

The Program

of

The Eighty-Fifth Annual Meeting

of

**THE AMERICAN
BRONCHO-ESOPHAGOLOGICAL
ASSOCIATION**

**Friday and Saturday
May 13 - 14, 2005**

**Boca Raton Resort and Club
Boca Raton, Florida**



PURPOSE

The purpose of this program is to provide Otolaryngologists–Head and Neck Surgeons, Pulmonologists, Gastroenterologists and other interested physicians, clinicians, and scientists with an opportunity to update their knowledge of diseases involving the upper aerodigestive tract.

EDUCATIONAL OBJECTIVES

- ◆ The aim of these scientific sessions is to provide physicians with up-to-date information pertinent to the clinical evaluation and endoscopic management of laryngeal, tracheobronchial, and esophageal disorders.
- ◆ Basic and clinical studies addressing structure function, and diseases of the aerodigestive tract, and disorders of swallowing, voice, and airways will be addressed.
- ◆ Special focus will be placed on issues relevant to laryngology.
- ◆ A variety of research regarding innovative techniques and instrumentation, as well as discussions of relevant illnesses and disorders associated with broncho-esophagology, will be presented for discussion.

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American College of surgeons (ACS) and the American Broncho-Esophagological Association (ABEA). The ACS is accredited by the ACCME to provide continuing medical education for physicians.

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

EDUCATIONAL OBJECTIVES (cont.)

Disclosure

In accordance with ACCME and ACS policies, all faculty members will disclose relevant financial relationships with commercial entities and will disclose their intent to discuss drugs or devices or the uses of drugs or devices that have not been approved by the Food and Drug Administration (FDA)

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ACCREDITATION

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American College of Surgeons and the American Broncho-Esophagological Association. The American College of Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

CME CREDIT

The American College of Surgeons designates this educational activity for up to a maximum of 7.25 Category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those credits that he/she actually spent in the educational activity.



Division of Education

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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Ellen S. Deutsch, MD; Peter J. Koltai, MD; J. Scott McMurray, MD

12:30 PM

Friday, 13 May 2005

**BUSINESS MEETING
ABEA MEMBERS ONLY**

Announcements

Election of New Members

Active Members

Senior Members

Corresponding Members

Honorary Members

Introduction of New Members

Comments by Proposer

Presentation of ABEA Pins and

Certificates

Granting of Senior Membership Status

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Fifty-Year Certificates

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David Brewer, MD

Thomas Keyes, MD

Loring Pratt, MD

In Memoriam –

Joseph P. Atkins, MD

(President 1962)

Plinio de Mattos Barretto, MD

Election of Nominating Committee

Appointment of Auditing Committee

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

New Business

Old Business

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1945	Carlos E. Pitkin, MD
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THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

1:00 PM

Friday, 13 May 2005

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**STEVEN M. ZEITELS, MD
Boston, MA**

1:05 PM

Friday, 13 May 2005

INTRODUCTION OF GUEST OF HONOR

Steven M. Zeitels, MD

GUEST OF HONOR:

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Boston, MA**

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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Friday 13 May 2005

SESSION #1: NEUROLARYNGOLOGY

Moderator: Gregory A. Grillone, MD
Boston, MA

1:35 PM

Friday May 13 2005

**Dose Response of Topical Anesthetic on Laryngeal
Neuromuscular Electrical Transmission**

Ajay Chitkara, MD*

Smithtown, NY

Andrew Blitzer, MD, DDS

Tanya Meyer, MD*

New York, NY

Anthony Cultara, MD *

Vorhees, NJ

PURPOSE: To determine the dose response with decreasing concentrations of topical anesthetic upon laryngeal neuromuscular electrical transmission.

DESIGN AND METHODS: A prospective study at a neurolaryngology referral center. Twenty-nine patients were divided into three groups. Each patient underwent laryngeal electromyography (EMG) of a thyroarytenoid muscle before and 60 seconds after topical laryngotracheal lidocaine was applied. The pre- and post-anesthetic measurements were recorded with the same, indwelling EMG electrode. Group I (n=12) received 4% lidocaine, Group II (n=9) received 2% lidocaine, Group III (n=8) received 1% lidocaine. A fourth group (Group IV, n=9) had two EMG recordings measured, each separated by 60 seconds without topical anesthetic.

RESULTS: Groups I, II, and III showed significant decrease in the maximum peak-to-peak amplitude of the recorded EMG (48.5%, 49.7%, 44.7%, respectively). Group IV failed to show a significant change in peak-to-peak amplitude after 60 seconds.

CONCLUSION: All concentrations of lidocaine administered in this study decreased the laryngeal neuromuscular electrical transmission as measured by laryngeal EMG. This group of patients did not exhibit any dose response to anesthetic concentration. This effect is clinically significant for both diagnostic and therapeutic uses of laryngeal EMG when preceded by topical anesthetic.

1:43 PM

Friday, 13 May 2004

**Quantitative Sensory Testing in the Assessment of
Laryngeal Sensation in Amyotrophic Lateral
Sclerosis (ALS) Patients**

Donna Harris, CCP-SLP*

Milan R. Amin, MD

Terry D. Heiman-Patterson, MD*

Philadelphia, PA

Stacy Cassell, CCP-SLP*

Springfield, PA

BACKGROUND: ALS is a progressive motor neuron disease of unknown etiology. Mortality in the population is frequently due to aspiration pneumonia. Although typically considered to be a disorder limited to motor neuron involvement, some investigators have indicated that decreased sensory function in ALS patients additionally contributes to the disease process.

OBJECTIVE: The objective of this study was to evaluate laryngopharyngeal sensation in the ALS population in order to quantify the range of sensory deficits and correlate any abnormalities with demographic data to determine which patients are at risk for having sensory deficits.

METHODS: We examined the sensation of the larynx in 27 patients with ALS to determine whether a sensory deficit was present. Following completion of a dysphagia questionnaire and medical history, patients underwent flexible endoscopic evaluation of swallowing with sensory testing (FEESST) to evaluate sensory function. Threshold values were determined and recorded for initiation of the adductor reflex.

RESULTS: The results of the sensory and swallowing function assessments performed on 27 patients demonstrate abnormal sensation in 44% of the tested population. Asymmetrical findings were noted in 66% of these patients. There was no correlation noted between the presence of sensory deficits and the severity or duration of the disease.

CONCLUSION: Progressive dysphagia in the ALS population has typically been attributed to muscle weakness. This study points to the presence of sensory deficits in the larynx, which can further affect proper swallowing function.

1:51 PM

Friday, 13 May 2005

**A Comparison of the Glottic Closure Reflex in
“Open” v. Endoscopic Laser Supraglottic
Laryngectomy**

Clarence T. Sasaki, MD
Steven B. Leder, PhD*
Lynn Acton, MA*
New Haven, CT
Steffen Maune, MD*
Kiel, Germany

Cancer of the supraglottic larynx may be surgically treated by either traditional "open" supraglottic laryngectomy (OSL) or endoscopic laser supraglottic laryngectomy (ELSL). Pharyngeal dysphagia is a well-documented consequence of "open" supraglottic laryngectomy for which near normal swallowing characteristically recovers 14-30 days post-operatively. Conversely, endoscopic laser supraglottic laryngectomy results in the resumption of serviceable swallowing within 2-7 days post-operatively.

A prospective assessment of the glottic closure reflex (GCR) in 6 consecutive ELSL patients was performed by fiberoptic endoscopic evaluation of swallowing and sensory testing. All 6 patients demonstrated an intact GCR pre and 48-72 hours post-operatively compared to 7 of 8 historical OSL control patients who demonstrated persistent absence of GCR 1.5-12 years later.

Although a number of clinical factors influence swallow recovery, one important factor separating our patient groups is the preservation of GCR in patients undergoing endoscopic laser resection. On the other hand, because the loss of GCR persists years after traditional OSL, it is concluded that while the sensory field deficit caused by superior laryngeal nerve section is largely not recoverable, compensatory mechanisms remain important in serviceable recovery even if post-operatively delayed. Indeed, GCR preservation appears to enhance that recovery when equivalent compensatory mechanisms are used.

1:59 PM

Friday, 13 May 2005

**Predictors of Phonotory Complications in Patients
Implanted with the Cyberonic Vagal Nerve
Stimulator**

Gary Y. Shaw, MD

Overland Park, KS

Phillip Sechtum, MD, CCC-SLP

Kansas City, MO

Since its FDA approval in 1997 for management of medically refractory seizures over 35,000 patients have been implanted with the Cyberonic Vagal Nerve Stimulator. Preliminary reports described transient vocal changes in the majority of subjects which were felt to be short term. However these were for the most part based upon perceptual evaluations by the subjects themselves. Later reports described possibly more permanent recurrent laryngeal nerve injury and recommended measuring the nerve diameter to employ the safest spiral cuff electrode. To date no study has eletromylographically evaluated the recurrent laryngeal nerve in subjects pre-implant and post-implant to determine if there is any potential indicators to predict patients who may develop long term vagal nerve problems and to determine if there are notable electrical changes in the nerve after the stimulator has been implanted and utilized which may have long term implications. Twelve subjects underwent pre-implantation laryngeal EMG, videostroboscopy, computerized acoustic analysis and CAPE – V perceptual analysis. Three months after implantation and activation of the device they were reevaluated. EMG abnormalities were detected pre implantation in three subjects. All of these subjects had prolonged vocal fold paresis and phonotory abnormalities. The authors conclude that pre VNS insertion laryngeal EMG and phonotory testing is warranted to identify patients who may be at risk for extended phonotory difficulties.

