, MD, MSc
Karthik Balakrishnan, MD, MPH, FAAP, FACS
Stanford University

5/18/2024

01:54 PM–02:00 PM

Grand Ballroom EF

Podium # A10

Title: Prevalence of synchronous airway lesions in young children undergoing adenotonsillectomy

PODIUM PRESENTATION

Presenter: Ethan Frank MD
Rady Childrens Hospital/UC San Diego

Introduction: While adenotonsillectomy is the first-line treatment for children with obstructive sleep apnea (OSA), its treatment efficacy is notably lower in younger children—particularly under 3.1 Reasons for treatment failure remain unclear, but synchronous airway lesions have been proposed as a contributing factor. Various concurrent pathologies have been reported in up to 67% of children undergoing either adenotonsillectomy or drug induced sleep endoscopy; however, the impact of these lesions is uncertain.2,3

Methods: Retrospective review of children aged 0-3 having concurrent adenotonsillectomy and rigid bronchoscopy between 2011 and 2023 at an academic children's hospital. Patients with prior bronchoscopy or airway diagnosis were excluded. Data analysis was carried out in R (v. 4.3.1).

Results: Two hundred and thirty-four children were included. Average age was 2.2 years. Indication for surgery was OSA in 51.7% and sleep disordered breathing in 48.2%. Pathology was seen on bronchoscopy in 54%. Laryngomalacia was noted in 23.1%, subglottic stenosis in 18.4%, and subglottic cysts in 0.8%. Tracheal pathology was seen in 17.5%, bronchial in 8.5%, and glottic in 7.3%. Subglottic stenosis patterns were circumferential (46.5%), elliptical (48.8%), and anterior shelving (4.7%). Tracheal findings included extrinsic compression (53.7%), tracheomalacia (39%), and complete rings (7.3%). Bronchial findings were stenosis (12.5%), extrinsic compression (4.2%), and bronchomalacia (83.3%). Glottic pathology included nodules (64.7%), unilateral

paresis (17.6%), granuloma (5.9%), ventricular cyst (5.9%), and mucosal abnormality (5.9%).

Pathology was found at one level in 68.5%, two in 25.2%, and three in 6.3%. Aerodigestive team referrals were generated for 8.7% for patients with a synchronous lesion, 7.9% underwent further workup, and 3.1% required surgery. There were no significant differences in change in polysomnogram data or persistence of symptoms between patients with or without synchronous airway lesion.

Conclusions: Synchronous airway lesions are common in children requiring adenotonsillectomy at a young age and commonly occur at multiple levels. Most lesions identified will be managed conservatively; however, a small group will require further surgery.

References:

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Matthew Brigger, MD
Julian Cortes
Rady Childrens Hospital/UC San Diego

5/18/2024

02:00 PM–02:05 PM

Grand Ballroom EF

Q & A

5/18/2024

02:05 PM–02:55 PM

Grand Ballroom EF

Panel #4

Head and Neck I: Innovations

PANEL

Moderator: Ken Kazahaya MD, MBA, FACS, FAAP
Children's Hospital of Philadelphia

Panelists: Jake Dahl, MD; Jennifer Brooks, MD, MPH; Jeff Rastatter, MD; Carlton Zdanski,MD; Doug Johnston, MD

QUICK SHOT PRESENTATIONS

MODERATOR

Moderator: Ben Hartley MBBS BSc FRCS
Consultant Paediatric Otolaryngologist at Great Ormond Street Hospital for Children
and Honorary Senior Lecturer at University College London

5/18/2024

02:55 PM–02:58 PM

Grand Ballroom EF

QS #A7

Long-Term Serial Tracheal Stenting and Percutaneous Anterior Suture Tracheopexy for Treatment of Major Tracheal Wall Defect and Tracheomalacia

QUICK SHOT PRESENTATION

Presenter: Michael Belsky MD, MS
Stanford University

Introduction: This case report describes minimally invasive techniques used to successfully manage a long-segment tracheal wall defect and its sequelae, including serial tracheal stenting for over 2 years followed by percutaneous anterior suture tracheopexy.

Case Description: The patient is a 14-year-old female who presented with T-cell lymphoblastic lymphoma and a mediastinal mass abutting the trachea, resulting in respiratory failure requiring intubation. After systemic chemotherapy, bronchoscopy revealed a 3.5 cm full-thickness defect of the anterior and left lateral walls of the mid-trachea secondary to tumor necrosis. The patient remained nasally intubated to allow healing. One month later, the patient underwent endoscopic debulking of residual vs. infiltrative tumor and tracheal stent placement to facilitate further chemotherapy while retaining airway patency without further intubation. The patient underwent 23 serial outpatient bronchoscopy procedures over 28 months for stent replacement, granulation removal, and tracheal dilation with steroid injection as needed. Open tracheal reconstruction was avoided due to her tenuous clinical status and social/familial reasons.

The tracheal defect healed over time and the patient completed chemotherapy, but she had deficient cartilage at the defect with severe tracheal collapse. The patient underwent endoscopic-assisted percutaneous suture tracheopexy for definitive correction of residual tracheomalacia after stent removal. Non-absorbable sutures were placed percutaneously into the tracheal lumen to suspend the trachea at residual points of maximal collapse/weakness to anterior neck soft tissue. This resulted in immediate resolution of collapsibility during spontaneous breathing. The patient reported complete absence of breathing difficulty, even with exertion. Endoscopic examination 3 months post-operatively

revealed well-healed mucosa and minimal dynamic mobility with spontaneous ventilation.

Discussion: Serial long-term tracheal stenting offers an effective but labor-intensive endoscopic approach to allow for healing of severe tracheal wall defects and maintaining airway patency. Percutaneous anterior tracheopexy is a useful minimally invasive adjunct for managing subsequent tracheomalacia in select pediatric patients.

Karthik Balakrishnan, MD, MPH, FAAP, FACS
Grace Kim, MD
Taseer Din, MBChB, MMed, FCORL
Travis Reece-Nguyen, MD, MPH, FAAP
Stanford University

5/18/2024

02:58 PM–03:01 PM

Grand Ballroom EF

QS #A8

The significance of Functional Status Scale in Decannulation after Pediatric Tracheostomy

QUICK SHOT PRESENTATION

Presenter: Nicholas Randloph
University of Maryland School of Medicine

Objective: To evaluate if the Functional Status Scale (FSS) of pediatric patients with tracheostomy at discharge from the pediatric intensive care unit (PICU), one and three-years later impacts decannulation outcomes.

Methods: Retrospective review of patients who were admitted to the PICU and underwent tracheostomy at a tertiary care children's hospital from 2010-2019. Baseline demographics, comorbidities, tracheostomy indication, decannulation status, and FSS scores were recorded at PICU discharge, one- and three-years after tracheostomy. Logistic regression analysis was performed to assess association of FSS components with decannulation status at 3 years.

Results: Fifty-three patients met inclusion criteria. The mean age at tracheostomy was 73.2 days [95% Confidence Interval (CI) 30.4 – 116.0]. Average gestational age was 34.3 weeks [95% CI 32.7 – 35.9]. Thirty-four (64.2%) had a pulmonary diagnosis on admission, while 28 (52.8%) had a cardiac diagnosis. A majority (28, 52.8%) underwent tracheostomy for airway obstruction. Forty (75.5%) had complete data. Then mean age at one- and three-years post-tracheostomy were 23.2 months [95% CI 15.2 – 31.2] and 44.6 months [95% CI 34.2 – 55.0], respectively. There were no decannulations at 1 year. Nine (22.5%) were decannulated at 3 years. An abnormal motor FSS score at PICU discharge was associated with an odds ratio (OR) of 4.1 [95% CI: 1.0–16.4, p = .05] of maintaining the tracheostomy at 3 years. An abnormal 3 year FSS score in the feeding domain was significantly associated with maintaining a tracheostomy at 3 years, with an OR of 7.4 [95% CI: 1.5 – 36.6, p = .01] to maintain the appliance. An abnormal 3 year score in motor domain showed an higher odds ratio of 4.5 [95% CI: 1.0–18.2] of maintaining the tracheostomy, though this did not reach significance (p = .06).

Conclusions: Pediatric tracheostomy has been associated with long term morbidity impacting multiple organ systems. Persistent abnormalities in the feeding and motor domains are negatively associated with decannulation. This information may help caregivers plan for short- and long-term resources and improve the quality of care in these patients.

Adrian Holloway, MD
Nicholas Randolph
Kevin Pereira, MD
Ji Li
University of Maryland School of Medicine

5/18/2024

03:01 PM–03:04 PM

Grand Ballroom EF

QS #C1

Parent-child Variation in VELO Scores: Highlighting the Value of Dual Perspectives

QUICK SHOT PRESENTATION

Presenter: Wesley Allen
University of Utah School of Medicine

Background: The VPI Effects on Life Outcome questionnaire (VELO) is used to assess quality of life effects of Velopharyngeal Insufficiency (VPI) on pediatric patients and their parents, with higher summative scores representing a more severe impact. Although both the patient/parent questionnaires have independently demonstrated accuracy and reliability, the unique contributions of each at the subscale level have yet to be thoroughly analyzed.

Hypothesis: Parent-child VELO scores may differ on a subscale level due to differences in perspective and caregiver stress.

Methods: Dyadic parent-child VELO scores were collected within a multidisciplinary craniofacial clinic from January 2020 to August 2023 (N=125 dyads). Mean differences were assessed across each of the following VELO subscales: speech limitations, swallowing problems, situational difficulty, emotional impact, and perception by others. Caregiver impact score (three items within parent survey) and overall patient-parent score discordance were also assessed.

Results: Parents reported higher summative scores overall (19.8, CI95%=[16.7-23.0] vs 15.0, CI95%=[12.5-17.4], p<.0001); however, means differed across VELO subscales. Parents reported lower scores in speech limitations (5.8, CI95%=[4.9-6.6] vs 7.7, CI95%=[6.6-8.7], p<.0001), but higher in swallowing problems (3.1, CI95%=[2.6-3.6] vs 0.5, CI95%=[0.3-0.7], p<.0001) and higher in perception by others (2.7, CI95%=[2.1-3.3] vs 0.9, CI95%=[0.5-1.2], p<.0001). Compared to parents who reported equal or lower scores than their child (43.2%), those who reported

higher total scores (56.8%) had higher mean caregiver impact scores (3.4 vs. 0.5, p<0.0001).

Discussion: Differences were observed in various VELO subscales, with parents showing higher concern in areas such as swallowing problems and perception by others. Additionally, parents reporting higher caregiver impact scores were more likely to report higher total scores than their child, which may indicate increased need for caregiver support. When possible, both patient and parent VELO scores should be collected, as each appears to provide unique perspectives. Further research is warranted to investigate the impact of these differences within patient care.

Jeremy Meier, MD
JB Eyring
Brandon Hemeyer, MD
Leith Bayazid, MD
University of Utah School of Medicine

5/18/2024

02:55 PM–02:58 PM

Grand Ballroom EF

QS #A9

Tracheostomy related adverse events: Is there a weight-related association in pediatric patients?

QUICK SHOT PRESENTATION

Presenter: Mele Mafi
Boston Children's Hospital

Background: Adults have an increased risk of tracheostomy complications as body mass increases. A similar association has not been established to date in the pediatric age group. This study assesses the relationship between weight for length percentile or body mass index (BMI) and adverse tracheostomy related events in infants, children and adolescents.

Hypothesis: Higher weight in pediatric patients with tracheostomy is associated with increased risk of tracheostomy events.

Methods: The Global Tracheostomy Collaborative database was reviewed for patients less than 20 years of age who underwent tracheostomy between 2011-2023. Data collection included age, weight, height, comorbidities, tracheostomy indication, and adverse tracheostomy events. Weight to length percentile for patients less than 2 years, and BMI percentiles for patients 2 years or older, were calculated. Logistic regression models were used to assess association of weight for length percentiles/BMI, demographics, and comorbidities with adverse event outcome.

Results: Of 550 patients (mean [SD] age, 3.9 [5.8] years), 108 had at least one tracheostomy adverse event. Common complications included skin-related issues (19.4%), tracheostomy bleeding (17.6%), suprastomal granulation tissue (15.8%), unplanned decannulation (14.8%), and tracheostomy tube obstruction (13%). No significant association between adverse events was identified for high vs. healthy weight for length percentile [OR=1.24 (95% CI: 0.61, 2.53)], nor for high vs. healthy BMI percentiles [OR=1.60 (95% CI: 0.74,3.45)]. 18% of patients with healthy weight to length percentile had an adverse event compared to 21% in the overweight category. 21% of patients with a healthy BMI had an adverse event compared to 30% of obese or overweight patients.

Discussion: Neither higher weight for length percentiles in infants nor increased BMI in children demonstrated a statistically significant increase of tracheostomy related adverse events. The comparatively higher percentages of adverse events observed in obese and overweight children may, however, have clinical significance, suggesting more attentive postoperative care could potentially improve tracheostomy outcomes in this population.

Karen Watters, MB, BCh, BAO, MPH
Mele Mafi
Hae-Young Kim, MD
Michael Cunningham, MD, FACS
Boston Children's Hospital

5/18/2024

02:58 PM–03:01 PM

Grand Ballroom EF

QS #A10

Cleft Spectrum Perinatal Airway Management: A Quantitative Analysis

QUICK SHOT PRESENTATION

Presenter: Johanna Ellefson
University of Wisconsin-Madison School of Medicine and Public Health

Introduction: Cleft spectrum anomalies may increase the risk of airway obstruction at birth. Delivery at a more resourced facility or predelivery mobilization facilitates faster initiation of advanced treatment, but there is insufficient data examining the need in patients with cleft lip (CL), cleft palate (CP), or cleft lip and palate (CLP). This study aims to compare birth hospitalization data to inform delivery planning in individuals diagnosed prenatally with cleft spectrum anomalies.

Methods: Birth hospitalization data were extracted from the Healthcare Cost and Utilization Project (HCUP) Kids' Inpatient Database between 2000 and 2019. Individuals were segregated into unaffected, CL, CP, and CLP. Epidemiology, perinatal airway procedure performance, airway procedure performance according to gestational age, complications, and survival were examined. The Rao-Scott chi-square test was used for statistical comparison.

Results: The mean weighted incidence of cleft spectrum anomalies was 127 per 100,000 birth visits. Perinatal airway intervention was performed in 1.70% of unaffected individuals, 2.60% with CL, 5.16% with CLP, and 6.46% with CP. The most frequent intervention was intubation, while surgical airway was performed only in the group with CP. Compared to unaffected individuals, the odds of receiving cardiopulmonary resuscitation were 6-fold greater in CP and 3-fold greater in CLP. Among individuals receiving airway interventions, hypoxic complications or mortality were more frequent in patients with CP or CLP. Preterm delivery occurred

more frequently among patients with cleft spectrum anomalies but did not account for the elevated rate of airway intervention. Survival occurred in 99.7% of the unaffected, 98.44% with CL, 97.12% with CP, and 95.80% with CLP.

Discussion: Individuals with cleft spectrum anomalies have an increased rate and complexity of perinatal airway intervention. Outcomes for individuals with CP and CLP are poorer than unaffected individuals. These benchmark data support delivery planning and informed decision-making.