2:07 PM

Friday, 13 May 2005

**Speech and Swallowing Symptoms in Patients with
Multiple Sclerosis**

Tanya K. Meyer, MD*
Lucien Sulica, MD
Saud Sadiq, MD
Andrew Blitzer, MD
New York, NY

PURPOSE: To evaluate the character and incidence of speech and swallowing disorders among a cohort of multiple sclerosis patients in relation to the severity and temporal progression of their disease.

DESIGN: A self-administered survey was voluntarily completed by patients presenting to a specialty neurology clinic for evaluation and treatment of their multiple sclerosis. This questionnaire addressed specific questions related to speech, swallowing, and breathing, and also included a reflux symptom index (RSI) and modified voice handicap index (VHI-10) scoring.

RESULTS: Ninety-eight individuals completed the survey. Twenty-two percent of individuals reported difficulty with swallowing and felt that this difficulty was due to their multiple sclerosis. These individuals also demonstrated a significantly elevated RSI (mean = 17.5, overall = 4.5). Eleven percent of individuals reported difficulty with vocal tasks, with a mean VHI-10 = 18 (overall VHI-10 = 2.3). Difficulty breathing was rarely reported in this population, in less than 5% of individuals, and only a minority felt that the symptoms were related to their multiple sclerosis.

CONCLUSION: Patients with multiple sclerosis experience a variety of symptoms related to speech and swallowing disorders. These symptoms may occur at any time point in their disease progression. Otolaryngologists must be familiar with the nuances of this disease process to facilitate accurate diagnosis, treatment, and appropriate referral of these individuals.

2:15 PM

Friday, 13 May 2005

**Electromyography Findings of the Cricopharyngeus
in Association with Ipsilateral Pharyngeal and
Laryngeal Muscles**

Albert L. Merati, MD

Milwaukee, WI

Stacey L. Halum, MD*

Winston-Salem, NC

Nima L. Shemirani MD*

Safwan Jaradeh, MD*

Nalin Patel, MD*

Robert J. Toohill, MD

Milwaukee, WI

OBJECTIVE: To review a large series of cricopharyngeal muscle (CPM) electromyography (EMG) results and compare them with the EMG results from the inferior constrictor (IC), thyroarytenoid, (TA), cricothyroid (CT), and posterior cricoarytenoid (PCA) muscles.

METHODS: A retrospective review of all CPM EMG reports from studies performed between 1/1996 and 6/2003. All of the tested elements from the CPM EMG reports were recorded. EMG results were recorded for the ipsilateral IC, TA, CT, and PCA if simultaneously tested. Each muscle result was classified as normal, neurogenic axonal-sparing injury (ASI) or neurogenic active axonal injury (AAI), and muscle findings were compared. Patient chart review was performed to determine clinical correlation.

RESULTS: 59 patients underwent CPM EMG study. 18 patients had bilateral EMGs making a total of 77 CPM studies. 19 CPM studies were normal, 43 demonstrated neurogenic ASI and 15 demonstrated neurogenic AAI. The ipsilateral IC and CPM had the same innervation status in 27 of 28 ($p<0.0001$). When the ipsilateral TA muscle was simultaneously studied with the CPM, 31 of 50 had the same innervation status ($p=0.005$). Ipsilateral CT and CPM demonstrated the same innervation status in 40 of 50 ($p<0.0001$). The correlation between the CPM and IC findings, and between the CPM and CT findings were both stronger than the correlation between the CPM and TA findings ($p<0.0001$ and $p=0.024$, respectively). Chart review demonstrated clinical findings to be consistent with electromyography results.

CONCLUSION: EMG studies demonstrate CPM findings have the strongest correlation with IC findings, followed by the CT and TA. This does not support theories indicating the recurrent laryngeal nerve innervates the CPM in all cases.

DISCUSSION

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

2:33 PM

Friday, 13 May 2005

CHEVALIER JACKSON LECTURE

JOHN WARD, PHD

Chicago, IL

Laryngeal Cancer: A Patient's Perspective

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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Friday 13, May 2005

BREAK WITH EXHIBITORS

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

Friday, 13 May 2005

SESSION #2: BASIC SCIENCE

Moderator: Peter Koltai, MD
Cincinnati, Oh

3:08 PM

Friday, 13 May 2005

**SEYMOUR COHEN AWARD
HONORABLE MENTION**

DAVID M. POETKER, MD*
JOSEPH E. KERSCHNER, MD*
NALIN J. PATEL, MD*
NANCY BAUMAN, MD
ANTHONY D. SANDLER, MD*

Iowa City, IA

**Immune Stimulation for the Treatment of
Papilloma**

HYPOTHESIS: There is no curative therapy for the exophytic airway lesions of recurrent respiratory papillomatosis. Unmethylated dinucleotides of Cytosine and Guanine (CpG motifs) are potent immune stimulants that trigger protective host immunity. We examined the therapeutic effect of CpG oligodeoxynucleotides (ODN) in the treatment of cottontail rabbit papillomavirus (CRPV) in a New Zealand White rabbit model.

METHODS: Twenty New Zealand White rabbits were infected with CRPV. Animals were evaluated and papillomas were measured weekly. Ten rabbits were treated with a total of 11 weekly CpG inoculations. Controls received intralesional injections of phosphate buffered saline. Eight rabbits were re-challenged with CRPV (4 treatment, 4 control), seventeen weeks after the initial viral challenge and monitored for papilloma development for one month.

RESULTS: All 20 rabbits (100%) developed papillomas within 4 weeks of infection. Diagnosis was confirmed histologically. There was no difference in average tumor burden between the treatment and control groups after 11 weeks of CpG treatments and 9 additional weeks of observation. There was no difference between the groups in papilloma size at the site of the injections, nor was there eradication of papillomas at remote sites in either group. Of the 8 animals re-challenged with virus, no animals developed new papillomas.

CONCLUSION: We have established an effective mammalian papilloma model for pre-clinical immuno-therapeutic testing. Despite the potency of CPG immune stimulants in triggering host immunity, CpG ODN did not induce therapeutic immunity in this model of established papilloma. Future studies evaluating immuno-therapeutic strategies will attempt to enhance antigen presentation of the papillomas.

THE SEYMOUR COHEN AWARD

The Seymour Cohen Award is presented to residents, fellows or practicing physicians who submit the best original unpublished paper in either basic research or clinical investigation in pediatric laryngology and bronchoesophagology.

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- 1984 Judson R. Belmont, MD
Kenneth M. Grundfast, MD
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- 1990 Glenn C. Isaacson, MD
- 1991 Eric Mair, MD
Davis D. Parson, MD
- 1992 (no award)
- 1993 Steven C. Marks, MD
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- 1994 (no award)
- 1995 John P. Bent, III, MD
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Nancy M. Bauman, MD
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- 1997 Robert F. Ward, MD
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- 1999 Ryan R. Stevens, MD

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Scott M. Milkovich, PhD
Daniel Stool
Gene Rider
Sylvan E. Stool, MD
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2001 Nancy M. Bauman, MD
Deqiang Wang, MD
Erich Luschei, MD
2002 (no award)
2003 Robert G. Berkowitz, MD
2004 No Award
2005 Ravindhra G. Elluru, MD
Jeffrey A. Whitsett, MD

3:16 PM

Friday, 13 May 2005

THE SEYMOUR COHEN AWARD

Presenter: Charles N. Ford, MD

Recipients:

RAVINDHRA G. ELLURU, MD*

JEFFREY A. WHITSETT, MD *

Cincinnati, OH

**Fibroblast Growth Factor 18 Proves Proliferative
and Directional Signals to Chondrocytes in the
Developing Upper Respiratory Tract**

Little is known about the normal development of the cartilaginous support structures of the upper respiratory tract, much less how this developmental process could go awry giving rise to congenital airway anomalies. Previous published experiments demonstrate that chondrocytes initially form two longitudinal stripes along the posterior-lateral aspect of the trachea. As the trachea develops, the chondrocytes proliferate and migrate along the anterior aspect of the trachea forming the C-shaped tracheal ring.

PURPOSE OF STUDY: To characterize factors that signal chondrocytes to proliferate and migrate along the anterior aspect of the developing trachea and form the C-shaped tracheal ring. We hypothesize that the cytokine, Fibroblast Growth Factor 18 (FGF-18), provides proliferative and directional cues to chondrocytes in the developing trachea.

STUDY DESIGN: The larynx and trachea from mouse embryos were harvested at time-point prior to cartilage formation. The larynx-trachea explants were grown in tissue culture medium for 6 days. Glass beads with and without attached recombinant FGF-18 were implanted in direct contact with the trachea at the time of culture. On day 6 of culture, the explant tissue was processed for immunohistochemistry,

RESULTS: FGF-18 provided a proliferative signal to the developing cartilage as demonstrated by increased PCNA (proliferative cell nuclear antigen) staining and up-regulation of Sox9, a transcription factor essential for chondrocyte differentiation. Furthermore, chondrocytes proliferated towards the FGF-18 coated beads, forming misshapen tracheal cartilage rings.

CONCLUSION: We have developed an in vitro system to study the development of upper respiratory tract cartilage. We have shown that FGF-18 plays a critical role in the development of tracheal cartilaginous rings.

3:24 PM

Friday, 13 May 2005

**In Situ Tissue Engineering of the Cricoid and
Trachea in Canine Model**

Koichi Omori, MD

Fukushima, Japan

Tatsuo Nakamura, MD*

Shinichi Kanemaru, MD*

Akhmar Magrufov, MD*

Masaru Yamashita, MD*

Kyoto, Japan

PURPOSE: The purpose of the current study is to demonstrate the efficacy of in situ tissue engineering of the cricoid and trachea using a canine model.

METHOD: As the tissue scaffold for airway regeneration, Marlex mesh tube reinforced with polypropylene threads covered by collagen sponge was used in nine beagle dogs. Under general anesthesia, the larynx and trachea were exposed. The anterior half of the cricoid cartilage was resected in five dogs, while the cricoid and cervical trachea were simultaneously resected in four dogs. The tissue scaffold was implanted into the defect anastomosing to the lower edge of the thyroid cartilage and to the resected edge of the tracheal cartilage. For the evaluation of the regenerated tissue, endoscopy, light microscopy, scanning electron microscopy and strain-force measurement were undertaken after the surgery.

RESULTS: Endoscopic examination showed no airway obstruction postoperatively for the period from 3 to 36 months in all dogs. There was granulation tissue in 2 dogs and slight mesh exposure in 1 dog although they were all asymptomatic. Light microscopy and electron microscopy showed the endolaryngeal and endotracheal lumen covered by the ciliated epithelium. Based on strain-force measurement, framework was firmly supported by regenerated tissue as well as the normal cricoid and trachea.

Conclusions: Our current tissue scaffold provides a rigid framework for the airway, while the collagen coating invites tissue re-growth around the tube. This study presents the possibility of successful cricoid and trachea reconstruction with epithelial regeneration using in situ tissue engineering.

**STEVEN DEAN GRAY
RESIDENT ESSAY AWARD
2nd Place**

YUKIO NOMOTO, MD*
TERUHISA SUZUKI, MD*
YASUHIRO TADA, MD*
MASAO MIYAKE, PHD*
HIROSHI OGAWA, MD*
AKIHIRO HAZAMA, MD*
KOICHI OMORI, MD
Fukushima, Japan
SHINICHI MANEMARU, MD*
Kyoto, Japan

**Tissue Engineering for Regeneration of the Tracheal
Epithelium**

PURPOSE: Regeneration of tracheal defects by tissue engineering was carried out using collagenous sponge with polypropylene mesh as frames, and successful results were reported by our study group. However, delay of epithelization on the scaffold material is a problem. The purpose of this study is to accelerate the epithelization after transplantation. In the present study, the hybrid scaffold, containing the tracheal epitheliocyte layer on the surface of the scaffold previously used, was made. The characters of the cells layer were examined immunohistochemically.

METHODS: The trachea of rats was extirpated, and the tracheal epitheliocytes were separated after treatment with protease. The cells were cultured in Eagle Medium with fetal bovine serum, penicillin G, streptomycin and amphotericin B at 37°C. The cultured cells were treated with trypsin-EDTA, and seeded on the collagenous gelatum stratified on the collagenous sponge. Paraffin sections were made, and stained by hematoxylin-eosin and by monoclonal antibodies of anti-cytokeratin14, anti-cytokeratin18 and anti-occludin.

RESULTS: The trilaminar structure including the tracheal epitheliocyte layer, collagenous gelatum layer and collagenous sponge layer was confirmed on the H-E staining. Immunohistochemical examinations revealed that the epitheliocyte layer expressed cytokeratin14, cytokeratin18, and occludin as characteristic phenotypes of epithelium and tight junction.

CONCLUSIONS: The tracheal epitheliocyte layer was successfully constructed on the surface of the scaffold previously used. It is thought that immunohistologically the tissue engineered tracheal epithelium has the character of the epithelial cells of respiratory tract. This hybrid scaffold material will be feasible for regeneration of the tracheal epithelium.

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

Friday, 13 May 2005

BROYLES-MALONEY AWARD

The Broyles-Maloney Award was established to encourage advancement of the art and science of bronchoesophagology and closely related subjects. Competition for the award is limited to persons whose abstracts are submitted for inclusion in the Annual Scientific Program. The award is given for outstanding manuscript, thesis or accomplishments in bronchoesophagology, laryngology or related science.

**RECIPIENTS OF THE
BROYLES-MALONEY THESIS AWARD:**

1988	Richard A. Kosarek, MD
1989	(no award)
1990	Thomas F. Dowling, MD James A. Koufman, MD
1991	(no award)
1992	(no award)
1993	Jos. J.M. van Overbeek, MD, PhD
1994	Steven D. Gray, MD
1995	Jonathan E. Aviv, MD John H. Martin, PhD Ralph Sacco, MD Beverly Diamond, PhD Andrew Blitzer, MD, DDS
1996	(no award)
1997	Ira Sanders, MD Liancai Mu, PhD
1998	Nancy M. Bauman, MD Degiang Wang, MD Eric S. Luschei, PhD Debra M. Jaffe, MD
1999	Robert Berkowitz, FRACS Qi-Jian Sun, PhD John Chalmers, PhD Paul Pilowsky, PhD
2000	Asif Amirali, MD Greg Tsai, MD Nicole Schrader, MD Donald Weisz, PhD Ira Sanders, MD
2001	(no award)
2002	Shin-ichi Kanemaru, MD Hisayoshi Kojima, MD Akhmar Magrufov, MD Koichi Omori, MD Yasuyuki Hiratsuka, MD Shigeru Hirano, MD

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Juichi Ito, MD
Yasuhiko Shimizu, MD
2003 Ira Sanders, M.
2004 Clarence T. Sasaki, MD
2005 Tomoko Tateya, MD
Ichiro Tateya, MD, PhD*
Diane M. Bless, PhD*

3:40 PM

Friday, 13 May 2005

BROYLES-MALONEY AWARD

Presenter: Charles N. Ford, MD

Recipients:

TOMOKO TATEYA, MD
ICHIRO TATEYA, MD, PHD*
DIANE M. BLESS, PHD*

Madison, WI

Collagen Subtypes in Human Vocal folds

While it is well known that the fine structure of vocal fold lamina propria determines tissue properties and affects vocal performance, little has been done to identify its major constituents, the subtypes of Collagen proteins. This is of particular interest because each collagen subtype has different features that make it uniquely suited for performing specific tissue tasks. Immunohistochemistry studies are needed to reveal the distribution and the fine structure of collagen subtypes in human vocal folds. Eight human normal vocal folds from four autopsy cases (under 65 year-old) were examined using antibodies designed to highlight the presence of collagen types I, III, IV and V.

Collagen type III was distributed throughout the whole lamina propria. Type I was found just beneath the basal membrane, in the deep layer of the lamina propria, and in the anterior and posterior macula flavae. Type IV and V were present in the epithelial and endothelial basal membrane. Three dimensional images reconstructed with a confocal microscopy showed two distinct patterns: type III fibers were the wavy collagenous fibers previously observed in the vocal folds, and type I fibers were thinner than type III fibers. These results are interpreted to suggest that type III helps maintain the lamina propria structure and type I provides the tensile strength required around the basal membrane and vocal ligament to maintain the vocal fold shape while withstanding vibratory forces.

Genome Wide Scan to Identify Loci for Familial Laryngeal Paralysis

Jose M. Manaligod, MD*

Jana Van Rybroek, BA*

Iowa City, IA

Arielle Simon, MD*

Mirak Korner, PhD*

Bathsheva Kerem, PhD*

Eltan Keren, MD*

Jerusalem, Israel

PURPOSE: Familial laryngeal paralysis is characterized by autosomal dominant or X-linked inheritance with variable expressivity. The purpose of this study is to identify genetic loci that may harbor the causative genetic mutation that underlies this disorder.

STUDY DESIGN: Families that segregated this disorder were clinically ascertained. DNA was extracted from affected individuals and informative family members. A genome wide scan was performed with the ABI Prism 3100 Genetic Analyzer using short tandem repeat polymorphism markers (STRPs) from the Human Linkage Mapping Set, v. 2.5 with an average resolution of 10 centimorgans(cM). Two-point linkage analysis was performed with the LINKAGE 5.1 computer program package.

SUMMARY OF RESULTS: Two ascertained families were identified that shared a similar phenotype of familial laryngeal paralysis and skeletal malformations. The initial genome wide scan indicated a common genetic haplotype pattern on chromosome 3q13.31 that appeared to segregate with the affected individuals in both families. Two-point linkage analysis using different penetrance models showed cumulative lod scores marker D3S1278 ranging from 2.44-2.75, with a maximum lod score of 2.75 at 50% penetrance, approaching the statistically significant lod score of 3.0 necessary to definitively establish genetic linkage.