Michael Puricelli, MD
Samantha Barr
Maya Matabele
Manasa Venkatesh
University of Wisconsin-Madison School of Medicine and Public Health

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5/18/2024

03:01 PM–03:04 PM

Grand Ballroom EF

QS #A11

Multidisciplinary and multi-institutional collaboration for at-home nasogastric tube management: Passport Home Program

QUICK SHOT PRESENTATION

Presenter: Margaret Mitchell MD
Massachusette's Eye and Ear

Background: Need for enteral feeding is a major factor leading to prolonged hospitalizations for infants who ultimately either progress fully to oral nutrition or undergo placement of gastrostomy tube before discharge. Our group proposed a potential third option—discharge home with nutrition via nasogastric tube (NGT) managed by caregivers.

Hypothesis: Our objective was to develop a cross-institutional and multidisciplinary pathway to educate and support parents managing NGTs at home; we hypothesized this was feasible with key stakeholder buy-in.

Methods: Experts from four institutions across our hospital system representing key stakeholders discussed important elements of patient selection and parental education and support. A program was created, "Passport Home Program," based upon a series of interviews with parents, nurses, otolaryngologists, neonatal intensivists, and pediatricians, amongst others. Infants are identified with prolonged need for enteral nutrition, and parents are offered at-home NGT management training and a consult with a trained nursing case manager.

Results: Standardized educational materials for families were created and consist of an in-hospital educational curriculum with specific competency thresholds required prior to discharge, including demonstrating NGT replacement with confirmation with pH testing paper. A discharge kit including a QR code for a video reviewing safe technique for home NGT placement is distributed to parents along with instructions on how to reach the Aerodigestive and Transition to Home team. Additionally, members of an emergency department were trained in NGT replacement in case of at-home issues after business hours. Each patient is followed in a dedicated outpatient multi-disciplinary clinic.

Discussion: This is a multidisciplinary and multi-institutional effort to standardize a pathway for neonates discharged home with NGTs. The dual competency-based NGT management education for parents is the first of its kind and a step towards earlier discharge. Collection and analysis of specific outcomes will help refine this best practice algorithm which serves broadly as an example pathway applicable across fields of medicine

Christoper Hartnick, MD, MS
Kevin Callans, RN, BSN
Mollie Warren, MD
Massachusette's Eye and Ear / Harvard

5/18/2024

03:04 PM–03:07 PM

Grand Ballroom EF

QS #A12

Laryngeal mask airway in pediatric tonsillectomy and adenoidectomy: a large cohort analysis

QUICK SHOT PRESENTATION

Presenter: Travis Peng
Northwell Health

Introduction: Tonsillectomy and adenoidectomy are among some of the most widely performed surgical procedures, often recommended for pediatric patients suffering from recurrent throat infections or sleep disordered breathing, with over 500,000 cases annually in the US alone. While endotracheal intubation (ETT) is typically used during these procedures, airway management may also be performed using laryngeal mask airway (LMA), which has been shown to have less airway irritation, and decreased operating room times.

Objectives: The purpose of this study is to share our experiences using LMA in tonsillectomy and adenoidectomy. To our knowledge, this study represents the largest cohort published to date on this subject.

Methods: Pediatric patients undergoing tonsillectomy and adenoidectomy with LMA between July 1, 2018 to December 31, 2022 were reviewed for complications or conversion to ETT.

Results: We report a total of 1585 cases using LMA including cases with adenoidectomy alone (n=527), tonsillectomy alone (n=43), and tonsillectomy performed with adenoidectomy (n=1015). Of these cases, 0.3% incurred laryngospasm or desaturation event (n=3). In 1.6% cases, the LMA was converted to ETT due to poor fit or other circumstances (n=16), with surgeries completed without further incident. There were no significant clinical complications.

Conclusion: This study provides compelling evidence supporting the use of LMA as a viable option in airway management for tonsillectomy and adenoidectomy. The low conversion rate and absence of poor clinical outcomes underscore the safety and efficacy of LMA. In light of these findings, the adoption of LMA in tonsillectomy and adenoidectomy procedures warrants serious consideration for future surgical protocol and improved patient comfort.

Lee P. Smith, MD
Matthew Saleem

Northwell Health

5/18/2024

03:07 PM–03:10 PM

Grand Ballroom EF

QS #C2

Development of a Novel Diagnostic Modality for Upper Airway Obstruction via Integrating Dynamic Computed Tomography with Computational Fluid Dynamics

QUICK SHOT PRESENTATION

Presenter: Shaunak Amin MD
University of Washington (Seattle Children's Hospital)

Introduction: Robin Sequence (RS) is a complex craniofacial disorder which causes variable degrees of upper airway obstruction (UAO). Reliable evaluation of UAO severity and location of primary obstruction in RS is crucial for treatment decision making and long-term development of the patient. However, quantitative predictors of both the need for surgical intervention and the outcome of the intervention are lacking. We aim to develop and validate a novel diagnostic modality to quantify UAO in patients with RS.

Methods: Clinical and imaging data were retrospectively collected for 8 patients with RS who underwent dynamic upper airway computed tomography (4D-CT). 4D-CT data were analyzed using computational fluid dynamics methodologies (CFD). For each subject the following CFD variables were calculated: airway resistance, peak velocity, energy dissipation, minimal cross-sectional area, jet formation, and location of maximum obstruction. These metrics were correlated with clinical data including method of respiratory support, level of respiratory support, blood CO2 level, and polysomnogram.

Results: The integration of 4D-CT with CFD yielded an anatomically precise representation of UAO with physiologic flow metrics obtained at each site of obstruction. The two most severe patients had 40x, 20x, and 6x greater values than the least severe two patients for resistance, viscous dissipation, and peak velocity. Minimal cross-sectional area did not correlate with clinical severity. Further, the most clinically severe patients had abnormally strong and jet formation and energetic breakdown downstream of the obstructions when compared to the less clinically severe patients.

Discussion: Initial comparison of the 4D-CT/CFD based diagnostic modality showed CFD metrics correlated with clinical severity in a limited sample of patients however each RS patient/family had numerous individual factors that impacted treatment decisions. The novel 4D-CT/CFD based platform for quantifying and localizing UAO has the potential to revolutionize the diagnostic approach for neonates and young children with UAO. Additional technology and clinical validation are required before this modality can be implemented into widespread clinical practice.

John Dahl, MD, PhD, MBA
Michael Barbour, PhD
Alberto Aliseda
Clare Richardson, MD
University of Washington / Seattle Children's Hospital)

5/18/2024

03:10 PM–03:25 PM

Grand Ballroom EF

Break

5/18/2024

03:25 PM–04:10 PM

Grand Ballroom EF

Panel #5

Plastics and Craniofacial I: Innovations

PANEL

Moderator: Scott Rickert MD
NYU Langone

Panelists: Melissa Scholes, MD; Kelly Evans, MD; Andrew Scott, MD; Jon Skirko, MD

5/18/2024

04:10 PM–04:55 PM

Grand Ballroom EF

Panel #6

Plastics and Craniofacial II: Practical Approaches

PANEL

Moderator: Zahrah Taufique MD
NYU Langone

Panelists: Brianne Roby, MD; Kathy Sie, MD, Ryan Belcher, MD, MPH

5/18/2024

05:00 PM–05:40 PM

Grand Ballroom EF

Peds Oto Video

Moderator: Jamie Funamura MD
UC Davis Health

5/18/2024

05:00 PM–05:05 PM

Grand Ballroom EF

Peds Oto Video #1

Endoscopic Anterior Laryngotracheal Reconstruction in an Animal Model

PEDS/OTO VIDEO

Presenter: Nasser Almutairi MD
ENT Department, King Saud Uiniversity Medical City, Riyadh, Saudi Arabia

This video describes a novel procedure done in an animal model which is endoscopic anterior laryngotracheal reconstruction using rib graft and the conclusion was it is feasible procedure that can be potentially useful for patients who are candidates for a single stage reconstruction of the subglottis. All steps were tracked in the video with subtitiles.

Ahmed Alammar, MD
Bshair Aldriweesh, MD
Waleed Alshareef, MD
Abdullah Sindi, MD
ENT Department, King Saud Uiniversity Medical City, Riyadh, Saudi Arabia

5/18/2024

05:05 PM–05:10 PM

Grand Ballroom EF

Peds Oto Video #2

The In Utero Floor of Mouth Mass

PEDS/OTO VIDEO

Presenter: Jeremy Feintuch MD
Montefiore Medical Center

This video shows the progression of the work up, management, decision making and ultimate treatment of a floor of mouth mass that was first noted in utero in a baby girl. When this was originally found on routine newborn ultrasound, there was obvious concern for the patency of the baby's airway. There were discussions whether this necessitated an EXIT procedure, an attended C-Section or an attended induced vaginal delivery. An EXIT procedure and C-Section have the advantage of being more controlled in terms of time of delivery but has the morbidity of a procedure for Mom. An attended induced vaginal delivery has the advantage of being less morbid for Mom but can apply some stress onto the baby. Due to prenatal factors that were noted, such as mild polyhydraminos, patent fluid in nasotracheal airway and team's confidence in being able to secure the airway at birth, decision was made to attempt attended induced vaginal delivery. Careful coordination between pediatric otolaryngology, OBGYN, NICU team and radiology, we were able to safely deliver the baby, nasotracheally intubate the baby, obtain an MRI and then proceed to the OR for excision of the mass on day of life 0. Post-operatively, the patient recovered very well and is now tolerating feeds by mouth and is thriving. This video highlights the excellent coordination of care between multiple subspecialties and the actions of each team helped lead to a great outcome.

Neha Patel, MD
LIJ/Cohen's Medical Center

5/18/2024

05:10 PM–05:15 PM

Grand Ballroom EF

Peds Oto Video #3

External Puncture Epiglottopexy for Severe Type III Laryngomalacia

PEDS/OTO VIDEO

Presenter: Steven Engebretsen DO
Pediatric Otolaryngology Head and Neck Surgery, University of California San Francisco, San Francisco, CA, USA

Type III laryngomalacia is typically treated with epiglottopexy. Common techniques include endoscopic de-mucosalization with or without suture techniques. This video describes a little known technique first described in 2019 by Álverez-Neri et al. This percutaneous approach is indicated in severe laryngomalacia especially for infants where purely endoscopic methods would be difficult or de-mucosalization alone is deemed insufficient. This video displays the technical aspects of performing the percutaneous endoscopic epiglottopexy technique on a 3-month old patient with type III laryngomalacia despite prior conventional supraglottoplasty. This patient had persistent positive pressure ventilation requirements and was unable to be fed by mouth. The patient was treated successfully with this percutaneous technique which led to her ability to be discharged from the hospital to family care and start oral feeding trials.

Nikhil Arora, MD
Garani Nadaraja, MD
Pediatric Otolaryngology Head and Neck Surgery, University of California San Francisco, San Francisco, CA, USA

5/18/2024

05:15 PM–05:20 PM

Grand Ballroom EF

Peds Oto Video #4

Intraoperative real-time localization of a parathyroid adenoma with fluorescence imaging

PEDS/OTO VIDEO

Presenter: Elizabeth Kim MD
Dept. of Otolaryngology, University of Minnesota, Minneapolis, MN, USA

A 14-year-old otherwise healthy male presented with a 3-month history of fatigue and a one-week history of vomiting. Laboratory evaluation revealed hypercalcemia and concurrent elevated PTH consistent with primary hyperparathyroidism. Diagnostic imaging including sestamibi and neck ultrasound were as well localizing and consistent with parathyroid adenoma. His calcium was stabilized medically and he was scheduled for surgery the following week. While management of primary hyperparathyroidism is well described in the adult, the indications for parathyroidectomy in the pediatric patient is relatively rare. It is also known that locating parathyroid glands can be technically challenging with previously published data supporting higher volume surgeons having higher rates of operative success. Here we present the use of real-time indocyanine green angiography with the Spy fluorescence imaging platform (Stryker Corp., Kalamazoo, MI, USA) as a way to further augment and bolster the chance of operative success in parathyroid gland identification at a high volume pediatric thyroid center.

Brianne Barnett Roby, MD
Brentley Lindsey, MD
Children's Minnesota Pediatric ENT and Facial Plastic Surgery, St. Paul, MN 55102

5/18/2024

05:20 PM–05:25 PM

Grand Ballroom EF

Peds Oto Video #5

Strange Thing in the Larynx

PEDS/OTO VIDEO

Presenter: Joseph Sinnwell MD
Univ of Michigan Pediatric Otolaryngology

The pre- and post-resection flexible laryngoscopy videos and highlights from the microdirect laryngoscopy with resection of a supraglottic Juvenile Xanthogranuloma, a rare benign lesion that most commonly affects the skin. There are informational slides on the disease and its histopathology. This is the only reported supraglottic manifestation of this disease process to our knowledge.

Erin Kirkham, MD
University of Michigan Pediatric otolaryngology

5/18/2024

05:25 PM–05:30 PM

Grand Ballroom EF

Peds Oto Video #6

Reconstruction of Laryngeal and Tracheal Atresia

PEDS/OTO VIDEO

Presenter: Derek Lam MD, MPH
Oregon Health and Science University, Portland OR, USA

The video presents the story of a now 10 year old girl born with VACTERL and a complete laryngeal and partial tracheal atresia, from her birth to her eventual reconstruction to give her an airway and a voice, and her subsequent follow-up.

5/18/2024

05:30 PM–05:35 PM

Grand Ballroom EF

Peds Oto Video #7

Suspension Endoscopy to Remove Difficult Esophageal Foreign Body

PEDS/OTO VIDEO

Presenter: Margaret Aasen MD
Department of Otolaryngology and Communication Sciences, Milwaukee, WI, USA

A 9 month female presented from an outside hospital with 24 hours of gagging and increased oral secretions. Chest x-ray demonstrated radio-opaque object in proximal esophagus. She was taken to the OR for rigid esophagoscopy. The size 3 rigid esophagoscope with a zero degree was inserted into the esophagus. The object was visualized distal to the cricopharyngeus, but was not able to be removed with several different graspers. The patient was placed into suspension with Parson's laryngoscope to improve visualization and to stent open proximal esophagus. The object was then successfully removed using a right angle probe. Subsequent esophagoscopy demonstrated no mucosal injury.

Cecille Sulman, MD
Marc Drake, MD
Department of Otolaryngology and Communication Sciences, Milwaukee, WI, USA

5/18/2024

05:35 PM–05:40 PM

Grand Ballroom EF

Peds Oto Video #8

Tip for Excision of Branchial Cleft Fistulas

PEDS/OTO VIDEO

Presenter: Elie Khalifee MD
Children's Mercy Hospital, Kansas City, MO

We present a "trick of the trade" for identifying branchial cleft fistulas/sinus tracks with the simple idea of mixing antibiotic ointment into methylene blue. We have a case of a 18 month old with a fistula track from the neck to the base of tongue - easily identified on direct laryngoscopy due to this maneuver.