CONCLUSIONS: A genome wide scan identified the region surrounding the marker D3S1278 on chromosome 3q13.31 as the most likely locus for this particular form of familial laryngeal paralysis. Other genetic regions identified on the genome scan and possible candidate genes will be discussed further. Additional genotyping of markers surrounding D3S1278 is in progress to fully determine linkage to this genetic locus.

3:56 PM

Friday, 13 May 2005

DISCUSSION

4:06 PM

Friday, 13 May 2005

**PRESIDENTIAL CITATION FOR
FOREIGN BODY MANAGEMENT**

Presenter: Steven M. Zeitels, MD

MATTHEW BOLINGER, MD*
STACEY L. HALLUM, MD
GREGORY N. POSTMA, MD
Winston-Salem, NC

**Management of Chronic Tracheal Foreign
Body with a Microdebrider**

HISTORY: A 45-year old mentally challenged white male presented with dyspnea on exertion and chronic cough worsening over the past several weeks. Physical examination of his neck revealed a scar consistent with a previous tracheotomy. Computed tomography revealed a tracheal narrowing around a tubular foreign body located several centimeters above the carina. The patient's family was able to provide his past medical history consisting of mental retardation, obstructive sleep apnea and gastroesophageal reflux disease. The family also indicated he had chronic shortness of breath, cough and wheezing for many years which had been attributed to a remote history of smoking. Further questioning revealed the patient had undergone a tracheotomy in 1996 for obstructive sleep apnea but he didn't tolerate the tracheostomy tube due to irritation so it was converted to a shortened Montgomery-like tracheostomy appliance. In 1996, after playing in the snow he told family members that he had coughed and had lost his tracheal appliance. A brief search failed to yield the appliance and the decision was made to leave the patient decannulated.

FINDINGS: The patient underwent flexible bronchoscopy by the pulmonology service that revealed granulomatous stenosis starting proximal to the tubular foreign body and extending to just above the carina. Patient was immediately taken to the operating room where a suspension microdirect tracheoscopy was performed. At the superior end of the foreign body, extensive surrounding granulation tissue resulted in over 60% narrowing of the tracheal lumen. Debridement with forceps was attempted unsuccessfully. A skimmer type microdebrider was used to remove the granulation tissue encompassing the foreign body. The foreign body was then grasped with forceps and removed atraumatically. It appeared to be the tracheal appliance assumed lost 8 years earlier. Distal to the foreign body there was an almost complete obstruction of the patient's airway by granulation tissue, preventing visualization of the patient's carina or bilateral main stem bronchi.

CONCLUSION: This case represents the novel use of the microdebrider in the management of granulomatous stenosis due to a chronic foreign body of the trachea, and the importance of the cooperation and communication among the otolaryngology, anesthesia, pulmonology and intensive care teams.

4:11 p.m.

Friday, 13 May 2005

PANEL: FORESIGHT IN

LARYNGOLOGY: A 20/20 VISION

There has been a substantial acceleration of technology along with unique synergistic efforts in surgery, medicine, and science during the last twenty years. Laryngology has historically been at the forefront of many advances during its one-hundred and fifty year history due to the ever present importance of human airway, voice and swallowing. This is illustrated by the contributions in laryngology to the conceptual development of minimally-invasive surgery. The panel entitled "Foresight in Laryngology: a 20/20 Vision" has been designed to produce a theoretic roadmap for future accomplishments in laryngology and laryngeal surgery based on recent achievements, and coupled to indicate societal needs and attainable goals. A unique team of clinician-researchers who have demonstrated the ability to create the future, have been assembled to offer their vision for the roadmap to the year 2020 in management of disorders related to the larynx. Topics that will be covered include the use of light and lasers for optical diagnostics and therapeutics, neurolaryngology, voice science, and laryngeal surgery. It is our hope that the panelists will provide the attendees with a window to upcoming innovations and catalyze others to design unique clinical and research guidelines.

Light in the Larynx

R. Rox Anderson, MD
Boston, MA

**Bionics, Gene Transfer & Neurochemistry:
Neurolaryngology 2020**

Andrew Blitzer, MD
New York, NY

Voice Science

Robert E. Hillman, PhD
Boston, MA

Glottal Surgery

Steven M. Zeitels, MD
Boston, MA

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

5:00 PM

Friday 30 April 2004

ADJOURN

7:00 AM

Saturday, 14 May 2005

**BUSINESS MEETING
ABEA MEMBERS ONLY**

Announcements

**Report of Nominating Committee
Election of New Officers**

Report of the Treasurer

Audit Committee Report

Report of Secretary

**Report of Editor
Webmaster Report**

Recognition of Departing Council Members

Old Business

New Business

Recognition of Departing Officers

Introduction of New President

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

**RECOGNITION OF
CHEVALIER JACKSON AWARD RECIPIENTS
1959-2005:**

1959	Louis H. Clerf, MD
1960	(no award)
1961	Herman J. Moersch, MD
1962	Paul H. Holinger, MD
1963	Edwin N. Broyles, MD
1964	Leroy A. Schall, MD
1965	Herbert W. Schmidt, MD
1966	Paul G. Bunker, MD
1967	Joel Pressman, MD
1968	Verling K. Hart, MD
1969	Joseph P. Atkins, MD
1970	Anderson C. Hilding, MD
1971	Robert M. Lukens, MD
1972	Charles M. Norris, MD
1973	Arthur M. Olsen, MD
1974	Charles F. Ferguson, MD
1975	Shigeto Ikeda, MD
1976	Blair W. Fearon, MD
1977	Francis W. Davidson, MD
1978	Seymour R. Cohen, MD
1979	M. Stuart Strong, MD
1980	DeGraff Woodman, MD
1981	Albert H. Andrews Jr., MD
1982	Gabriel F. Tucker, Jr., MD
1983	Howard A. Andersen, MD
1984	Paul H. Ward, MD
1985	Bruce N. Benjamin, MD
1986	Loring W. Pratt, MD
1987	Robert S. Fontana, MD
1988	Charles W. Cummings, MD
1989	Bernard R. Marsh, MD
1990	David R. Sanderson, MD
1991	William W. Montgomery, MD
1992	John A. Tucker, MD
1993	Gerald B. Healy, MD
1994	Vincent J. Hyams, MD
1995	Lauren D. Holinger, MD
1996	Stanley M. Shapshay, MD
1997	Robert H. Ossoff, MD
1998	John Frederickson, MD
1999	Haskins Kashima, MD
2000	Eiji Yanagisawa, MD
2001	William W. Montgomery, MD
2002	Jack L. Gluckman, MD
2003	Ellen M. Friedman, M.D.

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

2004 Robin T. Cotton, M.D.
2005 Charles W. Vaughn, MD

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

8:00 AM

Saturday, 14 May 2005

CHEVALIER JACKSON AWARD

Presenter: Steven M. Zeitels, MD

Recipient:

CHARLES W. VAUGHAN, MD
Boston, MA

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

SESSION #3: LARYNGOLOGY

Moderator: Mark Courey, MD
Nashville, TN

8:05 AM

Saturday, 14 May 2005

**Laser Microsurgical Treatment of PT2/3NO
Carcinoma of the Glottis Results of 301 Cases**

Wolfgang Steiner, MD
Alexios Martin, MD
Petra Ambrosch, MD
Martina Kron, MD
Gottingen, Germany

INTRODUCTION: The pT2 category of glottic carcinomas is a very heterogenous group. It comprises tumors with spread to the supra- and/or subglottis with or without impairment of the vocal cord mobility. Regarding the local control and survival, pT2 tumors with impaired vocal cord mobility are comparable to T3 tumors and differ significantly from pT2a tumors.

PROCEDURES: A retrospective chart review of the Head and Neck Cancer Data Base at the University Hospitals of Erlangen, Germany and Goettingen, Germany was carried out. All patients primarily treated by or under the direct supervision of the senior author (WS) were included in this study. All patients with a past history of a previous head and neck malignancy were excluded from the analysis.

RESULTS: Three hundred and one patients were eligible for inclusion. Stage II accounted for 212 patients (95 cases of pT2aNO, 117 cases of pT2bN0), pT3 for 89 patients. The 5y local control group rate was 84%, 74% and 68%. The 5y recurrence-free survival rate was 83%, 62% and 62%. Organ preservation could be achieved in 95% (pT2a) and 85% (pT2b and pT3).

CONCLUSIONS: Laser microsurgical resection of (moderately) advanced glottic SCC is an excellent organ and function preserving treatment modality with oncologic results that are at least comparable to external beam radiation and open surgery, while its resulting morbidity remains significantly lower. The rate of organ preservation is superior compared to radiation therapy. It is our opinion that vocal cord cancers with impaired mobility should be classified as T3 tumors because of their oncologic prognosis.