Laura Neff, MD, MPH
Children's Mercy Hospital, Kansas City, MO

5/18/2024

07:00 PM–09:00 PM

ASPO BANQUET/DINNER

5/18/2024

9:50 AM–10:00 AM

Break

5/18/2024

10:00 AM–10:50 AM

Grand Hall GHIJ

Panel #7

Rhinology I: Innovations

PANEL

Moderator: Hassan Ramadan MD
West Virginia University

Panelists: Frank Virgin , MD; Amanda Stapleton, MD; Adam Kimple, MD

PODIUM PRESENTATIONS

MODERATOR

Moderator: Madelin Drusin MD
Oregon Health & Science University

5/18/2024

10:50 AM–10:56 AM

Grand Hall GHIJ

Podium # O1

Outcome Variation after Short-Term Tympanostomy Tube Placement Based on Tube Type

PODIUM PRESENTATION

Presenter: Brandon Hemeyer
Spencer Fox Eccles School of Medicine at the University of Utah

Introduction/Purpose: Tympanostomy tubes vary in time to extrusion by design and material. This study aimed to determine if the likelihood of needing either replacement tubes or additional related surgery varies by initial tube type.

Method: A retrospective cohort of children <3 years old undergoing short-term tympanostomy tube placement in 2018–2019 was identified (N=5993). Tube types included Collar Button Fluoroplastic (CBF), Armstrong Fluoroplastic (AF), and Collar Button Silicone (CBS). Initial and subsequent procedures (myringotomy/tympanostomy tube replacement, tympanostomy tube removal under anesthesia, myringoplasty, and tympanoplasty) were identified (2018–2023). Associations between initial tube type/material and need for additional procedures were assessed.

Results: 15.1% of patients underwent repeat myringotomy/tympanostomy after initial tube placement. AF (17.1%) was more likely than CBF (13.5%) to require subsequent myringotomy/tympanostomy (OR=1.3, CI95%=[1.1-1.6]). CBS (15.3%) did not differ significantly from the fluoroplastic tubes in likelihood of subsequent replacement.

3.6% percent of patients underwent subsequent myringoplasty/tympanoplasty or surgical tube removal. Compared to CBF (5.5%), CBS (1.9%) and AF (2.7%) were less likely to require subsequent myringoplasty/tympanoplasty/tube removal under anesthesia (CBS: OR=0.32,CI95%=[0.22-0.48]; AF: OR=0.47,CI95%=[0.33-0.67]). Fluoroplastic tubes had a higher rate of subsequent myringoplasty/tympanoplasty/tube removal compared to silicone tubes (4.4% vs 1.9%, OR=2.3, CI95%=[1.6-3.2]).

Conclusions: Differences exist in outcomes across common types of short-term tympanostomy tubes. Patients with Armstrong fluoroplastic tubes more often needed replacement tubes but those with collar button fluoroplastic tubes more often required removal under anesthesia or myringoplasty/tympanoplasty. These data suggest silicone tubes may be an optimal short-term tube option. Further research should investigate additional benefits and limitations of various tube types.

Jeremy Meier, MD; JB Eyring; Wesley Allen; Quinn Orb, MD
Spencer Fox Eccles School of Medicine at the University of Utah

5/18/2024

10:56 AM–11:02 AM

Grand Hall GHIJ

Podium # O2

National and Regional Trends in Congenital Cytomegalovirus Infection from 1998 to 2019

PODIUM PRESENTATION

Presenter: Raymond So
Johns Hopkins School of Medicine

Background: Congenital cytomegalovirus (cCMV) is the most common intrauterine fetal infection and causes a quarter of all congenital sensorineural hearing loss. cCMV has historically been under-diagnosed. Several studies have shown increased rates of cCMV diagnosis over time and have theorized that the implementation of newborn hearing screening (NBHS) programs may be a driver. This study aims to analyze temporal changes and to assess the possible effect of NBHS programs on changes in cCMV diagnostic rates.

Methods: Neonates with cCMV infection were identified using discharge data from the National Inpatient Sample from 1998 – 2019. Neonates with cCMV infection were identified via ICD codes and categorized as asymptomatic versus symptomatic and with or without hearing loss. Linear regression and interrupted time series analyses were conducted to analyze changes in diagnostic rates over time. Interrupted analyses were based on the timing of NBHS implementation in geographic regions.

Results: Per 1,000,000 live births, the total number of cCMV diagnoses increased from 109 in 1998 to 250 in 2019 (the estimated annual increase per 1,000,000 live births is 6.89 [95% CI, 5.4-8.4]; $p<0.001$). Diagnosis of cCMV with hearing loss showed a significant annual increase during this time ($p<0.001$), and within this group, diagnosis of both asymptomatic ($p=0.02$) and symptomatic ($p<0.001$) cases increased significantly. Compared to pre-NBHS, the rate of increase in cCMV diagnosis was significantly higher post-NBHS implementation in the Northeast ($p<0.001$) and South ($p=0.008$).

Discussion: Implementation of state NBHS programs correlated with increasing diagnosis rates of cCMV, though cCMV education and awareness may be contributing. cCMV remains under-diagnosed in a large national database.

Carolyn Jenks, MD
Kimberly Noij, MD
Jiangxia Wang

Johns Hopkins School of Medicine

5/18/2024

11:02 AM–11:08 AM

Grand Hall GHIJ

Podium # O3

Addressing Disparities in Hearing-Loss Genetics by Improving Inclusion and Variant Classification for Underrepresented Minority Children

PODIUM PRESENTATION

Presenter: Jacqueline Harris MD
University of California San Francisco

Introduction: Under-represented minority (URM, comprising Hispanic, non-Hispanic Black, and Native American) children with sensorineural hearing loss (SNHL) have 5-fold lower odds of receiving a genetic diagnosis after undergoing hearing-loss gene-panel testing (HL-GPT). These groups have also been underrepresented by 20-fold in published studies on hearing-loss genetics. We seek to address these enormous disparities. Using hearing loss-specific American College of Medical Genetics/American Association of Molecular Pathology (ACMG/AMP) guidelines applied to a URM-specific cohort, this study focuses on re-classifying variants of uncertain significance (VUSs) previously identified in HL-GPT to help with better interpretation and utilization of those results.

Methods: 2772 VUSs from 741 patients with SNHL who underwent HL-GPT (GeneDx) were analyzed. Variant characteristics, including gene, protein, zygosity, inheritance pattern, frequency in control populations (Gnomad) and our URM SNHL population were extracted. Proband characteristics such as age, gender, race, and ethnicity were obtained. Homozygous or compound heterozygous variants in genes with autosomal recessive (AR) disease pattern, and loss-of-function VUSs in autosomal dominant (AD) genes were prioritized for analysis. ACMG/AMP variant interpretation guidelines with hearing-loss expert specification were used to re-classify VUSs as Likely Pathogenic/Pathogenic (LP/P).

Results: Thirty-seven VUSs from 23 unique probands were identified across 15 genes, including KCNQ1, OTOG, OTOGL, CDH23, USH2A and others. Fourteen variants were simple homozygotes, and 21 variants were compound heterozygotes. Three variants were null variants in a gene with an established loss of function as a disease mechanism, and thus classified as LP/P and had yet to be published in any reference database. Using HL-specific ACMG/AMP guidelines, 25 VUSs were reclassified to LP/P, enabling genetic diagnoses to be made in all 23 probands, pending parental testing. The majority of these (22/37, 59.5%) were extremely rare or absent in ancestry-matched databases.

Discussion: This study utilizes hearing-loss specific ACMG/AMP guidelines to reclassify VUSs in a URM population, thus enabling genetic diagnosis in these children and addressing broader disparities in hearing-loss genetics.

Dylan Chan, MD, PhD
Sonia Scaria
Noura Ismail Mohammad
Yesai Park

University of California San Francisco

5/18/2024

11:08 AM–11:14 AM

Grand Hall GHIJ

Podium # O4

fNIRS Evaluation of Differential Cortical Responses to Executive Functioning Stimuli in Hearing Impaired Pediatric Patients with and without Language Delay

PODIUM PRESENTATION

Presenter: Eve Meyer
Massachusetts Eye and Ear

Background: There is an unmet need to understand the role of the prefrontal cortex (PFC) in speech language development in the hearing impaired (HI). fNIRS represents a non-invasive technology that facilitates assessment of auditory and speech processing in subjects by assessing oxy- and deoxy-hemoglobin changes as a proxy for cortical activity. We present a pilot fNIRS study seeking to identify PFC activity in response to executive functioning (EF) tasks in HI patients. This will form the basis for future research into developing personalized treatment strategies in patients with hearing impairment and language delay.

Hypothesis: We hypothesize in this pilot fNIRS study that there will be differential PFC activity in response to EF stimuli in pediatric HI patients with and without language delay.

Methods: 12 HI, pediatric patients, ages 6-16y were enrolled, 6 language-impaired and 6 with normal language skills. fNIRS data were acquired using a NIRx NIRS Sport device with probes of 24 sources and 24 detectors, including 16 short separation channels. Probes covered the frontal and bilateral temporal lobes. The testing paradigm consisted of two EF tests. A digit span task was used to test working memory and a dimensional change card sorting task was used to test inhibitory control. fNIRS data were processed using a general linear model which estimated the hemodynamic response at each probe location using data from the nearest short separation channel as a systemic physiology regressor.

Results: PFC activation was found to be stronger in the normal language versus the delayed language group in both the inhibitory control and working memory conditions.

Discussion: Differential PFC activation between HI pediatric patients with and without language delay was noted in this pilot study. It was observed that HI pediatric patients with normal language development exhibited stronger PFC activation during EF tasks than their language-delayed peers. These findings will provide a foundation for future research on the relationship between PFC activity, language development, and hearing impairment in order to develop targeted therapies.

Leila Mankarious, MD
Stefan Carp, PhD
Massachusetts Eye and Ear / Harvard University

5/18/2024

11:14 AM–11:20 AM

Grand Hall GHIJ

Podium # O5

Pediatric Hearing Loss Intervention Delayed in Association with Lower Socioeconomic Status

PODIUM PRESENTATION

Presenter: Steven Engebretsen MD
University of California San Francisco

Background/Hypothesis: Children from at-risk groups based on socioeconomic factors can be at greater risk for speech and language delays. The 1-3-6 plan was set as a clinical standard to expedite the identification of childhood hearing loss and intervention. Delays in care due to socioeconomic data have been largely reported retrospectively and the causes of these disparities have not been well described. The objective of this study was to prospectively evaluate socioeconomic differences in hearing loss identification and intervention.

Methods: We performed a secondary cohort study of our prospective, randomized clinical trial (ClinicalTrials.gov: NCT04928209). Permanent hearing loss patients aged 0-27 months were enrolled. Time to hearing loss identification by an audiologist and time to hearing intervention were the primary outcomes. Information including household income, parental education level, and insurance status were prospectively collected.

Results: After newborn hearing screening, identification of hearing loss by audiology in 146 patients was made on average at 2.6 months of age (95% CI: [1.9-3.2]) for the entire cohort with no statistically significant differences in socioeconomic groups. However, significant disparities were seen between patients of lower socioeconomic status in time to hearing intervention. The average time to hearing intervention was delayed in low income families compared to higher income (7.8, 95% CI: [6.5-9.1] vs 5.5, 95% CI:[4.0-6.9], respectively; p=0.001), public insurance carriers compared to private (7.8, 95% CI: [6.3-9.2] vs 5.8, 95% CI: [4.4-7.2], respectively; p=0.026), and lower caregiver education level compared to college or above (7.6 95% CI: [3.5-11.9] vs 5.2 95% CI: [3.9-6.5], respectively; p=0.007).

Discussion: This prospective cohort shows a clinically significant impact on at-risk socioeconomic families in obtaining intervention for congenital hearing loss. Despite the prompt diagnosis of hearing loss, the socioeconomic differences seen push the lagging group beyond the clinical milestone of 6-month of age for hearing intervention. These associations may represent lagging improvements of our insurance, healthcare, and social systems to properly assist these children with permanent hearing loss during a crucial time period in their early lives.

Dylan Chan, MD, PhD
Joy Kearns
Shari Garrett
Jihyun Stephans
University of California San Francisco

5/18/2024

11:20 AM–11:26 AM

Grand Hall GHIJ

Podium # O6

Association of Access Challenges and Family Support with Language Development for Children with Hearing Loss

PODIUM PRESENTATION

Presenter: Neema Rashidi
University of California San Francisco

Introduction: Childhood hearing loss is a risk factor for speech and language delays. Disparities in language outcomes in children who are deaf or hard-of-hearing (DHH) have been described, relating to home language, geography, and socioeconomic status; however, these associations have been limited to retrospective cohort studies, and the root disparities that these sociodemographic factors are proxies for are not well understood.

Methods: We performed a secondary cohort study of our prospective randomized clinical trial (ClinicalTrials.gov: NCT04928209). Children 0-27 mo with permanent hearing loss were enrolled. Baseline sociodemographic and clinical data included household income, race/ethnicity, home language, birth order, parental education, insurance, ages of diagnosis/intervention, newborn hearing screen results, and hearing level (better-ear pure-tone average). The Access Challenge Index (ACI), a summation of the Educational and Family Support subscales of the Child Cochlear Implant Profile, was assessed. Total Language was measured using the Preschool Language Scales (PLS-5).

Results: Among 148 children, 84 (57%) were low income (<266% federal poverty level), 37 (25%) identified as White and Non-Hispanic, and 62 (42%) had non-English primary language. On multivariable linear regression incorporating all clinical and sociodemographic covariates, hearing level (regression coefficient = -0.1725, 95% CI:[-0.2895, -0.0554], p = 0.0042) and total ACI score (-1.630 [-2.703, -0.5560], p = 0.0033), but no other factors, were statistically significantly associated with Total Language, with poorer hearing and greater access challenges associated with worse language. Among the three components of the ACI – Educational Environment, Educational Support, and Family Support — only Family Support was significantly associated with language (-4.020 [-7.299, -0.7413], p = 0.017).

Conclusion: In a prospective cohort study of DHH children with HL, language outcomes are associated only with hearing level and family support, and no other clinical or sociodemographic factors. These findings suggest that family support is the critical factor underlying sociodemographic disparities for this population.

Dylan Chan, MD, PhD
Joy Kearns
Shari Garrett
Jihyun Stephans
University of California San Francisco

5/18/2024

11:26 AM–11:32 AM

Grand Hall GHIJ

Podium # O7

Clinical and Technologic Factors Driving Adherence to Osseointegrated Bone Conduction Devices in Children

PODIUM PRESENTATION

Presenter: Christina Zhu
Georgetown University School of Medicine

Objective: To identify social, demographic, and clinical barriers for implantation of different Osseointegrated Bone Conduction Devices (OBCD) and how these characteristics cause a difference in outcomes amongst pediatric patients with different versions of OBCD.

Materials and Methods: Retrospective chart review comparing demographic (age, ethnicity, income level, insurance) and clinical characteristics (medical comorbidities, perioperative course) impacting implantation in pediatric patients with OBCD (BAHA Attract and Osia Systems). Members of the existing cohort were also contacted by phone to gain a qualitative understanding of patient outcomes and experience differences with respect to the implantation of and usage of devices by OBCD systems. Multivariate and univariate regression were used to analyze the data collected.

Results: Of the 70 patients in the cohort, 42 (60%) parents responded to the qualitative survey. Fourteen were BAHA users and 28 patients were OSIA users. OSIA users were significantly more likely to use devices and for longer durations (p=0.0230, 0.0348, respectively) than those with BAHAs when adjusting for gender, language, medical history, surgical complications, and academic issues. OSIA users also had significantly fewer post-operative wound issues and were likely to be older at the time of implantation compared to the BAHA cohort (p=0.0267, 0.0458, respectively). On univariate analysis, OSIA users used their devices on average for 3.143 hours more than BAHA users (p=0.0493). No significant differences were found between the other variables tested.

Conclusion: In this retrospective cohort study of pediatric otolaryngology patients with OBCDs, OSIA users were associated with more favorable outcomes in terms of device usage, hours utilizing device per day, and postoperative wound issues. Further research is needed to understand the reasons for these differences in OBCDs.

Diego Preciado, MD, PhD
Sofia Jaguan
Hengameh Behzadpour
Brian Reilly, MD
Children's National Hospital DC

5/18/2024

11:32 AM–11:38 AM

Grand Hall GHIJ

Podium # O8

"Does my kid have an ear infection?": A Quality Analysis of Pediatric Acute Otitis Media Videos on TikTok

PODIUM PRESENTATION

Presenter: Rose Dimitroyannis
University of Chicago

Introduction: With the rise of social media, online platforms have become a popular and convenient way to access healthcare information.

Objectives: This study sought to assess the quality of pediatric acute otitis media (AOM) videos on TikTok, a popular short-form video social media platform.

Methods: A TikTok search was conducted between 8/18-8/19/2023 using pediatric AOM hashtags: #pediatricacuteotitismediamanagement, #kidearinfectionsremedy, #childearinfectionstreatment, and #kidearinfection. Data collected include the number of views/shares per day, uploader type (influencer, lay individual, and medical professional), and content categories (medical advice, comedy, and lifestyle/acceptability). The Patient Education Materials Assessment Tool for Audiovisual Material (PEMAT-AV) and DISCERN questionnaire were used to measure the understandability, actionability, and quality of videos. Welch's t-test was used to perform descriptive statistics, and univariable and multivariable linear regression models were used (significance set at ≤ 0.05).

Results: Of the 166 videos, 37.9% (63) of uploaders were medical professionals, and 32.5% (54) were influencers. Influencer videos were viewed and shared significantly more than those by medical professionals ($p < 0.05$). Controlling for covariates (shares/day, profession, content, and educational and factual status), physicians were more likely to produce more beneficial and higher-quality videos as compared to influencers ($\rho = 2.6$ and $\rho = 1.5$, $p < 0.01$, respectively). However, physicians did not have significantly different ratings for understandability and actionability compared to influencers ($\rho = 0.43$ and $\rho = -0.28$, $p > 0.05$, respectively).

DISCUSSION: AOM content on TikTok is often geared toward caretakers of symptomatic children. While physician-created AOM content was significantly higher quality, these videos reached a statistically smaller audience than those from influencers. Addressing misinformation on social media platforms requires physicians to reach larger audiences by producing more actionable and understandable content.

Andrea Shogan, MD
Stella Cho
Sharanya Thodupunoori
David Fenton
University of Chicago

5/18/2024

11:38 AM–11:43 AM

Grand Hall GHIJ

Q & A

QUICK SHOT PRESENTATIONS

MODERATOR

Moderator: Jason Park MD
Vanderbilt University Medical Center

5/18/2024

11:43 AM–11:46 AM

Grand Hall GHIJ

Quickshot # O1

Postoperative antibiotic ear drops in pediatric tympanostomy tubes: an analysis of the 13th statement of the 2022 clinical practice guidelines

QUICK SHOT PRESENTATION

Presenter: Zachary Burgess MD
University of Texas Medical Branch

Introduction: In 2013, the first clinical practice guidelines were published for managing children with tympanostomy tubes. In February 2022, updated guidelines were announced including the 13th statement in the guidelines: clinicians should not routinely prescribe postoperative antibiotic ear drops after tympanostomy tube placement. This study's primary objective is to compare outcomes between patients without effusions at the time of surgery who did not receive a routine course of postoperative antibiotic ear drops to those who did.

Methods: A retrospective chart review was performed on patients without ear effusions at the time of tympanostomy tube placement before and after the updated guidelines were published. Patients before the updated guidelines routinely received a course of antibiotic drops postoperatively. Patients after the updated guidelines did not routinely receive antibiotic drops postoperatively. These groups were compared for the primary endpoints of incidence of otorrhea and new antibiotic ear drop prescription prior to or at the first postoperative visit. Secondary endpoints included tympanostomy tube occlusion and absence.

Results: In total 368 patients were included: 93 patients after the updated guidelines and 275 before. There was a difference in average age of patients between groups (3.7 ± 2.3 years vs 3.2 ± 2.3 years, $p < 0.05$). There was a significant difference in otorrhea between the groups ($p < 0.005$) with otorrhea in 15 out of 93 patients (16.1%) in the no-antibiotic group and otorrhea in 16

out of 259 (5.8%) in the routine-antibiotic group. The relative risk of otorrhea in the routine-antibiotic group versus the no-antibiotic group was 0.36 (95% CI: 0.29-0.45). There was no difference in new antibiotic prescription, tube occlusion, and tube absence between the groups (p=0.158, p=0.278, p=0.242 respectively).

Discussion: Patients who did not receive a routine course of postoperative antibiotic ear drops were significantly more likely to develop otorrhea in the postoperative period, suggesting that a routine course of antibiotic drops is protective against postoperative otorrhea, even in patients without effusions during surgery. However, there was no significant difference in new antibiotic drop prescriptions, which may reflect that some postoperative otorrhea was simply observed for resolution.

Harold Pine, MD, FAAP, FACS
Sofia Piperno
University of Texas Medical Branch

5/18/2024

11:46 AM–11:49 AM

Grand Hall GHIJ

Quickshot # O2

Feasibility of a Novel Computer-Assisted Approach to Congenital Aural Atresia Repair Planning

QUICK SHOT PRESENTATION

Presenter: Shreyas Krishnapura
Vanderbilt University School of Medicine

Introduction: Surgical repair of congenital aural atresia (CAA) is challenging. High-resolution computed tomography (CT) imaging has improved preoperative assessment of highly variable and abnormal patient anatomy. However, the use of scans for surgical planning and image-guided surgery not fully been explored.

Hypothesis: In this pilot study, we hypothesized that CT image segmentation and computer-assisted drill trajectory planning could help define key anatomic relationships in patients with CAA.

Methods: CT scans from CAA patients seen at a quaternary care center in the past ten years were selected and extracted from the medical record. Surgical candidacy was assessed using the Jahrsdoerfer grading scale. Using image segmentation and trajectory planning software, simulated atresiaplasty canals of varying diameter (maximum 10mm) were generated. The facial nerve, middle ear volume, and malleus-incus complex were segmented, and distance from planned drill path to facial nerve was calculated.

Results: Seven patients were included (mean age 6.9 ± 3.2 years). Three had "very good" to "excellent" J-scores with maximum canal diameter (MCD) of 10mm, average distance from facial nerve (DFN) of 1.61mm ± 0.78, middle ear volume (MEV) of 373.69mm3 ± 76.52, and malleus-incus complex volume (MICV) of 37.36mm3 ± 4.53. Two "fair" candidates had a MCD of 9mm, average DFN of 1.17mm ± 0.10, MEV of 348.05mm3 ± 67.26, and MICV of 47.56mm3 ± 3.76. Two "poor" candidates had an average MEV of 76.41mm3 ± 8.68. One "poor" patient did not have a malleus-incus complex and was unable to accommodate a canal without facial nerve violation. The other had an MICV of 48.99mm3 and DFN of 5.21mm, and could accommodate only a 3mm diameter canal.

Conclusion: Pre-operative image segmentation and drill trajectory planning appears feasible for use in evaluating CAA patients, and may hold promise in developing future image-guided surgical techniques with improved safety, efficiency, and outcomes.

Jason Park, MD, OhD
Jack Noble
Vanderbilt University

5/18/2024

11:49 AM–11:52 AM

Grand Hall GHIJ

Quickshot # O3

Hearing-Related Quality of Life in Parents of Infants and Toddlers who are Deaf or Hard-of-Hearing

QUICK SHOT PRESENTATION

Presenter: Jasmine Gass
Albany Medical College

Introduction: 1 in 500 children are born Deaf or Hard-of-Hearing (D/HH), putting them at risk for speech and language delays, which can impact quality of life for both the child and their parents. The impact of sociodemographic factors on hearing-related quality of life has not been well-studied.
Methods: In this prospective cohort study at a tertiary academic hospital, parents of D/HH children aged 0-42 months completed the Hearing-Related Infant/Toddler and Parent Quality of Life survey (HIP-QL), a 17-item instrument with responses on a 5-point Likert scale (Total score range: 17-85). Sociodemographic information was recorded for each of these parents. Descriptive statistics, univariable linear regressions, and multivariable linear regressions were performed.
Results: 125 parents completed the HIP-QL survey: 54 (43.2%) female; 54 (43.2%) with non-English primary home language; 76 (60.8%) underrepresented minorities (URM); and 78 (62.4%) qualified for public insurance.
Mean HIP-QL total score was 50.5 (SD:10.6, range: 23-72). On univariable linear regression, HIP-QL total score was directly associated with hearing level (coef=-0.13, 95% CI:-0.19 to -0.06, p<0.001); parents of children with more substantial hearing loss reported worse quality of life. Sociodemographic factors – age, gender, race/ethnicity, URM status, primary language, and insurance type – were not statistically significantly associated with HIP-QL total score. When adjusting for these sociodemographic factors, there remained on multivariable linear regression a significant relationship between HIP-QL total score and hearing level (coef=-0.12, 95% CI: -0.19 to -0.06, p<0.001).
Conclusion: A direct relationship was found between hearing-related quality of life of parents of D/HH children and the level

of hearing loss. This relationship remained significant even when adjusting for sociodemographic factors that could potentially impact quality of life.

Dylan Chan, MD, PhD
Ana Marija Sola, MD
Jihyun Stephans
University of California San Francisco

5/18/2024

11:52 AM–11:55 AM

Grand Hall GHIJ

Quickshot # 04

Persistent Postural Perceptual Dizziness (PPPD) in Pediatric Patients after COVID-19 Infection

QUICK SHOT PRESENTATION

Presenter: Kimberley Noij MD
Johns Hopkins

Introduction: Patients with long-COVID suffer from symptoms that continue or develop after a COVID-19 or SARS-CoV-2 infection and are present for four or more weeks after the initial infection. The prevalence of long COVID is 23.4% in the pediatric population, with an average of 6.2% of patients reporting dizziness. This case series describes a group of previously healthy adolescent patients with long-COVID who were seen in a pediatric vestibular clinic for evaluation of severe dizziness and were diagnosed with persistent postural-perceptual dizziness (PPPD). By presenting their symptoms, treatments and treatment effects this study aims to provide a diagnostic and therapeutic framework for providers who encounter these patients.

Methods: Patient records were screened for past medical history, symptoms, physical exam findings, audiometric and vestibular testing, dizziness handicap inventory for patient caregiver (DHI-pc) scores, and recommended treatment. Patients were contacted for a follow up survey to discuss treatment adherence and outcomes including changes in symptoms and return to activity.

Results: A series of 8 pediatric patients were referred from a multidisciplinary long-COVID clinic and diagnosed with PPPD during the study period. Average age at time of COVID-19 infection was 14 years (range: 10-19 years). Five patients had previously received a diagnosis of postural orthostatic tachycardia syndrome (POTS). Six patients were also diagnosed with vestibular migraine. Six patients had a pre-treatment DHI-pc score of >43, indicating that they suffered from severe participation and activity limitations. Recommended treatment included vestibular physical therapy, a selective serotonin reuptake inhibitor (SSRI), and cognitive behavioral therapy (CBT). For patients diagnosed with vestibular migraine additional dietary and medical recommendations were provided.

Discussion: To the best of our knowledge no previous reports exist discussing PPPD in long-COVID patients. This case series provides insight into symptom evolution and treatment efficacy in this patient population.

Carolyn Jenks, MD
Vidya Babu
Johns Hopkins

5/18/2024

11:55 AM–12:00 PM

Grand Hall GHIJ

Q & A

5/18/2024

12:00 PM–01:00 PM

Grand Hall GHIJ

Lunch

Lunch with Exhibitors

5/18/2024

01:00 PM–01:50 PM

Grand Hall GHIJ

Panel #8

ASPO-SENTAC Panel: Otology II: Practical Approaches

PANEL

Moderator: Daniela Carvalho MD, FAAP, MMM
Professor of Otolaryngology Head and Neck Surgery, UCSD
Pediatric Otolaryngology
Medical Director of Surgical Services, RCHSD
Director, Hearing and Cochlear Implant Program
Rady Children's Hospital San Diego

Panelists: Mai thy Truong, MD; Kavita Dedhia, MD; Sonal Saraiya, MD; Jacob Brodsky, MD, FACS, FAAP

5/18/2024

01:50 PM–02:35 PM

Grand Hall GHIJ

Panel #9

Rhinology II: Practical Spproaches

PANEL

Moderator: Austin Rose MD
University of North Carolina

Panelists: Uma Ramaswamy, MD; Nikolaus E. Wolter MD MSc FRCSC FACS; Randall Bly, MD; Charles Elmaraghy, MD

PODIUM PRESENTATIONS

MODERATOR

Moderator: Richard Nicollas MD, PhD
Head of the Pediatric Medical-Surgical Division
Head of the Pediatric ENT and Cervico-Facial Surgery Department
Coordinator of the Reference Center for Rare ENT Malformations
La TimoneChildren's Hospital

5/18/2024

02:35 PM–02:41 PM

Grand Hall GHIJ

Podium # R1

Demographic Predictors of COVID-19 Anosmia in the Pediatric Population as compared to General Population

PODIUM PRESENTATION

Presenter: Nicolette Jabbour, MD
Boston University School of Medicine

Background: Anosmia is a common symptom of COVID-19, affecting approximately 38% of individuals. Development of olfaction is essential to growth; from influencing taste, to perceiving hazards such as gas, fire, or spoiled food. While the exact mechanism of COVID-19-related anosmia remains uncertain, understanding the characteristics of those predisposed to COVID anosmia is crucial for appropriate patient and parent counseling. Presently, there is no research available regarding demographics of children with COVID-19-related anosmia.

Hypothesis: Pediatric patients with COVID will be less likely to be affected by anosmia than adults, and that demographics such as gender, ethnicity, or race will not increase patients' susceptibility to COVID-19 anosmia.

Methods: Retrospective chart review was performed using adult and pediatric patients from a tertiary urban medical center. De-identified data was extracted for patients diagnosed with anosmia (n=3107) from 1/1/2019-2/24/21. Data requested included ICD-10 code, date diagnosed, age, gender, race, COVID Status, resolution of COVID, and secondary diagnosis (sinusitis, rhinitis, TBI). Univariate analysis was performed using Chi-Squared tests comparing COVID anosmia rates between patients, including factors such as patient age, gender, language, and race. Non-COVID anosmia diagnosis was used as control.

Results: Pediatric and adult patients with low English proficiency were more likely to be diagnosed with COVID anosmia compared to anosmia alone ($p=0.0281$ and $p=0.0002$, respectively). Pediatric patients were less likely than adults to get covid anosmia ($p<0.001$). In pediatrics, there was no significant difference in racial composition between patients with covid versus non-covid anosmia ($p=0.43$) but there was a difference ($p<0.0001$) in adults. Pediatric patients showed no significant association between Hispanic ethnicity and covid versus non-covid anosmia ($p=0.6$), while Hispanic adults had increased likelihood for covid anosmia ($p<0.001$). Both pediatric and adult patients showed no significant association between gender and covid versus non-covid anosmia ($p=0.58$ and $p=0.81$, respectively).