Saturday, 14 May 2005

WITHDRAWN

**Reactive Laryngeal Airway Disease of
Indeterminate Etiology: Does Eosinophilla Have a
Role?**

Tina Ayena, BA
Dana Thompson, MD
Jens Ponikau, MD
Rochester, MN

PURPOSE: 'Reactive laryngeal disease' is a non-specific clinical diagnosis describing a diffuse inflammatory process of unknown etiology. Clinical presentation includes upper airway symptoms of stridor, globus, or spasmodic cough. These inflammatory changes are refractory to standard reflux treatment regimens, but when treated with swallowed steroids, the reactive larynx positively responds.

DESIGN: We identified nine pediatric patients with spasmodic croup who were treated with swallowed fluticasone (5 g/kg). These patients also had biopsy-proven eosinophilic esophagitis (>7 eos/hpf). To understand the correlation between eosinophilic-mediated disease and airway pathology, laryngeal and esophageal tissue from one patient was stained for eosinophil MBP using immunohistochemistry.

RESULTS: All symptoms of spasmodic croup were responsive to fluticasone. MBP staining indirectly highlighted the presence of eosinophils and their deposited granules within airway and esophagus specimens.

CONCLUSION: Patients with spasmodic croup should be considered for evaluation of eosinophilic esophagitis and treated with steroids. Our findings suggest that eosinophilic mediators are present in the upper airway and play a role in laryngeal inflammatory processes. This report is the first to demonstrate that the histopathologic relationship of eosinophil degranulation in asthma and chronic rhinosinusitis also exists in the reactive larynx.

8:13 AM

Saturday, 14 May 2005

**Blinded Evaluation of High Definition Laryngeal
Videostroboscopy**

Kristen J. Otto, MD*

Edie R. Hapner, PhD CCC-SLP*

Michael M. Johns, MD*

Atlanta, GA

PURPOSE OF THE STUDY: Advances in commercial video technology have improved office-based laryngeal imaging. This study investigates the perceived image quality of a true high definition (HD) video camera used for laryngeal videostroboscopy.

DESIGN AND METHODS: A prospective, single-blinded analysis of a standard laryngeal videostroboscopic exam was performed comparing three separate add-on camera systems: a 1-chip charge coupled device (CCD) camera, a 3-chip CCD camera, and a true 720p HD camera. Displayed images were controlled for optical magnification and displayed image size (20-inch display: RGB for 1-chip and 3-chip camera, HD cable for HD camera). Ten blinded observers were asked to rate the following five items on a 0-100 visual analog scale: resolution, color, ability to see vocal cord mucosal wave, sense of depth perception, and clarity of true vocal fold blood vessels.

SUMMARY OF RESULTS: For each item evaluated, a randomized block design analysis demonstrated that the 3-chip camera scored significantly higher than the 1-chip camera ($p < .05$). For the categories of color and blood vessel discrimination, the 3-chip camera scored significantly higher than the HD camera ($p < .05$). No other statistically significant differences were observed. When observers were unblinded and asked to judge the clarity of the HD camera with the images displayed on a 34-inch monitor, all observers unanimously agreed the images were superior, although no direct statistical comparison can be made.

CONCLUSIONS: The expense of new medical technology must be judged against its added value. This study suggests that HD laryngeal imaging may not add significant value over currently available video systems, in perceived image quality, on a small monitor. While differences in clarity between standard and high definition cameras may not be obvious on small displays, large display size coupled with high definition technology may impart improved diagnosis of subtle vocal fold lesions and vibratory anomalies.

8:21 AM

Saturday, 14 May 2005

**Hollow-Core Optical Fiber Delivery for the Carbon
Dioxide Laser**

Steven M. Zeitels, MD
James B. Kobler, Ph.D.
James T. Heaton, Ph.D.
William C. Faquin, MD
Boston, MA

The carbon dioxide (CO₂) laser is currently the premier dissecting instrument for endolaryngeal cancer resections. However, at times, dissection is less than optimal because the beam must be reflected off a micromanipulator-controlled mirror mounted on the operating microscope. As such, the range of beam angles is highly constrained. More facile angling of laser beams can be achieved through flexible optical fibers, but in the past optical fibers have been opaque to the CO₂ laser wavelength. Recently, a hollow photonic bandgap optical fiber was developed that is capable of transmitting CO₂ laser energy at surgical levels.

This new fiber was used in a canine experiment where human endoscopic procedures were simulated. Intraoperative photography along with gross and histological assessment of resection specimens were done to evaluate the performance of the fiber. Complete en bloc supraglottic laryngectomy and cordectomy procedures were accomplished without difficulty. Hemostasis was judged to be superior as compared with prior experiences with standard mirror-based delivery systems. Dissection was facilitated by tactile perception of the tissues, including the cartilage framework, through the tip of the fiber. Examination of paraffin sections of the surgical margins revealed that there was remarkably little thermal damage to the tissues.

The new hollow photonic bandgap optical fiber shows substantial promise for application in surgical procedures that require improved control over the angle of the cutting beam, as in soft-tissue dissection in the supraglottis and below the vocal ligament of the glottis. It will likely enhance the ability to perform en bloc endoscopic cancer-resection procedures.

8:29 AM

Saturday, 14 May 2005

**Long-term General and Voice Related Quality of
Life Outcome of Botulinum Toxin Treatment for
Spasmodic Dysphonia**

Arthur Jey, MD
Rebecca S. Stone, MD
Gregory A. Grillone, MD
Boston, MA

Spasmodic Dysphonia (SD) has been treated with Botulinum Toxin for over 20 years but little is known regarding the long-term quality of life sequelae, the illumination of which is the goal of this research.

METHODS: The Voice Handicap Index (VHI) and SF-36V2 were given to patients treated with botulinum toxin for SD for up to 12 years. Patients were asked to complete pre-treatment and post-treatment forms taking into account all the treatments received. Individual responses and VHI subsets (functional, physical, and emotional) were analyzed. A cart review was conducted.

RESULTS: 32 VHI questionnaires were returned. The VHI functional subset demonstrated a decrease of 8.12 (p value=0.001). The physical component demonstrated a 10.03 decrease (p value=0.0002). The emotional component demonstrated a 9.85 decrease (p value=0.01). Comparing total pretreatment and post treatment score demonstrated a 9.85 decrease (p=0.01). 31 SF36V2 questionnaires were returned. Average total scores increased from 109.39 (SD=9.29) to 112.28 (SD=9.49) with a p value of 0.026.

CONCLUSION: Spasmodic Dysphonia subjects treated with botulinum treatment demonstrated a long-term improvement in all three-voice specific quality of life subscales. In addition a mild, although statistically significant, improvement was seen in the general quality of life of SD patients treated with botulinum toxin.

8:37 AM

Saturday, 14 May 2005

**Tongue Paraesthesia and Dysgeusia Following
Operative Microlaryngoscopy**

Belachew Tessema, MD
Lucian Sulica, MD
New York, NY

OBJECTIVE: To assess the overall incidence and duration of alterations in tongue sensation and taste after operative microlaryngoscopy, and the relation of these symptoms to operative time.

STUDY DESIGN: Retrospective review of information regarding tongue symptoms in patients who completed standard post-microlaryngoscopy follow-up at 1 week, 1 month and 3 months.

RESULTS: Ninety-five patients (50 male/45 female; mean age 47y; age range 14y-83y) met inclusion criteria. Twenty (21%) patients had positive findings at 1 week, 16 complaining of paresthesia and 4 of dysgeusia. Symptoms decreased over time without treatment (6% at 1 month and 1% at 3 months). Only 1 case of dysgeusia persisted past 3 months. Patients whose operations lasted longer than 40 min were 3.39 ($p=0.057$ 95%; CI 0.96-11.88) times more likely to develop tongue-related symptoms than those with operative time less than 30 min. Gender was found to be an independent risk factor ($p=0.005$) for development of symptoms.

CONCLUSION: Lingual nerve injury following microlaryngoscopy is common and appears to be associated with duration of surgery. Although transient in nearly every case, it should form part of the preoperative discussion with the patient.

DISCUSSION

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

8:55 AM

Saturday, 14 May 2005

MANUEL GARCIA LECTURE

JOHAN E. F. SUNDBERG, PhD
Stockholm, Sweden

Physiology of Voice: Garcia to the Present

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

Saturday, 14 May 2005

**SESSION #4: PHARYNX, ESOPHAGUS,
TRACHEA**

Moderator: Gregory Postma, MD
Winston-Salem NC

**Comparison Between the Percutwist and the Ciglia
Percutaneous Tracheostomy Techniques**

Marc Remacle, MD, Ph.D.

Georges Lawson, MD

Jacques Jamart, MD

Pierre Bulpa, MD

Yvoir Belgium

INTRODUCTION AND AIM: A prospective study was designed to compare 2 single-dilator percutaneous tracheostomy techniques, the Ciaglia BlueRhino and the new PercuTwist technique.

MATERIAL AND METHODS: Forty-nine adult patients were included, 25 with the BlueRhino, a conically shaped, flexible rubber dilator and 24 with the PercuTwist, a screw like dilating device. The procedure was performed under fiberscopy in the intensive care unit. Age, body mass index (BMI), tracheostomy indication, surgical landmarks, procedure duration and surgical complications were recorded.