Discussion: Demographic factors including race, age, and language proficiency may impact a patient's likelihood of suffering from COVID anosmia. We found no gender, Hispanic ethnicity, or racial disparity in anosmia within the pediatric population, which differs compared to the adult population.

Jessica Levi, MD
Jacob Bloom, MD
Boston University School of Medicine

5/18/2024

02:41 PM–02:47 PM

Grand Hall GHIJ

Podium # HN1

Sialoendoscopy and the Management of Pediatric Sialolithiasis

PODIUM PRESENTATION

Presenter: Ola Soliman
Baylor College of Medicine

Introduction: Pediatric sialolithiasis is a rare condition and can be managed by intraoral approaches with sialoendoscopy and extraoral approaches such as gland removal. This study assesses several factors in the evaluation and management of salivary stones in the pediatric population including the most common clinical manifestations, commonly affected ducts, and the relationship between stone location and surgical modality.

Methods: A case series with retrospective review of patients presenting with sialolithiasis and attempted removal with sialoendoscopy at a tertiary care pediatric hospital from October 2008 to August 2022 was performed. Outcomes evaluated included: presenting symptoms at the time of diagnosis, the distribution of stone locations, and the method of stone removal based on stone location.

Results: 17 patients were included in the final review. All patients had salivary gland stones diagnosed through imaging or visualized intraoperatively. The most common presenting complaint of sialolithiasis was facial swelling (82.4%). 88% had submandibular duct stones and 11% had parotid duct stones. 53.3% of stones were proximal, 26.7% were distal, 6.7 % at the hilum, and 13.3% intraglandular. 35% of patients had stones removed through sialoendoscopy and intraoral incision, 41% through an intraoral incision 23% required gland removal. Amongst patients with submandibular gland stones, distal stones (100%) were more likely to be removed via sialoendoscopy with or without an intraoral incision compared to proximal (75%), hilar (0%), and intraglandular stones (0%) ($p = 0.005$). Proximal (25%), hilar (100%), and intraglandular (100%) submandibular stones were more likely to require gland removal than distal stones (0%) ($p=0.026$).

Conclusion: The findings in this review suggest that distal stones

in the submandibular gland are more likely to be removed via sialoendoscopy with or an intraoral incision as opposed to proximal, hilar, and glandular stones, which were more likely to necessitate gland excision.

Elton Lambert, MD
Matthew Sitton, MD
Baylor College of Medicine

5/18/2024

02:47 PM–02:53 PM

Grand Hall GHIJ

Podium # HN2

Airway management in pediatric patients undergoing microvascular free tissue transfer (MVFTT) reconstruction after mandibulectomy

PODIUM PRESENTATION

Presenter: Elizabeth Shay MD
Indiana University

Introduction: Fibular free flap reconstruction is infrequently performed in pediatric patients, who have smaller airways than adults. There is a paucity of data on perioperative airway management, such as the need for tracheostomy, which can pose higher morbidity to young patients due to potential long-term effects on the softer, more pliable cartilage. Our objective was to report airway outcomes on patients undergoing MVFTT after segmental mandibulectomy with or without tracheostomy.

Methods: Retrospective chart review of pediatric patients ages 18 and under who underwent MVFTT reconstruction after segmental mandibulectomy at a tertiary care center 2014-2023.

Results: Ten patients (median age 11 years old, IQR 9-13) underwent fibular free flap reconstruction. Mandibular pathologies included 3 ameloblastoma, 2 mesenchymal chondrosarcoma, 2 desmoplastic fibroma, 1 Ewing sarcoma, 1 chondroblastic osteosarcoma, and 1 desmoid tumor.
Two patients received upfront tracheostomy at time of initial surgery involving a subtotal mandibulectomy and a hemimandibulectomy, respectively. Both patients were decannulated within 1 week after surgery and prior to discharge. The median ICU and hospital length of stay for patients who underwent tracheostomy was 3.5 days [IQR: 3.0-4.0] and 8.5 days [IQR: 8.0-9.0] respectively. Of the remaining 8 (80%) patients without tracheostomy, median intubation duration was 1.0 day [IQR: 1.0-2.5]. Surgical defects for these patients included hemimandibulectomy and anterior subtotal mandibulectomy. The median ICU and hospital length of stay for patients who did not undergo tracheostomy, was 3.0 days [IQR: 2.0-6.3] and 8.5 days [IQR: 7.3-13.0], respectively. No patient had to be reintubated for respiratory failure following extubation.

Discussion: Mandibular reconstruction with fibular free flap is feasible without tracheostomy in certain patients and mandibular defects, which can potentially reduce ICU stay for fresh tracheostomy care needs and avoid additional site of surgical morbidity. Further studies in larger populations and prospective approaches are warranted.

Diane Chen, MD
Madhuri Kesani

Indiana University

5/18/2024

02:53 PM–02:56 PM

Grand Hall GHIJ

Quickshot # HN1

Utilizing geographic information systems to identify environmental contributors for pediatric thyroid lesions

QUICK SHOT PRESENTATION

Presenter: Mark Fadel MD
UPMC Children's Hospital of Pittsburgh

Background: Geographic Information System (GIS) tools are software applications designed to analyze and visualize spatial or geographic data. Pediatric thyroid nodules are some of the most common head and neck masses in children with environmental factors well studied as contributors.

Hypothesis: Geographic information maps and data can be utilized to identify environmental risk factors associated with pediatric thyroid masses.

Methods: A retrospective study was performed of patients (≤ 19 years old) who underwent thyroidectomy at a tertiary care pediatric hospital from January 1, 2007 to May 19, 2023. Associations between geocoded factors and disease characteristics were evaluated using child opportunity indexes (COI), GIS maps, Wilcoxon rank-sum, t-tests, Spearman rank correlation, and bivariate and backward-elimination multivariable logistic regression.
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Results: 124 patients were included. Surgical pathology revealed malignancy in 69/124 (55.7%); 61/69 (88.4%) were papillary thyroid carcinoma (PTC). In multivariable logistic regression accounting for other geocoded factors, chronic lymphocytic thyroiditis was associated with greater COI (OR: 2.02, 95% CI: 1.31-3.10, p=0.001) and older age at surgery (OR: 1.22, 95% CI: 1.01-1.47, p=0.04). In those with malignancy, being male (OR: 16.7, 95% CI: 2.67-105, p=0.003) and residing in an area with greater COI (OR: 2.24, 95% CI: 1.19-4.24, p=0.01) were associated with increased odds of extrathyroidal extension. Patients with malignancy had lesser educational indexes than those with benign pathology (OR: 0.503, 95% CI: 0.263-0.961, p=0.04.) Nodule largest dimension increased with increasing levels of industrial pollutants in air, water, or soil (ρ=0.231, p=0.01).

Discussion: GIS provides a means to identify and better understand environmental and social conditions of patients with

pediatric thyroid nodules and cancer. This study uniquely presents geographic maps of pediatric patients with thyroid masses and utilizes pollution and air quality measures to identify risk factors on a local level. This personalized form of epidemiological analysis provides an innovative set of tools to study thyroid disease.

Jeffrey Simons, MD, MMM
Amber Shaffer
Kristen Kurland (Carnegie Mellon University)
Caitlin Olson, MD
UPMC Children's Hospital of Pittsburgh

5/18/2024

02:56 PM–02:59 PM

Grand Hall GHIJ

Quickshot # HN2

Prognostic Value of Immunologic and Inflammatory Biomarkers in Lymphatic Malformations

QUICK SHOT PRESENTATION

Presenter: Zainab Balogun
University of Pittsburgh

Background: Lymphatic malformations (LM) are congenital lesions arising from the abnormal development of lymphatic vasculature. Cancer diagnoses have found biomarkers such as neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and lymphocyte-to-monocyte ratio (LMR) to predict disease severity. The utility of these ratios has not been investigated in LM.

Hypothesis: Increased NLR, PLR and LMR will be associated with more severe LM disease as measured by more procedures and hospitalizations.

Methods: A retrospective review was conducted of patients with LM treated at a tertiary pediatric hospital from 2000-2022. Exclusions were no complete blood cell (CBC) count (n=79), age≥18 years (n=34), and no details regarding LM (n=5). Age, gender, LM characteristics, treatment received, emergency department (ED) visits for LM, and hospitalizations were correlated with biomarker ratios from CBCs across the patient's disease course. Statistical analysis utilized Wilcoxon rank-sum, Spearman rank correlation, and multivariable linear regression.

Results: Females comprised 50/110 (45.5%) patients. Median age at diagnosis was 1.2 years (range birth-15.3 years) and median follow-up from diagnosis to data collection was 10.1 years (range 1.3-20.1 years). Patients with extremity LM had lesser peak NLR (median 1.4, range 0.4-8.8 vs median 2.4, range 0.3-93.0, p=0.04) and PLR (median 8.6, range 3.8-30.9 vs median 12.3, range 0.8-385.0, p=0.03) compared with other locations. Patients with LM at multiple body segments had a greater peak (median 11.1, range 6.6-48.0 vs median 2, range 0.3-93.0, p=0.009) and average (median 4.0, range 2.4-10.3 vs median 1.6, range 0.3-27.3, p=0.04) NLR. Patients who underwent sirolimus treatment had greater peak LMR compared with those who did not (median 7.7 vs median 5.8). Number of ED visits/year (ρ=0.193, p=0.04) were associated with greater peak LMR. Highest NLR was significantly associated with the number of surgeries, even when controlling for length of follow-up and LM location (ρ=0.876, 95% CI: 0.230-1.52, p=0.008).

Discussion: Increased inflammatory/immunologic biomarkers such as NLR, PLR and LMR were associated with increased LM disease severity as measured by increased number of ED visits and surgeries and use of sirolimus. The interplay between these biomarkers and the genetic contributions in LM must be further elucidated to provide a comprehensive prognostic assessment.

Reema Padia, MD
Amber Shaffer
University of Pittsburgh

5/18/2024

02:59 PM–03:00 PM

Grand Hall GHIJ

Q & A

5/18/2024

03:00 PM–03:10 PM

Grand Hall GHIJ

Break

5/18/2024

03:10 PM–04:00 PM

Grand Hall GHIJ

Panel #10

Leading Cultural Humility in Clinical and Administrative Pediatric Otolaryngology

PANEL

Moderator: Sanjay Parikh MD, FACS
University of Washington - Seattle Children's Hospital

Panelists: Gurpreet Ahuja, MD; Lisa Elden, MD; Erynne Faucett, MD; Valerie Flanary, MD; Jad Jabbour, MD; Maithilee Menezes, MD

5/18/2024

04:00 PM–04:50 PM

Grand Hall GHIJ

Panel #11

Vascular Anomalies I: Innovations

PANEL

Moderator: Gresham Richter MD
Arkansas Children's Hospital

Panelists: Tara Rosenberg, MD; Jon Perkins, MD; Reema Padia, MD; Ali Shaibani, MD

5/18/2024

04:50 PM–05:40 PM

Grand Hall GHIJ

Panel #12

Vascular Anomalies II: Practical Approaches

PANEL

Moderator: Megan Gaffey MD
NYU Langone

Panelists: Sean Evans, MD; Adam Johnson, MD; Kara Prickett, MD; Charlie Meyer, MD; Juliana Bonilla, MD

5/18/2024

06:30 PM–09:00 PM

ASPO BANQUET/DINNER

5/19/2024

6:15 AM–7:15 AM

ASPO Fun Run

5/19/2024

7:15 AM–8:00 AM

Ballroom EF

Panel #13

Special Interest Panel: Leveraging Social Media to Enhance Your Career and Practice

PANEL

Moderator: Jeremy Prager MD, MBBA
University of Colorado School of Medicine, Children's Hospital Colorado

Panelists: Koral Blunt; Meredith Merz Lind, MD, FAAP, FACS; Sohit Kanotra, MD; Soham Roy, MD; Eric Gantwerker, MD, MMSc(MedEd), FACS, AFAMEE

5/19/2024

8:00 AM–8:45 AM

Ballroom EF

Panel #14

Expert Panel: Sleep Medicine and Surgery

PANEL

Moderator: Cristina Baldassari MD
Children's Hospital of the King's Daughters/Eastern Virginia Medical School

Panelists: Christ Hartnick, MD; Dave Smith, MD; Stacey Ishman, MD; Erin Kirkham, MD; Norman Friedman, MD; Derek Lam, MD

PODIUM PRESENTATIONS

MODERATOR

Moderator: Hannah Burns MBBS, BSc, FRACS
St Vincent's Private Hospital Northside, QLD

5/19/2024

8:45 AM–8:51 AM

Ballroom EF

Podium # GS1

Upper Airway Stimulation for Children and Adolescents with Down Syndrome and Obstructive Sleep Apnea: Long Term Follow Up

PODIUM PRESENTATION

Presenter: Danielle Larrow MD
Massachusetts Eye and Ear

Introduction: Hypoglossal nerve stimulation (HGNS) is safe and effective for adolescent patients with Down syndrome who have severe persistent obstructive sleep apnea (OSA) and are unable to tolerate positive airway pressure therapy. Long-term outcomes for this patient population have not been evaluated.

Methods: A prospective single-group multicenter cohort study with one-year follow up was conducted between 2015 and 2021 among a sample of 42 adolescent patients with Down syndrome and severe persistent OSA. Here we evaluate long term outcomes of this patient cohort. Patient were evaluated with polysomnogram (PSG) at three timepoints: preimplantation (timepoint 1), one-year post implantation (timepoint 2), and long-term follow up (timepoint 3).

Results: Of the 42 patients originally enrolled in the study, follow-up data was available for 30 patients. Mean (SD) of timepoint 3 was 3.7 (1.6) years after implantation. Among the 30 patients, from timepoint 1 there was a mean (SD) decrease in AHI of 11.7 (13.6) events/h at timepoint 2 and 15.5 (13.7) events/h at timepoint 3. The mean percentage change in AHI between timepoints 1 and 2 was -48% (95% CI: -27.4% to -68.7%) and between timepoints 1 and 3 was -59% (95% CI: -38.7% to -79.3%). Using a therapy response definition of 50% decrease in AHI, response rate was 66.7% (20/30) at timepoint 2 and 90% (27/30) at timepoint 3.

Discussion: Long-term follow-up studies in vulnerable populations, such as patients with Down syndrome, may be challenging as

development of co-morbid conditions and other emerging needs can confound results or contribute to patient loss to follow up. In an average 3.7-year period after HGNS implantation, patients with Down syndrome and OSA experience persistent efficacy and stability in AHI compared to their one-year postoperative PSG. Increased efficacy after the original study period suggests the need to look at best practices for post-implantation optimization algorithms.