RESULTS: The median age and indications were similar for the two groups. The dilation was successful for all the patients. The mean time for surgery was shorter with the BlueRhino: 8,4min. versus 12,4min with the PercuTwist(p: 0.004). No significant difference was observed for the BMI mean value: 26.5 for the Ciaglia group and 27.9 for the PercuTwist group. The surgical landmarks were identified in 66% of the cases for the Ciaglia group and in 76% for the PercuTwist group. The tube insertion was difficult for 3 patients after the Ciaglia technique and for 1 patient after the PercuTwist technique. There was no statistical difference between the two techniques in terms of complications. One case of posterior tracheal wall puncture was observed with the BlueRhino and 4 with the PercuTwist.No serious complications were noted with both techniques.

CONCLUSIONS: The PercuTwist technique represents an alternative to the more established Ciaglia BlueRhino technique. The Ciaglia technique is a safe and more rapidly performed procedure for bedside tracheostomy.

**STEVEN DEAN GRAY
RESIDENT ESSAY AWARD
1st Place**

Presenter: Mark Courey, MD

*GRACE SY YANG, MD
WARREN P. BISHOP, MD
BRIAN J. SMITH, PhD.
MAITHILEE D. MENEZES, MD
NANCY M. BAUMAN, MD
Iowa City, IA*

**Radiographic and Endoscopic Measurements of
Esophageal Length in Pediatric Patients**

Knowledge of esophageal length between the upper (UES) and lower esophageal sphincters (LES) in pediatric patients is lacking in the literature. Accurate measurements of esophageal length are essential to standardize and facilitate intraluminal impedance and dual pH probes recordings. Intraluminal impedance may prove of great benefit in diagnosing extra esophageal reflux disease as many pediatric patients have non-acidic reflux events that escape pH probe detection.

We measured the distance between the true vocal cord (TVC) and LES in chest x-rays (CXR) of 118 children (6 weeks – 13 years) and correlated the measurements to height, weight and age of the patients. We also prospectively measured the distance between the UES and LES endoscopically in 20 patients (14 months – 17 years). Esophageal length correlated best with patient height (R=0.96 by CXR, R=0.88 by endoscopy) and less well with weight (R=0.87, R=0.67 respectively) and age (R=0.94, R=0.86 respectively). Linear regression analyses using the radiographic measurements revealed that esophageal length (TVC to LES) can be estimated from patient's height by the equation:
Esophageal length = 1.048 + 0.167 x height (cm).

Patient heights were divided into 6 categories based on the best fitting length of the 6 currently available dual pH/intraluminal impedance probes. Data analysis was based on having the upper pH probe at the vocal cord level and the inferior pH probe within 3-5 centimeters above the lower esophageal sphincter for younger patients and 3-6 cm above the lower esophageal sphincter for older patients. Our data demonstrated that with patient's height ranging from 65.7 cm - 161.5 cm divided into 6 groups, 37.5% - 66.7% of the patients were within the target range with pre-selected probes, while 80% - 100% were within 1 cm from the desired location.

This study defines esophageal length by a child's height with reasonable precision and provides guidelines for selection of the appropriate length of currently available dual pH/intraluminal impedance probes. Catheter position relative to the LES and the UES or the TVC can be confirmed by CXR following placement of the esophageal catheter.

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

STEVEN DEAN GRAY RESIDENT AWARD

The Steven Dean Gray Resident Award was established as part of the continuing legacy of Dr. Gray in order to recognize excellence in resident research in both laryngology and bronchoesophagology.

**RECIPIENTS OF THE
STEVEN DEAN GRAY RESIDENT AWARD**

- 2003 Sarah Hodges, MD - 1st
Randal Leung, MBBS - 2nd
- 2004 Seth Cohen, MD – 1st
Jonathan P. Lindman, MD - 2nd
- 2005 Grace SY Yang, MD – 1st
Warren P. Bishop, MD
Brian J. Smith, PhD
Maithilee D. Menezes, MD
Nancy M. Bauman, MD
Yukio Nomoto, MD – 2nd
Teruhisa Suzuki, MD
Yasuhiro Tada, MD
Masao Miyake, PhD
Hiroshi Ogawa, MD
Akihiro Hazama, MD
Koichi Omori, MD
Shinichi Manemaru, MD

Decannulation and Outcome Following Pediatric Tracheostomy

Randal Leung, MMBS (Hons)*
Robert G. Berkowitz, MD, FRACS
Melbourne, Victoria, Australia

ABSTRACT: AIM: Investigate the long-term outcome of children requiring tracheostomy, to identify predictive factors of early decannulation.

METHOD: Retrospective study of a consecutive series of 75 patients under 20 years of age who underwent tracheostomy in the period between 1 July 1998 to 30 June 2003 during their admission to a tertiary pediatric centre. Complete information was available for analysis on 65 patients.

RESULTS: There were 41 males and 24 females with median age of 7 months. Indications for tracheostomy were obstructed airway (36), prolonged mechanical ventilation (15) and tracheobronchial toilet or aspiration risk (14). Twelve patients died, and 30 of the 53 survivors were decannulated (median cannulation time 123.5 days). Additional procedures were required for decannulation on those with obstructed airways, including removal of suprastomal granulations (9), adenotonsillectomy (2), choanal atresia repair (2) and laryngotracheoplasty (1).

Patients with tracheostomies inserted for tracheobronchial toilet had a significantly shorter cannulation time, (median time of 23.5 days), compared to the other two indications (logrank test: $\chi^2(2) = 47.11, p < 0.00001$). Patient diagnosis was also a significant predictor of cannulation time (logrank test: $\chi^2(2) = 66.05, p < 0.00001$). Multivariate analysis showed that tracheobronchial toilet as a tracheostomy indication, and both trauma and neurological conditions as admission diagnoses were statistically significant independent variables predicting earlier decannulation. Analysis of other group variables, age, sex and tracheostomy insertion technique did not reveal any significant difference in cannulation times.

CONCLUSION: Tracheostomy indication and patient diagnosis are significant variables that predict early decannulation in pediatric patients requiring tracheostomy. Other variables were not shown to be significant independent predictors.

**Proximal Esophageal Stenosis in Patients with Head
and Neck Squamous Cell Carcinoma (HNSCC)
Following Concurrent Chemoradiation**

Clarence T. Sasaki, MD
Ksenia Stryjakowska, MD*
Lynn Acton, MS*
Yuri Agrawal, MD*
Amanda Psyrrri, MD*
New Haven, CT

Concurrent chemoradiation for HNSCC appears to increase the risk for developing histologically benign proximal esophageal strictures. Due to the increased use of many organ-sparing protocols, we sought to define risk factors for a debilitating complication of this treatment.

A case controlled design was implemented involving a total of 29 patients with stage II-IV HNSCC of the oropharynx, hypopharynx and larynx all of whom received concurrent therapy. 15 patients who developed strictures were compared to 14 age matched controls who did not evolve proximal stenoses. Data, gathered from both chart reviews and telephone interviews, included: age, tumor stage, presence of anemia, leucopenia, prophylactic vs. therapeutic gastrostomy, history of GERD, nausea/vomiting during treatment. Although we were unable to statistically identify significantly correlated risk, the odds of developing a stricture was found to be 19 fold greater in patients who underwent prophylactic rather than therapeutic gastrostomy. 5 patients with total or near total obstruction chose to undergo major reconstructive surgery resulting in the permanent loss of laryngeal function. 3 patients with total obstruction chose no further therapy. The remaining 7 with moderate stenoses improved with serial outpatient dilatation. These results should alert treating physicians of a debilitating complication approaching in severity the consequences of alternative surgical management or of the disease itself.

**BROYLES-MALONEY
HONORABLE MENTION**

IRA SANDERS, MD

Hackensack, NJ

LIANCAI MU, MD, PHD*

New York, NY

**Human Tongue Neuroanatomy: Nerve Supply and
Motor Endplates**

BACKGROUND: The human tongue is uniquely complex and to date there has never been a detailed description of the tongue's internal motor nerve supply.

MATERIALS AND METHODS: Ten adult human tongues obtained from autopsies were examined. Five were processed by Sihler's stain to study the distribution of motor nerves and five were dissected and stained by either acetylcholinesterase and/or silver staining to study motor endplates (MEP) and terminal axon distributions.

RESULTS: In the human tongue the hypoglossal nerve maintains basic gross anatomical patterns seen in the tongues of other mammals, however, the degree and density of terminal nerve branching is much greater than any other species examined. In contrast, the number of MEP bands in specific tongue muscles appears to be less than that seen in other species. A notable finding was en grappe MEPs that suggest the presence of the highly specialized slow tonic muscle fibers.

SIGNIFICANCE: This study mapped out the entire gross anatomy of human tongue motor nerve distribution for the first time. Moreover, the details of terminal nerve branching, MEP distribution, as well as the presence of en grappe MEP suggest fundamental differences in human tongue motor control that are presumably related to human speech. These results increase our understanding of tongue motor control and will aid in designing more refined surgical procedures that maintain tongue function during speech, swallowing and respiration.