Christopher Hartnick, MD, MS
Kevin Gipson, MD, MS
Brian Skotko, MD, MPP
Cristina Baldassari, MD
Massachusetts Eye and Ear / Harvard

5/19/2024

8:51 AM–8:57 AM

Ballroom EF

Podium # GS2

Clinician-parent communication with families of obese and overweight children undergoing consultation for tonsillectomy

PODIUM PRESENTATION

Presenter: Ashwin Reddy
Johns Hopkins University School of Medicine

Introduction: Effective communication between surgical clinicians and parents of children with obstructive sleep-disordered breathing (OSDB) may inform treatment decisions and reduce parental conflict about tonsillectomy surgery for their child. Communication with parents of children who are overweight and obese is particularly pertinent as these patients have a higher baseline prevalence of OSDB, greater risk of persistent OSDB after surgery, and greater risk for additional anesthesia risks and perioperative complications. Statistical hypothesis tests were conducted to determine whether patient weight status was associated with differences in surgeon communication behaviors and parent ratings of surgeons.

Objectives: To describe the association between patient weight status and surgeon-parent relationships by examining 1) communication behaviors during consultations for pediatric tonsillectomy and 2) parent ratings of care experience.

Methods: In this observational cohort study, we analyzed communication between surgical clinicians and parents during initial consultations for children with OSDB undergoing evaluation for tonsillectomy. We used the quantitative Roter Interaction Analysis System. Parents and clinicians completed pre- and post-consultation measures of communication style, cultural similarity, and treatment preference.

Results: Of 231 patients included, 185 (80.1%) had a normal weight status while 50 (21.6%) were overweight or obese. Compared to normal-weight children, overweight/obese children were older by three years on average (p=<0.001) and more likely to be of African ethnicity (n=28, 56%, p=<0.001), have parents who did not graduate college (n=33, 66%, p=0.004), and have an annual household income of less than $50,000 (n=28, 57%, p=0.002). Fewer parents of children in the overweight/obese group (n=21, 81%) thought surgeons definitely showed respect for what they had to say, compared to normal-weight children (n=83, 94%, p=0.032). Compared to 11.4% of consults for normal-weight patients, surgeons demonstrated an average global affect rating (a 1 to 6 composite scale of friendliness, engagement, and sympathy) of less than 3.75 in 32.4% of consults with overweight/obese patients (p=0.017).

Discussion: Preliminary findings show differences in clinician-parent emotional rapport and lower ratings of respect for families of overweight/obese children. These findings may inform strategies for clinicians to recognize implicit attitudes guiding interactions and develop more equitable communication strategies.

Emily Boss, MD, MPH
Anne Links
Chenery Lowe, PhD
Mary Catherine Beach, MD, MPH
Johns Hopkins University School of Medicine

5/19/2024

8:57 AM–9:03 AM

Ballroom EF

Podium # GS3

Hypoglossal Nerve Stimulation Outcomes in Pediatric Trisomy 21 Patients with Overweight or Obesity

PODIUM PRESENTATION

Presenter: Jeff Mecham MD
Phoenix Children's Hospital

Background: Hypoglossal Nerve Stimulation (HGNS) FDA approved for the treatment of obstructive sleep apnea in pediatric patients above age 13 with Trisomy 21. Currently published data only exists on patients with body mass indices (BMI) below the 85th percentile. The current study is the first to assess the relative effectiveness of HGNS in patients above the 85th (85%) and 95th percentile (95%), respectively.
Hypothesis: No significant differences exist in apnea hypopnea index (AHI) reduction in patients with higher BMI.
Methods: Retrospective single institution chart review of patients with Trisomy 21 who had undergone HGNS implantation.
Results: 27 patients (21 male, 6 female) with mean and standard deviation (SD) age 14.1 (5) years were included. 9 patients were below 85% in BMI, 5 patients between the 85% and 95%, and 13 patients were at or above the 95%. Comparing patients above and below 85% BMI, no significant differences were found for mean (SD) pre-operative AHI (25.5 (9.7) vs 26.5 (16.3)), post-operative

AHI (7.9 (11) vs 8.2 (4.3)), AHI percentage reduction (79.7% (26.6) vs 74.9% (21.8)), or stimulation amplitude (2.28V (1.2V) vs 1.8V (0.6V). Similarly, comparing patients above and below 95% BMI, no significant differences were found for mean (SD) pre-operative AHI (26.8 (8.9) vs 24.9 (14.5)), post-operative AHI (4.6 (5.7) vs 9.9 (9.2)), AHI percentage reduction (87.1% (14.7) vs 72.8% (26.4)), or stimulation amplitude (1.9V (1V) vs 2.2V (1.1V). **Discussion:** Our results suggest no significant difference in HGNS outcomes in trisomy 21 patients with overweight or obesity, thus supporting implantation above the 85th and 95th BMI percentile. Further prospective studies with larger sample sizes are needed to confirm out findings

Patrick Scheffler, MD
Rupali Drewek, MD
Ridglea Bollig, RN
Phoenix Children's Hospital

5/19/2024

9:03 AM–9:09 AM

Ballroom EF

Podium # GS4

Quality of Life in Children with Mild Sleep Disordered Breathing Managed with Adenotonsillectomy vs. Watchful Waiting: A Randomized Trial

PODIUM PRESENTATION

Presenter: Cristina Baldassari MD
Eastern Virginia Medical School Otolaryngology- Head and Neck Surgery

Introduction: The apnea-hypopnea index (AHI) correlates poorly with quality of life (QoL), and children with mild sleep-disordered breathing (mSDB) can have significant QoL impairments. Little is known about how adenotonsillectomy (AT) vs watchful waiting (WW) influences QoL outcomes.

Objective: To evaluate QoL among participants of the Pediatric Adenotonsillectomy for Snoring Children Study (PATS), randomized to undergo AT or WW, and determine which specific characteristics influence QOL treatment response.

Methods: PATS is a single-blinded, multicenter clinical trial of children ages 3-12 years with habitual snoring and mSDB (characterized by AHI <3/hr by polysomnography). Outcomes were caregiver-reported validated questionnaires: OSA-18, Pediatric Quality of Life (PedsQL), and Epworth Sleepiness Scale (ESS) total scores. Linear regression models were used to evaluate the association between outcomes, intervention groups, timepoint (12-months post-intervention), and the interaction between intervention with variables of interest (age, gender, Black race, BMI percentile [BMIp], ADHD, and baseline PedsQL score).

Results: Our sample included 383 children (13.8%-Hispanic, 53%-Non-Hispanic Black, 26.9%-Non-Hispanic White), with 189 children in AT and 194 in the WW intervention groups, mean age (SD)-6.6 (2.2) years and 49% female. Children in the AT group experienced greater improvements in all QOL outcomes compared to WW group in models adjusted for age, gender, race/ethnicity, maternal education, BMIp, AHI, baseline score, and site, (ρcoefficient at 12-months: OSA18; -10.07, 95%CI: [-12.57, -7.56]), PedsQL 4.08, [1.28, 6.89]) and ESS; -1.14 [-1.99, -0.30]). The adjusted models with PedsQL found an interaction effect between intervention and age (-1.42, [-2.53, -0.09]) and BMIp (-0.08, [-0.17,0.01]). Gender, Black race, and ADHD were not modifiers of QoL outcomes.

Conclusion: There is strong evidence for improvement of QoL at 12-months following adenotonsillectomy in children with mSDB. Additionally, younger children were more likely to experience QoL improvements following AT. Assessment of QOL burden should be incorporated into future management algorithms for children with mSDB.

Seyni Gueye-Ndiaye, MD
Meg Tully
Susan Redline, MD, MPH
Harvard University

5/19/2024

9:09 AM–9:15 AM

Ballroom EF

Podium # GS5

Factors Predicting Adenotonsillectomy for Pediatric Mild SDB: Analysis of PATS Data

PODIUM PRESENTATION

Presenter: Kristina Powers MD
Eastern Virginia Medical School Otolaryngology- Head and Neck Surgery

Objective: To assess factors associated with pursuing adenotonsillectomy in children with mild sleep disordered breathing (SDB) who were initially managed with watchful waiting.

Study Design: Analysis of the Watchful Waiting Cohort of NIH funded multi-institutional Pediatric Adenotonsillectomy and Snoring Trial.

Setting: 6 Tertiary children's hospitals.

Subjects and Methods. The Pediatric Adenotonsillectomy and Snoring Trial randomized children 3 to 12 years of age with mild SDB (apnea hypopnea index (AHI) between 0 and 3) to either adenotonsillectomy or watchful waiting. Outcomes, which included measures of executive function, PSG parameters, symptom burden, and health care utilization, were assessed at baseline and one year follow-up. Health-care utilization data was collected an additional time 6 months following study completion. We analyzed data from 171 children that were initially randomized to watchful waiting to assess which children underwent adenotonsillectomy following study completion.

Results: Forty-three children (25.1%) underwent

adenotonsillectomy following the watchful waiting period. The mean age of children was 6.77 years (SD2.32) and 39 (23%) were obese. Baseline factors including AHI (0.08 {95% CI -0.13, 0.3}), OSA-18 total QOL score {2.94 (-3.27, 9.15)} and total Pediatric Sleep Questionnaire (PSQ-SRDB) scores {0.01 (-0.05, 0.07)} were similar between patients that did and did not undergo adenotonsillectomy. Children that underwent adenotonsillectomy had higher 12 month OSA-18 total QoL scores, 52.4 (18.23) vs 44.56 (15.78) (95% CI: 1.56, 14.13) and 12 month PSQ-SRBD Scores 0.45 (0.17) vs 0.37 (0.19) (95% CI: 0.02, 0.15). Logistic modeling demonstrated that 12 month OSA-18 total QOL scores {OR 1.03 (95% CI 1.00, 1.06)} and PSQ-SRBD scores (p=0.04) were predicted the likelihood of undergoing AT postoperatively. Other factors such as AHI and BMI were not found to be predictive.

Conclusion. Caregivers for 25% of children with mild SDB pursue adenotonsillectomy after a period of watchful waiting. The OSA-18 and PSQ-SRBD are useful tools to determine which children with mild SDB may benefit from early adenotonsillectomy.

Cristina Baldassari, MD
Eastern Virginia Medical School Otolaryngology- Head and Neck Surgery

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5/19/2024

9:15 AM–9:21 AM

Ballroom EF

Podium # GS6

Understanding Racial and Ethnic Disparities in Perioperative Pain Management Following Routine Pediatric Tonsillectomy

PODIUM PRESENTATION

Presenter: Alisha Pershad
The George Washington School of Medicine and Health Sciences

Background: Hispanic and Latino (H/L) children are underrepresented in pain management studies, demonstrating an increasing need to understand disparities in pain management in this rapidly growing minority population. Our study aims to evaluate and understand factors that contribute to the racial and ethnic differences in the peri-operative experience following routine pediatric tonsillectomy.

Hypothesis: We hypothesize ethnicity, socioeconomic status, use of an interpreter in healthcare settings, culture, and home situation among certain demographic patients will greatly influence pain perception and management.

Methods: A retrospective chart review of patients receiving routine tonsillectomy from a tertiary hospital from October 2017 to March 2020 was performed. Demographic (age, race, ethnicity, and median household income) and perioperative data, including pain severity and medication management were obtained. Descriptive statistics and multiple linear regression using GraphPad Prism were conducted to identify factors associated with higher post-operative pain scores.

Results: Of 3997 included patients, 47% were female, 31% self-identified as H/L, and the mean age at time of surgery 80.4 months (SD 48.7). Surgical indications included sleep-disordered breathing (88%), tonsillitis (7.3%), or both (5.1%). Overall, H/L patients were less likely to be asked to score their postop pain (OR=0.5791, χ^2=42.3, p<0.0001). However, H/L patients who did reported pain scores were more likely to receive post-operative narcotics after controlling for gender, age, and insurance status (p<0.0001). The median amount of narcotics administered normalized by body mass index and minutes spent in the post-anesthesia care was 0.17 morphine equivalents in H/L patients compared to 0.19 morphine equivalents in non-H/L patients. Although, normalized narcotic dose did not vary by ethnicity, H/L patients with access to an interpreter in the postoperative anesthesia care unit received lower narcotic equivalents (p<0.01).

Conclusion: Disparities in perioperative pain management following routine pediatric tonsillectomy exist. H/L are less likely to have comprehensive evaluation of their pain in the recovery unit which may influence their overall pain management. Access to an interpreter in recovery may serve to mitigate this issue. Further understanding factors driving differences in pain management may improve the patient satisfaction, quality of care, and aid in creation of more standardized protocols.

Diego Preciado, MD
Rashel Moscoso-Morales
Hengameh Behzadpour
Caroll Vazquez-Colon, MD
Children's National Hospital

5/19/2024

9:21 AM–9:27 AM

Ballroom EF

Podium # GS7

Randomized Clinical Trial of Post-operative Steroids to Reduce Tonsillectomy Morbidity

PODIUM PRESENTATION

Presenter: Mahmoud Omar
UPMC Children's Hospital of Pittsburgh

Background: Tonsillectomy remains as on the most painful otolaryngological procedures. Intravenous steroid in the perioperative period have been consistently shown to reduce post-tonsillectomy pain and complications. However, the efficacy of post-operative oral steroids to decrease the burden of pediatric tonsillectomy is still under question.

Hypothesis: Dexamethasone will reduce of pain, post-operative complications, and opioid prescriptions following pediatric adenotonsillectomy.

Methods: In a triple-blinded randomized controlled trial, patients ages 3-17 years undergoing adenotonsillectomy were randomized

to receive oral dexamethasone (n=106) on post-operative days 2, 4, and 6 (0.5 mg/kg; max dose: 20 mg) or placebo (n=109) in addition to standard pain control regimen (ibuprofen/acetaminophen). Parents/participants recorded pain medication use, symptoms, and pain measured by the Wong-Baker FACES Pain Rating Scale. Medical record review was conducted to assess complications and need for opioid prescriptions.

Results: Pain diaries were returned by 135 participants. There was a significant difference in the primary outcome (average pain rating before acetaminophen/ibuprofen on days 2-8) between the dexamethasone group (mean 4.2 ± standard deviation 2.0) and placebo (4.9±2.1) (p=0.049). Average pain scores before acetaminophen/ibuprofen were significantly less in the dexamethasone group compared with placebo on days 2 (4.0±2.4 vs 5.1±2.5, p=0.02), 7 (3.8±2.2 vs 4.9±2.4, p=0.01), and 8 (3.6±2.1 vs 4.5±2.5, p=0.05. Fewer patients in the dexamethasone group received an opioid prescription compared with the placebo group (3/106, 2.8% vs 10/109, 9.2%, p=0.02). Emergency department visits for pain were less common in the dexamethasone group (1/106, 0.9%) compared with placebo (8/109, 7.3%) (p=0.04). Participants ages 8-12 years in the dexamethasone group (16/21, 76.2%) were more likely to strongly agree that they were happy with their child's pain relief compared with of the placebo group (8/24, 33.3%, p=0.02). There were no significant differences in pain scores after acetaminophen/ibuprofen, readmissions, nursing phone calls, post-tonsillectomy hemorrhage, or return to normal diet.

Conclusion: Post-operative dexamethasone was associated with a modest reduction in pain following pediatric adenotonsillectomy in the peak pain period (days 2-8), a significant reduction in opioid prescriptions, and no increase in complications.