KEY WORDS - tongue, tongue muscles, innervation, motor endplates, Sihler's stain, acetylcholinesterase staining, silver stain, swallowing, respiration, phonation.

**Allograft Tracheoplasty Technique for Management
of Refractory Tracheal Stenosis**

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Eric M. Genden, MD

New York, NY

BACKGROUND: Extensive tracheal airway defects represent a clinical dilemma. While resection and re-anastomosis, and staged tracheoplasty may prove beneficial in some cases, recurrent or extensive circumferential stenosis remains a challenge. We report the use of the allograft tracheoplasty technique for the reconstruction of recurrent, extensive defects of the trachea and cricoid.

METHODS: Nine consecutive patients with recurrent tracheal stenosis were treated using the two-stage allograft tracheoplasty technique. A retrospective review was performed to evaluate for prior surgery, length of stenosis, surgical technique, and outcome.

RESULTS: All nine patients underwent multiple surgical procedures for acquired tracheal stenosis (avg. 3.4 procedures) prior to undergoing the allograft tracheoplasty technique. Prior to surgery, all patients were tracheotomy dependant. Patients were assessed 8 to 39 months following allograft tracheoplasty. Primary airway pathology included post-intubation stenosis (n= 6), surgical resection for malignancy (n= 1), and idiopathic stenosis (n= 2). Three defects involved 30- 60% of the cricoid cartilage and 4 defects were complete circumferential tracheal defects. Five patients underwent an island deltopectoral flap (DP) for closure of the tracheoplasty site. One patient experienced a superficial wound infection at the cartilage recipient site and one patient experienced a hematoma at the DP donor site. All nine patients were successfully decannulated without shortness of breath, stridor, or recurrent stenosis at the time of follow up.

CONCLUSION: Allograft tracheoplasty is a new technique for the reconstruction of recurrent tracheal stenosis. This technique represents a reliable technique for extensive airway defects that are refractory to conventional tracheoplasty techniques.

DISCUSSION

BREAK WITH EXHIBITORS

10:36 AM

Saturday, 14 May 2005

**PANEL: ADVANCEMENTS IN
MANAGEMENT OF EARLY GLOTTIC
CANCER**

Introduction: **Gady Har-El, MD**
Brooklyn, NY

**What is New in Radiation Treatment of Early
Glottic Cancer** **Minh-Tam Truong, MD***
Boston, MA

**Endoscopic Procedures: Clarification of Techniques,
Oncologic Outcome** **R. Kim Davis, MD**
Salt Lake City, UT

Open Approaches **Gady Har-El, MD**
Brooklyn, NY

**Reconstruction and Rehabilitation after Endoscopic
Techniques: Voice Outcome** **Marc Remacle, MD**
Yvoir, Belgium

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

Saturday, 14 May 2005

**SESSION #5: MISCELLANEOUS AND
BRIEF COMMUNICATIONS**

Moderator: J. Scott McMurray, MD
Cincinnati, OH

**Expandable Tracheal Stenting for Benign Disease –
Worth the Complications?**

Robert Eller, MD*
Jake Livingston, BS*
C. Elliot Morgan, MD*
Eben Rosenthal, MD*
Birmingham, AL

OBJECTIVE: To characterize the efficacy of self-expandable metallic stents in the management of benign tracheal stenosis.

DESIGN: Retrospective review at a tertiary care medical center.

METHODS: Patients who underwent tracheal stenting were assessed for etiology and severity of tracheal stenosis, comorbidities, stent-related complications, and follow-up airway procedures.

RESULTS: Sixteen adults (12 women, 4 men; mean age 47 years) had a total of 26 stents placed for benign disease from February 2001 to October 2003. Intubation-related stenoses were most frequent. Average follow-up time was 431 days (median: 376 days). Each stent remained functional for an average of 354 days (range 2 days to 1180 days, median: 226 days). At the end of follow-up, 7 patients had a total of 10 stents still functioning. Of the 26 stents placed, 73% had a complication and 57% required surgical intervention after placement to maintain a patent airway. The most common problem was granulation tissue formation at the ends of the stent causing airway restenosis (13/26, 50%) and seven patients (7/16, 43%) required tracheotomy as a result of restenosis around the stent.

CONCLUSIONS: The implantation of self-expandable metallic stents is a minimally invasive method of managing benign tracheal stenosis. Although a subset of patients benefit from placement, the majority of patients have complications requiring intervention. The complications associated with stent placement and the possible limited indications for use are discussed.

**Vocal Fold Augmentation with
Polydimethylsiloxane Particles**

Christian Sittel, MD*
Matthias Echternach, MD*
Philipp A. Federspil, MD*
Peter K. Pinkert, MD*
Heidelberg, Germany

PURPOSE: Polydimethylsiloxane (PDMS) particles are a non-resorbable material allowing for permanent vocal fold augmentation. This study investigates morbidity and voice quality of treating unilateral vocal fold paralysis by injection of PDMS particles.

DESIGN AND METHOD: 14 patients suffering from neurogenic unilateral vocal fold paralysis of different etiology were included in this prospective study. Pre- and postoperatively each patient underwent videostroboscopic assessment. Friedrich's dysphonia index (DI), a score system combining subjective and objective parameters, was used to describe voice quality. A DI of 0 reflects a normal voice while a DI of 3 stands for complete aphonia. PDMS particles were injected into the paraglottic space using microlaryngoscopy under general anesthesia.

RESULTS: Median follow up time was 4.4 months. There was no complication attributable to the injection of PDMS particles. Mean DI was 2.6 preoperatively. Postoperative voice quality had improved significantly in each patient, which is reflected by a post-injection DI of 1.4.

CONCLUSION: PDMS particles provide a safe and minimal invasive option for permanent vocal fold augmentation. Functional results in terms of voice improvement are comparable to those obtained with other techniques, including thyroplasty. In the European Community, PDMS particles are officially approved for use in the human larynx.

**Endoscopic Repair of Cervical Esophageal
Perforation**

Becky L. Massey, MD*
Pramod K. Sharma, MD*
Salt Lake City, UT

BACKGROUND: Iatrogenic esophageal perforations remain a significant cause of morbidity and mortality despite advances in diagnostic and treatment methods. The most common causes of esophageal perforation are diagnostic esophagoscopy, dilations or endoscopic ultrasound. The most common location is the cervical esophagus. Optimal methods of management remain controversial. While early repair of the perforation is the ideal treatment, the morbidity associated with open repair may lead to prolonged medical management and delay in definitive surgical intervention. We describe a minimally invasive method of cervical esophageal repair as an alternative to traditional open approaches.

CASE REPORT: An 85-year old woman presented for transesophageal ultrasound guided biopsy of a pancreatic mass. During endoscopy it was noted that the scope had passed extraluminally. The patient developed significant head and neck crepitus and the Otolaryngology service was consulted. The patient was taken to the operating room for rigid laryngoscopy. A 1-cm perforation was identified on the posterior esophageal wall just proximal to the cricopharyngeus. An expanding laryngoscope was inserted into the proximal esophagus and the perforation was repaired in a primary fashion using microlaryngeal instrumentation. A feeding tube was inserted under endoscopic guidance. The patient was treated medically with IV antibiotics and recovered without sequelae.

CONCLUSION: Esophageal perforations remain a serious complication of endoscopic esophageal procedures. Endoscopic repair provides a minimally invasive method of repair of cervical esophageal injuries with minimal surgical morbidity.

11:41 AM

Saturday, 14 May 2005

**Diagnosis and Management of Vallecular Cysts in
Infants: Case Reports and Review of Literature**

Phyllis H. Peng, MD*
Richard Rosenfield, MD
Brooklyn, NY

OBJECTIVE: To highlight through a case series the diagnostic pitfalls and the surgical challenges of vallecular cysts in infants. The use of a laryngeal microdebrider is introduced as a valuable technique for complete excision of vallecular cysts.

DESIGN: Chart review of pediatric patients with vallecular cysts from November 1992 to June 2004.

SETTING: Metropolitan area hospital based pediatric otolaryngology practice.

PATIENTS: Four infants (range 6 to 8 weeks old; 3 males, 1 female) were diagnosed and surgically treated for vallecular cysts.

INTERVENTION: Complete excision of vallecular cyst by carbon dioxide (CO₂) laser or laryngeal microdebrider.

MAIN OUTCOME MEASURES: Clinical presentation, time to diagnosis, airway management, surgical techniques for excision, and post-operative resolution of symptoms.

RESULTS: All four infants had stridor history and were diagnosed by laryngoscopy. All patients underwent complete excision of the cyst: by CO₂ laser in one case, and by laryngeal microdebrider in three cases. In two cases visualization was achieved by suspension microlaryngoscopy and in two Hopkins rod telescopes were used. One case was complicated by difficult intubation requiring tracheostomy. All patients had complete resolution of symptoms and no evidence of recurrence on follow-up.

CONCLUSION. Vallecular cysts in the infant population may cause severe airway obstruction and can be missed with flexible laryngoscopy if careful attention is not paid to the base of tongue and vallecula. Pre-operative planning for difficult airway management is essential. Endoscopic marsupialization by microdebrider is preferred over microlaryngoscopy and CO₂ laser excision.