David Chi, MD
Amber Shaffer
Raymond Maguire, DO
Joseph Dohar, MD
UPMC Children's Hospital of Pittsburgh

5/19/2024

9:27 AM–9:33 AM

Ballroom EF

Podium # GS8

Tongue Reduction for the Treatment of Pediatric Obstructive Sleep Apnea: A Systematic Review

PODIUM PRESENTATION

Presenter: Adrian Williamson MD
Children's Mercy Hospital Kansas City

Introduction: Obstructive sleep apnea (OSA) is a prevalent childhood disorder that if left untreated can have potentially serious consequences in overall health and development. To address persistent OSA despite adenotonsillectomy, tongue reduction procedures such as midline posterior glossectomy (MPG) may be offered. This systematic review aims to evaluate the effectiveness and safety of tongue reduction procedures as a treatment option for pediatric OSA.

Methods: PRISMA guidelines were used for this review. A comprehensive search of major electronic databases was conducted to identify relevant studies published up to September 2023. Studies reporting on the outcomes of pediatric patients (aged ≤21 years) who underwent tongue reduction by surgical excision for the treatment of OSA were included. Data extraction and quality assessment were performed independently by two reviewers.

Results: Of the 368 abstracts identified, 9 studies met inclusion criteria. All studies were case series with a total of 125 patients. Various methods of tongue reduction were described including transoral robotic assisted tongue base resection, MPG, and partial glossectomy by wedge resection. The primary outcome measures included the apnea-hypopnea index (AHI), minimum oxygen saturation, patient symptoms, and adverse events. All studies reported a reduction in AHI and increased minimum oxygen saturation following tongue reduction despite the method. Adverse events appear to be rare but included postoperative bleeding, need for re-intubation, and wound dehiscence.

Discussion: Tongue reduction surgery appears to be a safe and effective option for pediatric patients with OSA with reduction in AHI and improvement in symptoms. Further research is needed to establish long-term outcomes, compare differences in surgical techniques, and better refine patient selection criteria. This systematic review suggests that tongue reduction procedures can be considered a valuable tool in the management of pediatric OSA. Future studies should be employed to identify risk factors for persistent OSA following tongue base reduction.

Jason Brown, DO
Rohit Nallani, MD

Children's Mercy Hospital Kansas City

5/19/2024

9:33 AM–9:39 AM

Ballroom EF

Podium # GS9

Newborn Hearing Screening Follow Ups Study

PODIUM PRESENTATION

Presenter: Akailah Jennings
Temple University

Introduction: Every state and territory in the United States has now established an Early Hearing Detection and Intervention program. These mandates have led to high rates of newborn hearing screening nationally. The goals of follow-up testing and prompt habilitation have proved more elusive, especially in urban and rural environments. Twenty-five years ago, we performed a prospective longitudinal study examining the effects of increasingly complex interventions designed to ensure complete evaluation and

habilitation in our inner-city population. These interventions led to follow-up rates comparable to the high-income populations. In this study we revisit newborn hearing screening in the same setting to see if favorable outcomes continue.

Study Design: Retrospective Cohort Study

Method: We reviewed quality data including recorded rates of screening, pass/refer rates, follow-up testing rates and results, and time to habilitation during the 2022 calendar year.

Results: 2006/2069 newborns (97%) were successfully screened with automated ABR prior to hospital discharge. 23/2006 (1%) were referred for further evaluation. 13/23 underwent repeat AABR – 11 passed and 2 were found to have permanent hearing losses. 10/23 (43%) were lost to follow-up.

Conclusion: Despite an excellent rate of initial screening, our program falls short in follow-up and ultimate habilitation. The identified causes of these failures and suggestions for improvement will be discussed.

Glenn Isaacson, MD, FACS, FAAP

Temple University

5/19/2024

9:39 AM–9:40 AM

Ballroom EF

Q & A

5/19/2024

9:40 AM–9:55 AM

Ballroom EF

Break

5/19/2024

9:55 AM–10:40 AM

Ballroom EF

Panel #15

ASPO-ABEA Panel: Airway Procedures Across the Age Spectrum: Pediatric and Adult Experts Compare Their Strategies

PANEL

Moderator: Catherine Hart MD
Cincinnati Children's Hospital Medical Center

Panelists: Julina Ongkasuwan, MD; David Francis, MD; Alex Gelbard, MD; Chris Wootten, MD; Clare Richardson, MD

5/19/2024

10:40 AM–11:25 AM

Ballroom EF

Panel #16

Head and Neck II: Practical Approaches

PANEL

Moderator: John Russell, MB Mch, FRCS (ORL)
Trinity College Dublin

Panelists: Diego Preciado, MD; Diane Chen, MD; John Maddalozzo, MD; Jeff Koempel, MD; Jeffery Yeung, MD

QUICK SHOT PRESENTATIONS

MODERATOR

Moderator: Matthew Partain, MD
Indiana Universityy

5/19/2024

11:25 AM–11:28 AM

Ballroom EF

Quickshot #GS1

Underreporting of pediatric sleep-disordered breathing symptoms in black preschool-aged children when compared to white children with obstructive sleep apnea

QUICK SHOT PRESENTATION

Presenter: Cara Fleseriu
UPMC Children's Hospital of Pittsburgh

Introduction: The spectrum of pediatric sleep-disordered breathing (SDB), which encompasses obstructive sleep apnea (OSA), is linked with increased cardiovascular morbidity risk, behavioral and cognitive comorbidities and decreased quality of life, and affects Black children at a higher rate. We sought to prospectively examine caregiver-reported sleep symptoms and risk factors among preschool-aged children presenting with SDB.

Methods: Otherwise healthy patients 3-5 years of age presenting with sleep-related complaints to a single- site outpatient tertiary care pediatric otolaryngology practice were prospectively enrolled. Patients with prior adenoidectomy/adenotonsillectomy were excluded. Caregivers completed survey data: race, household income, education level, previously-validated Pediatric Sleep Questionnaire (PSQ), and feeding method for first year of life

(breast versus bottle feeding). Responses were compared to polysomnography (PSG) results and tonsil/adenoid size using Wilcoxon rank-sum and Fisher's exact tests. We defined OSA as an obstructive apnea-hypopnea index (OAHI) of >2 events/hour.

Results: There were 132 patients, median age 4.51 years (range 3.01-5.96); 40.9% female; 98 White, 17 Black, 5 Asian, 12 not specified. Twenty-eight children underwent PSG (21 White, 6 Black, 1 Asian). PSQ scores were significantly higher in White compared with Black (median 0.5 vs. 0.4, p=0.04), while PSG parameters [(prevalence of OSA 62% (13/21 White PSG) vs. 67% (4/6 Black PSG), median OAHI 2.5 events/hour in both groups (range 0-24.4 White, 0.8-20.2 Black)], reported adenoid/tonsil size (median 75% obstructive/3+ in both groups), and surgery rates (White: 54.6% vs Black: 52.9%) were not significantly different between these groups. Overall, there were no differences in subjective or objective measures of SDB in breast vs. bottle fed children.

Discussion: In this prospective study, we found that despite similar rates and severity of OSA, Black caregivers under-reported SDB symptoms when compared to a White cohort. These results highlight the need to maintain a higher index of suspicion for possible OSA and lower threshold to obtain polysomnography in Black preschool-aged children to avoid under-diagnosis. Interestingly, breast versus bottle feeding during the first year of life did not correlate with SDB severity in our cohort. Further work examining mechanisms that impact skeletal growth during early childhood as it relates to OSA risk is needed.

Rachel Whelan, MD
Amber Shaffer
Marina Rushchak
UPMC Children's Hospital of Pittsburgh

5/19/2024

11:28 AM–11:31 AM

Ballroom EF

Quickshot #GS2

The Effect of Race, Ethnicity, and Language on Adenotonsillectomy Outcomes in Pediatric Otolaryngology

QUICK SHOT PRESENTATION

Presenter: Caleb Allred
University of Washington School of Medicine

Background: Disparities have been described across racial and socioeconomic groups in adenotonsillectomy access and surgical outcomes. While further characterization of the effect of race and ethnicity is warranted, little is known about the impact of language. We studied the effect of race, ethnicity, and language on 30-day return to the operating room (OR), 30-day readmission, and 30-day emergency department visits (ED) after adenotonsillectomy.

Hypothesis: We hypothesized that non-white patients, Hispanic patients, and patients speaking Spanish or a language other than English (LOE) would have higher rates of ED visits, readmissions, and return to the OR.

Methods: Demographic and encounter data were abstracted from the hospital's enterprise data warehouse for patients who underwent tonsillectomy (intra- or extra-capsular, with or without adenoidectomy) from May 2011 to June 2023. Rates of ED and ICU admission as well as readmissions were compared among patients by race, ethnicity, and language using the Kruskal-Wallis test, Mann-Whitney U test, and Fisher's exact.

Results: A total of 7,945 patients were included. Non-white patients had higher 30-day ED visit rates than white patients (8.6% vs. 6.8%; p=0.003), but comparable 30-day readmissions (0.7% vs. 0.8%; p=1) and 30-day return to the OR rates (2.1% vs 1.6%; p=0.113). ED, readmission, and return to OR rates were similar among ethnic groups. Patients who spoke Spanish or a LOE had higher 30-day ED visits than English-speaking patients (8.7%, 10.6% vs. 7.3%; p=0.038), while their 30-day inpatient readmission (1.2%, 0.6% vs. 0.7%; p=0.297) and 30-day return to the OR rates (2%, 2.9% vs. 2%; p=0.287) were similar across groups. Additionally, Spanish and LOE patients had higher post-surgery ICU admissions (3.4, 3.1% vs. 2%; p=0.017).

Discussion: At our institution, being non-white or speaking an LOE was associated with a higher rate of ED visits within the 30 days following adenotonsillectomy. Future research should evaluate the effectiveness of language-concordant patient education in addressing this disparity.

Juliana Bonilla-Velez, MD
Jake Dahl, MD, PhD, MBA
Sanjay Parikh, MD
Xing Wang

Seattle Children's

5/19/2024

11:31 AM–11:34 AM

Ballroom EF

Quickshot #GS3

The Effect of Age on Hypoglossal Nerve Stimulation Outcomes in Children with Trisomy 21 and Obstructive Sleep Apnea

QUICK SHOT PRESENTATION

Presenter: Jeff Mecham MD
Phoenix Children's Hospital

Background: Hypoglossal Nerve Stimulation (HGNS) FDA approved for the treatment of obstructive sleep apnea in pediatric patients above age 13 years with Trisomy 21. To date, no studies exist specifically examining the effectiveness of HGNS in Trisomy 21 patients below this age. Furthermore, there are no studies comparing the response to HGNS in patients below age 13 to patients aged 13 and above.

Hypothesis: No significant differences exist in apnea hypopnea

index (AHI) reduction after HGNS implantation between patients aged 13 years and above compared to younger children.

Methods: Retrospective single institution chart review of patients with Trisomy 21 who have undergone HGNS implantation.

Results: 25 pediatric patients with Trisomy 21 aged 4 to 19 were implanted at our institution between 2021 and 2023. Mean and standard deviation (SD) age was 13.2 (3.6) years. 13 patients were age 13 and above (mean [SD] age 15.8 [2.2] years) and 12 patients were younger (mean [SD] age 10.3 [2.4] years). No significant differences were observed in body mass index percentiles (84.8 [SD 15.8] vs 83.8 [SD 21.4]). Mean preoperative AHIs were 23.4 (SD 11.3) for the younger and 25.3 (SD 10.1) for the older group. Postoperative AHIs were 8 (SD 7) and 9.7 (SD 11.6) with mean AHI reductions of 71.8% (SD 27.9%) and 76% (SD 28.2%), respectively. Mean stimulation amplitude was 2.7 mV (SD 1.2mV) for the younger and 2mV (SD 0.7mV) for the old group. Differences in Pre- and postoperative AHI, AHI reduction and stimulation amplitude were not significant.

Discussion: Our results suggest no significant difference in HGNS outcomes in trisomy 21 patients younger than age 13, supporting implantation at a younger age. Further prospective studies with larger sample sizes are needed to confirm our findings

Patrick Scheffler, MD
George Bcharah
Phoenix Children's Hospital

5/19/2024

11:34 AM–11:37 AM

Ballroom EF

Quickshot #GS4

A Randomized Controlled Trial of Ergonomic Risk in Pediatric Adenotonsillectomy

QUICK SHOT PRESENTATION

Presenter: David Barkyoumb
University of Oklahoma College of Medicine

Introduction: Studies have shown that pediatric otolaryngologists are at high ergonomic risk. The objective of this prospective randomized trial was to compare the intraoperative ergonomic risk of adenotonsillectomy (T&A) in seated versus standing positions.

Methods: Intraoperative video was collected for two attending physicians and ten residents performing T&A over 12 months. Procedures were randomized to a seated or standing position, with right tonsillectomy, left tonsillectomy, and adenoidectomy counting as discreet procedures. The rapid upper limb assessment (RULA) is a validated instrument for quantifying ergonomic risk of upper extremity tasks with multiple anatomic domains. Each video was analyzed and scored by two medical students on a 0-7 scale, with higher scores indicating higher risk. Both total and domain-specific RULA scores were compared, using student's t-tests, with additional univariate and multivariate analyses for covariates such as surgeon and patient height, weight and BMI, and surgeon gender and handedness. In this initial analysis, data from June 21 2022 through February 28 2023 are analyzed, with plans to update findings after an additional 216 measurements are added to this dataset.

Results: 408 RULA assessments were completed. Sitting procedures carried significantly lower ergonomic risk compared to standing (3.19 vs. 3.55, p<.001), which was driven by lower risk for the wrist (3.37 vs. 3.66, p<.001) and neck (2.67 vs. 2.81, p=.010) domains. However, there was higher ergonomic risk with sitting for the upper arm (2.04 vs. 1.64, p<.001) and trunk (2.14 vs. 1.64, p<.001) domains. Univariate, but not multivariate, analysis showed taller height to be ergonomically protective. Multivariate analysis demonstrated a trend toward female gender being protective compared to male gender(B=-0.87, p=.057).

Discussion: This study demonstrated an increase in ergonomic risk with standing during adenotonsillectomy versus sitting. This study may also have implications for other transoral procedures, including cleft palate repair, tumor ablation, and dental surgery.

Zainab Sandhu
Jack Borders, MD
Colin Fuller, MD, MS
University of Oklahoma College of Medicine

5/19/2024

11:37 AM–11:40 AM

Ballroom EF

Quickshot #GS5

The role of adenoid immune phenotype in polysensitized children with allergic rhinitis and adenoid hypertrophy

QUICK SHOT PRESENTATION

Presenter: Lanye Hu MD
Shanghai Children's Medical Center

Background: There has been increasing interest in elucidating the relationship between adenoid hypertrophy (AH) and allergic rhinitis (AR). However, the impact of aeroallergen sensitization patterns on children concurrently experiencing AH and AR remains unclear.

Hypothesis: In children with AH, sensitization models that modify the immune phenotype in adenoid tissues may contribute to adenoid enlargement, to some extent, in conjunction with specific viral components.

Methods: Patients aged 2-8 years (January 2019 to December 2022) with nasal symptoms were assessed for allergies, adenoid size and respiratory viral infection history. The levels of serum total immunoglobulin E (IgE) and specific IgE and flexible nasal endoscopy were performed.. We analyzed the relationship between AH and sensitization patterns and lymphocyte subpopulations in adenoid samples using flow cytometry.

Results: 5281 children were enrolled in our cohort. 56.5% of children was diagnosed with AR and 48.6% with AH. AR was more prevalent in AH children compared to nAR. Compared to non-sensitized, those with AR polysensitized to molds had a higher prevalence of AH (adjusted OR 1.56, 95%CI 1.28-1.89) and a greater occurrence of two or more respiratory viral infections, particularly in cases with adenoidectomy. In AH-AR children, adenoid tissues showed reduced frequencies and corrected absolute counts of T regulatory cells (Tregs), activated Tregs, class-switched memory B cells (CSMB), natural killer (NK) T cells and NK subpopulations compared to AH-nAR children,. Polysensitization in AH-AR children correlated with lower CSMB frequencies.

Discussion: Polysensitivity to molds significantly increased the risk of AH in children with AR. Adenoids of AR children demonstrated less number of B cells, NK cells and Treg cells with an effector/memory phenotype, which was closely linked to sensitization models and respiratory viral infection, particularly concerning CSMB.

Youjin Li
Shanghai Children's Medical Center

5/19/2024

11:40 AM–11:43 AM

Ballroom EF

Quickshot # R1

Demographic and Clinical Factors Associated with Disease Severity and Persistence in Pediatric-Onset Chronic Rhinosinusitis

QUICK SHOT PRESENTATION

Presenter: Maksym Goryachok
University of Colorado, School of Medicine

Introduction: Despite high patient burdens, little is known about what causes patients with pediatric chronic rhinosinusitis (pCRS) to progress into adulthood or require surgical intervention.

Objectives: To Identify factors associated with severe disease defined as the need for operative intervention or progression into adulthood.

Methods: Retrospective chart review of pCRS patients was performed at a tertiary care pediatric hospital. Operative interventions included antral irrigation, turbinate reduction, adenoidectomy +\-tonsillectomy, septoplasty, and endoscopic sinusectomy (ESS) at the diagnostic visit or follow-up visit. Factors associated with the need for operative intervention, and progression to adulthood were identified through univariate analysis using t-tests, Wilcoxon, chi-squared, or Fisher's exact tests as appropriate and significant findings ($p < 0.05$) reported.

Results: 183 patients (62.5%) received operative intervention in the final cohort (n=293, mean age 5.7 years). This included adenoidectomy (160, 60.8%), endoscopic sinusectomy (43, 16.3%), turbinate reduction (26, 9.88%), antral irrigation (24, 9.12%), and septoplasty (10, 3.8%) (some patients had multiple procedures). Earlier age at diagnosis (mean 5.03 years vs 6.79 years, p=0.002), asthma (p=0.02), and recurrent croup (p=0.008) were associated with operative intervention. 49 patients (16.7%) had CRS progression beyond age 18 years. More adult-progression patients had nasal polyposis (12.2% vs. 4.1%, $P < 0.001$), facial pain/pressure ($P < 0.001$), higher initial symptom burden (median = 3 vs. 2, P=0.008), and longer pre-diagnosis symptom course (median 12 vs 8 months, p=0.03). Long-term outcomes of patients with follow-up (79%) spanning the entire cohort with medical and surgical interventions included total resolution (62.5%), improvement (20.7%), no change (15.0%), and worsening (1.7%).

Conclusion: Multiple factors are associated with severe disease (surgical intervention, and progression from pCRS to adult CRS). Future studies are needed to better predict which pCRS patients may experience a prolonged course.

Sarah A. Gitomer, MD
Kenny H. Chan, MD
Andrew H. Liu, MD
University of Colorado, School of Medicine

5/19/2024

11:43 AM–11:46 AM

Ballroom EF

Quickshot # R2

Epidemiology of Complicated Sinusitis in Children: Exploring Changing trends Before and After the COVID-19 Pandemic

QUICK SHOT PRESENTATION

Presenter: Emily Aleksa MD
Western University

Introduction: Complicated acute rhinosinusitis (cARS) in pediatric populations can develop when there is extension of infection to surrounding tissues, including intracranial and/or orbital structures. Limited research exists on the impact of the COVID-19 pandemic on the clinical course of cARS.

Objectives: To describe the epidemiology and adverse outcomes of cARS in an inpatient pediatric population, comparing patients prior to the COVID-19 pandemic (pre-COVID: January 2013-February 2020) to those since the onset of COVID-19 (post-COVID: March 2020-January 2023).

Methods: This retrospective chart review assesses pediatric patients admitted with cARS between January 2013 and January 2023. Demographic data, clinical severity, pathogen, surgical management, and adverse outcomes were compared across pre- and post-COVID periods.

Results: 64 children with cARS were included (56.3% male, mean age 8.8 years). 46.2% underwent surgical management, with

initial surgery at mean of 4.1 (SD=8.31) days from admission. 43 patients with cARS were included pre-COVID, and 21 included post-COVID. Intracranial complications occurred in 25.6% and 38.1%, and orbital complications in 74.4% and 61.9% of pre- and post-COVID groups, respectively. Overall, a complicated clinical course was more likely in the post-COVID than pre-COVID group (72.7% vs 46.5%; p=.044), with more requiring >1 surgery (45.5% vs. 11.6%, p=.002), and prolonged antibiotic therapy (72.7% vs. 41.9%, p=.018). More patients with intracranial complications also had a complicated clinical course compared to those with orbital complications alone (95.2% vs. 33.3%, p<.001). Streptococcus anginosus was the most common pathogen (35.9%), with more having positive cultures post-COVID (52.4%) than pre-COVID (27.9%), though not significant (p=.055). The number of adverse outcomes differed by pathogen, with those having S. anginosus positive cultures being 3.35 times (95%CI: 1.16–9.72, p=.026) more likely to experience an adverse outcome (60.9%) compared to those S. anginosus negative (31.7%).

Discussion: This study identifies increased morbidity in patients with intracranial complications of cARS, with S. anginosus positive cultures, and those presenting during the COVID-19 pandemic.

Julie Strychowsky, MD
Michelle Barton-Forbes, MD
Breanna Chen, MD
Leigh Sowerby, MD
Western University

5/19/2024

11:46 AM–11:49 AM

Ballroom EF

Quickshot # R3

Assessing the Quality of Online Patient Education Materials on Pediatric Functional Endoscopic Sinus Surgery

QUICK SHOT PRESENTATION

Presenter: Grace Nichols
University of Connecticut School of Medicine

Introduction: Evaluating patient education materials pertaining to pediatric care is important, as parents and guardians often turn to outside resources for more information. The decision to perform FESS (functional endoscopic sinus surgery), which is less commonly performed in children, can vary depending on clinical judgement and shared decision making. This makes assessing the quality of online materials regarding pediatric FESS even more relevant. ChatGPT (Generative Pre-trained Transformer) is an artificial intelligence platform that has the potential to provide vast amounts of medical information efficiently. However, concerns regarding its accuracy remain.

Objectives: Assess the readability, clarity, and quality of information available online regarding pediatric FESS, and compare this with information from ChatGPT.

Methods: Google, Bing, and ChatGPT searches were performed with the phrases "pediatric functional endoscopic sinus surgery," "pediatric endoscopic sinus surgery," and "pediatric sinus surgery." The first 50 websites, or ChatGPT responses, were evaluated. Academic articles, advertisements, and medical education materials were excluded. Readability was assessed with Flesch Reading Ease Score (FRES), clarity was measured with the CDC's Clear Communication Index, and quality of health information was assessed with the DISCERN rating tool.

Results: Of the 300 online search results, 51 websites met inclusion criteria. Of these, 82% (n = 40) specifically discussed pediatric sinus surgery, and 42% (n = 21) of websites defined sinusitis. The average FRES was 45.28 (college-level reading difficulty). The average CDC Clear Communication index was 34% (passing score is 90% or greater). The average Discern score was 43.70 ("fair" quality of health information). Of ChatGPT responses, the average FRES was 22.86 (college-graduate level), CDC Clear Communication index was 36%, and Discern score was 40 ("fair" quality of health information).

Discussion: From the websites analyzed on pediatric FESS, information is of average quality, presented above the recommended reading level for patient education, and lacks clarity. ChatGPT provided similar information, but at a higher reading level than websites.

Nancy Grover, MD
University of Connecticut School of Medicine

5/19/2024

11:49 AM–11:52 AM

Ballroom EF

Quickshot #GS6

Use of conversational AI for improving patient engagement and the postoperative patient experience

QUICK SHOT PRESENTATION

Presenter: Patrick Barth MD
Nemours Childrens Hospital Delaware

Background: Conversational AI, "Chatbots," or automated virtual technologies, are increasingly being utilized to deliver health communications, provide educational content, and offer support for patients without the need for direct interaction with a provider. We examined impacts of patient engagement, and patient satisfaction in chats on the perioperative pediatric tonsillectomy experience.

Hypothesis: Chatbots offer patients an opportunity to obtain educational content and express commonly experienced health concerns via secure, automated technology. Automated chat "check-ins" during the perioperative period may alleviate patient anxiety and reduce the need for more expensive follow up emergency care by soliciting patient status updates and providing targeted educational content to patient-families to ensure preparation and recovery is proceeding as expected, without

the need for the surgeon's direct involvement. In this study, we incorporated chatbots into an existing telehealth infrastructure across two clinical pediatric settings. We examined engagement in chats among patient-families with scheduled tonsillectomy procedures. We offered educational content to patient-families via chats preceding and following pediatric tonsillectomy as an opportunity to provide essential educational content regarding the surgical procedure itself and to help mitigate several common pre- and post-surgical concerns, including dehydration, fever, and anesthesia. Program outcomes between chat users versus non-users will be compared.

Method: Descriptive

Results: Chats went live in February 2022 for Tonsillectomy. To date, 4,636 Tonsillectomy chats have been completed, with 51,136 Tonsillectomy questions answered. Patients engaging in 2+ chats (i.e., "engaged patients") included 1,313 (41%) Tonsillectomy patients. Tonsillectomy patients were satisfied with the chat 1,936(83%). Inferential analysis is underway to examine the impact of the chat.

Conclusions: Chatbots are an effective means of communicating health information and education to patients for a variety of purposes and can serve multiple clinical domains. Commonly experienced patient health updates and concerns can be communicated without intervention from a healthcare provider. Satisfaction with chats is high, regardless of program. Willingness to engage in chats may be somewhat dependent on factors related to patient risk. Pursuit of opportunities to increase patient engagement in chats may further benefit desired outcomes.

Heather Nardone, MD
Cynthia Zettler-Greeley
Sue Voltz
Nemours Childrens Hospital Delaware

5/19/2024

11:52 AM–11:55 AM

Ballroom EF

Quickshot #GS7

Utility of speech therapy in the treatment of pediatric sialorrhea and associated quality of life

QUICK SHOT PRESENTATION

Presenter: Sofia Olsson
University of Texas Southwetsern Medical Center

Objective: Sialorrhea significantly impacts the quality of life (QoL) of patients with neurological impairments and their caregivers. Various pharmacologic and surgical interventions can be effective, but the role of speech therapy is poorly studied. The primary objective of this study is to analyze the efficacy of targeted speech therapy on QoL.

Setting: Tertiary care pediatric hospital.

Methods: Single-institution retrospective chart review which included pediatric patients from our secretion management clinic. There were 2 outpatient speech therapy programs (intensive: 4 sessions/week for 3 weeks; less intensive: 2 sessions/week for 3 months). Caregivers completed drooling impact scales (DIS) before and after their program. The DIS ranges from 0-100 with a higher score indicating poorer QoL. Exclusion criteria were: age greater than 18, did not complete DIS. Demographics, co-morbidities, and treatment regimens were recorded.

Results: There were 49 patients included in the study. The patient population had a mean age of 7.5 years (SD: 4.6). The most common comorbidities were global developmental delay (47, 95.9%) epilepsy (35, 71.4%), and cerebral palsy (32, 65.3%). After initial evaluation, 30 patients underwent speech therapy with significantly improved DIS scores compared to the 19 who had no therapy (43.4 vs 54.5, p=.03). Of these 30, 16 (32.7%) underwent intensive therapy with mean DIS improving from 63.5 to 47.2 (P=.006). Fourteen (28.6%) completed the less intensive regimen with mean DIS improving from 51.9 to 39.1 (P=.07). There were 19 (38.8%) patients who underwent no therapy and mean DIS changed from 55.6 to 54.5 (P=.86). Of these 19, 6 patients later underwent intensive therapy with improvement of mean DIS from 54.5 to 31.5 and 9 underwent less intensive therapy with improvement of mean DIS from 54.5 to 43.6.

Conclusion: Sialorrhea can significantly impair QoL for patients and caregivers. These patients have a high prevalence of neurologic disease. Targeted speech therapy is significantly associated with improved caregiver QoL. Speech therapy should be more strongly considered as an adjunctive treatment for sialorrhea alongside pharmacological and surgical interventions.

Yann-Fuu Kou, MD
Stephen Chorney, MD
Allison Brown, MD
Romaine Johnson, MD
University of Texas Southwetsern Medical Center

5/19/2024

11:55 AM–11:58 AM

Ballroom EF

Quickshot #GS8

Relationship between Research Activity and Centers for Medicare Payments for Pediatric Otolaryngology Fellowship Directors

QUICK SHOT PRESENTATION

Presenter: Haris Waseem
Rutgers New Jersey Medical School

Background: The Centers for Medicare Services (CMS) provides publicly available data on industry payments received by healthcare professionals. Academic physicians, including fellowship directors, may receive industry funding to support their work. This study seeks to elucidate the impact of CMS payments and the research activity of pediatric otolaryngology fellowship program directors.

Methods: Data on pediatric otolaryngology fellowship programs and directors was compiled from the American Society of Pediatric Otolaryngology and institutional websites. Demographic data was recorded. The Scopus database was used to collect h-index data, and iCite was used to generate the mean Relative Citation Ratio (m-RCR) and weighted RCR (w-RCR) for each director. The Open Payments Data from the CMS government website was utilized to record the total amount and number of General Payments received by each director. Analysis was conducted by comparing the h-index, m-RCR, w-RCR, and years in research between directors with and without CMS payments.

Results: Data was collected for thirty-six program directors (47% women). Of those, 16.7% did not receive CMS General Payments. Directors did not differ significantly based on their h-index (15.1±17.8 vs 15.8±7.3; p=0.2169), m-RCR (1.2±0.4 vs 1.3±0.2; p=0.2515), w-RCR (43.7±57.8 vs 57.0±52.3; p=0.2028), or years in research (17.7±10.5 vs 18.8±5.3; p=0.4187) based on whether they received payments. Similarly, CMS payment value did not differ significantly between geographical regions, with the Northeast, South, Midwest, and West composing 10%, 40%, 30%, and 20%, respectively. However male program directors received significantly larger CMS payments than their female counterparts ($423.10±629.59 vs $52.16±52.71; p=0.01).

Conclusion: Research activity did not differ for pediatric otolaryngology fellowship directors based on whether they made CMS payments, however, male directors receive significantly larger CMS payments than their female peers. This suggests gender disparities despite equivalent research activity, a critical component of academic evaluation.

Brian Manzi, MD
Victoria Vought
Sruthi Kunamneni
Jean Eloy, MD
Rutgers New Jersey Medical School

5/19/2024

11:58 AM–12:00 PM

Ballroom EF

Q & A

5/19/2024

12:00 PM–12:00 PM

Closing