11:46 AM

Saturday, 14 May 2005

**Pemphigus Vulgaris of the Epiglottis: A Rare Cause
of Odynophagia**

Jennifer G. Andrus, MD*

Boston, MA

Timothy D. Anderson, MD*

Burlington, MA

PURPOSE OF THE REPORT: Pemphigoid vulgaris (PV) is an uncommon autoimmune disease affecting the skin and mucous membranes. Manifest by intradermal blistering lesions that rupture to produce painful erosions, PV can be localized, or involve multiple sites. Morbidity of the disease is high due to secondary infection and the side effects of corticosteroid treatment. While 50-70% of patients with PV have oral lesions, lesions of the hypopharynx are distinctly rare. We present the case of a patient with PV of the epiglottis, possibly the first reported in the literature. We discuss the epidemiology, pathophysiology, diagnosis and treatment of head and neck PV.

STUDY DESIGN AND METHODS: Case report and review of the literature.

SUMMARY OF RESULTS: A 63-year old woman with known PV presented with odynophagia. Flexible nasopharyngolaryngoscopy revealed a large ulcerative lesion of the tip of the epiglottis. As the patient refused systemic corticosteroids, she was treated with inhaled steroids. Although her odynophagia partially remitted, the ulcer did not heal. Due to worsening cutaneous PV, high dose oral corticosteroids were started. Resolution of the cutaneous PV was accompanied by disappearance of the epiglottic lesion and total resolution of odynophagia. This patient represents a rare case of hypopharyngeal PV without oral lesions.

CONCLUSIONS: PV can present as odynophagia and manifest as an epiglottic bulla or erosion. While this clinical finding is rare, Otolaryngologists should consider PV when evaluating odynophagia, especially in patients who develop other mucosal or cutaneous lesions. Systemic corticosteroids are the mainstay of treatment, and have reduced the former near-universal mortality to ~5-15%.

DISCUSSION

11:56 AM

Saturday, 14 May 2005

Introduction of New President

JONATHAN E. AVIV, MD
New York, NY

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

12:00 PM

Saturday, 14 May 2005

ADJOURN

12:15 PM

Saturday, 14 May 2005

Annual Photograph of the Membership

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***ABEA PRESIDENT'S RECEPTION
&
COMBINED
SCIENTIFIC POSTER SESSION***

**Boca Raton Resort and Club
Boca Raton, FL**

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AMERICAN RHINOLOGIC ASSOCIATION

All ABEA, ALA, ARS, ANS and AOS
registrants and guests are invited.

Scientific Posters will be attended by authors.

*Abstracts of ABEA submissions to the
Combined Scientific Poster Session
appear on pages (75-102) of this program booklet.*

THE AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION

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Characterization of Dysphagia in Blast Injuries

Matthew T. Brigger, M.D. LT MC USNR, *

Lisa A. Newman, Sc.D.*

Jenifer Chapetta, MS*

Washington DC

The current trend of terrorism and the changing face of war have placed non-lethal explosive blast injuries to the forefront of both battlefield and civilian casualties. Several current hypotheses state that in addition to local injury from a blast impact, the body suffers a systemic injury as well. It is the purpose of this study to examine the effects of such blast injuries on swallowing and airway protection. To date, the studies of twenty injured soldiers (mean age 28.8, s.d. 6.09 range 20-30 years) evaluated for swallowing function using modified barium swallow (MBS) or flexible endoscopic evaluation of swallowing (FEES) have been reviewed. Swallowing findings of oral/pharyngeal delay, penetration/aspiration and the presence of residue were correlated with Glasgow Coma Scale (GCS) at presentation (mean 8.6 s.d. 3.1, range 3-14) and at time of exam (mean 14.5 s.d. 1.24, range 11-15), days post injury (mean 23.95 s.d. 19.4, range 6-85), anatomic location of injury, (head, neck, chest, abdomen, extremities) field neck exploration (n=8), presence of tracheostomy (n=9) or gastrostomy (n=4) and intermaxillary fixation (n=5). Swallowing function appears to manifest both clinical and subclinical compromise in patients subjected to blast injuries. A higher degree of dysphagia is seen in patients with primary head/neck injuries and patients that underwent field neck explorations. The long-term care and prognosis of patients sustaining blast injuries should include a surveillance of swallowing function.

**Monitorization Of Gastric Acid Suppression In
Patients With Extraesophageal Reflux Disease**

Seckin Ulualp, MD*
Linda Brodsky, MD*
Buffalo, New York

OBJECTIVE: Response to acid suppressive therapy varies in patients with extraesophageal esophageal reflux disease (EERD). Inadequate suppression of gastric acid may contribute to the observed differences in the response to the treatment. The aim of this study was to evaluate suppression of gastric acid in EERD patients being treated with acid suppressive therapy.

METHODS: Charts of patients with EERD who underwent dual site esophageal pH monitoring while receiving acid suppressive therapy between 2000-2004 were reviewed. Suppression of gastric acid was determined based on the number of acid reflux episodes, esophageal acid exposure, and acid clearance time.

RESULTS: 20 patients (12 male, 8 female, age range:2-19 years) were identified. Esophageal pH monitoring was within normal limits, documenting complete acid suppression in nine patients. Increased number of acid reflux episodes was observed in seven patients. In four subjects, number of acid reflux episodes was within normal limits in spite of incomplete acid suppression. Other abnormal pH monitoring parameters included delayed acid clearance in three patients and increased acid exposure time in three.

CONCLUSION: Esophageal pH monitoring documented incomplete acid suppression in this group of patients with EERD. Monitorization of gastric acid suppression can be useful in the follow-up of EERD patients who receive acid suppressive therapy.

**Percutaneous Collagen Injection for the
Management of Acute Vocal Fold Paralysis**

Eunice Park, BS*
Edward J. Damrose, MD*
Stanford, CA

Vocal fold paralysis is a well-recognized surgical complication, particularly in patients undergoing skull base, thoracic and cardiac surgery. Hoarseness, weak cough, dysphagia, and aspiration are common symptoms which complicate recovery from the initial procedure. With the advent of injectable collagen, immediate percutaneous medialization can now be performed under simple topical anesthetic, often in the clinic setting or at the patient's bedside.

PURPOSE: The purpose of this study was to assess the ease and efficacy of vocal fold medialization in hospitalized patients with acute vocal fold paralysis using percutaneously injected collagen under fiberoptic guidance.

STUDY DESIGN: Retrospective review.

RESULTS: 12 patients with unilateral paralysis underwent percutaneous collagen injection under simple topical anesthesia. General anesthesia was not required. There were no complications. All 12 patients noted improvement in voice and cough. In three patients, aspiration was eliminated, allowing these patients to resume oral intake. In two patients with multiple cranial nerve deficits from skull base surgery, aspiration could not be eliminated and these patients required prolonged tube feeding.

SUMMARY: Percutaneous collagen injection is a viable option for immediate rehabilitation of acute vocal fold paralysis and can be performed in the inpatient setting. With dysphagia and aspiration secondary to multiple cranial nerve palsies, medialization of the paralyzed cord alone may be insufficient to restore safe oral alimentation.

**Non-Tuberculous Mycobacteria Presenting As An
Obstructing Endobronchial Mass In An
Immunocompetent Infant**

Kelly M Malloy, MD,*

Philadelphia, Pa

M Cecilia De Pentima, MD,*

Ellen S. Deutsch, MD

Wilmington, DE

PURPOSE: to report a case of non-tuberculous mycobacteria (NTB) infection presenting as an endobronchial mass in an immunocompetent infant.

DESIGN: case report and literature review.

SUMMARY: NTB infections in immunocompetent children most commonly present as cervicofacial lymphadenitis and rarely cause endobronchial lesions. We report a 10-month old girl who presented with a two-week history of unilateral wheezing and radiographic findings of air trapping in the left lung. During endoscopy a mass of granulation tissue completely obstructing the left main bronchus was removed. Mycobacterium avium-intracellulare complex (MAC) was cultured from the bronchoalveolar lavage and the bronchial mass. Empiric therapy with clarithromycin and rifampin was begun; susceptibility testing demonstrated that the organism was susceptible only to clarithromycin. Serial surgical debridement combined with prolonged systemic therapy with clarithromycin and rifampin provided effective therapeutic interventions. A literature review and controversies in surgical and medical management are presented.

CONCLUSION: NTB endobronchial infections occur more frequently in immunocompetent children under two years of age, representing a diagnostic and therapeutic challenge.

**The Role of the Deltopectoral Island Flap in
Contemporary Head and Neck Reconstruction**

Melissa Mortenson, MD*
Eric M. Genden, MD
New York, NY

BACKGROUND: The deltopectoral flap was originally described forty years ago. The subsequent modification and introduction of the deltopectoral island flap (DPI) provided an increased arch of rotation and the ability to close the donor site primarily. The popularization of free tissue transfer has relegated many older pedicled flaps obsolete. The purpose of this review was to determine the utility of the DPI flap in contemporary head and neck reconstruction.

METHODS: A retrospective review of 16 consecutive cases utilizing the DPI was performed. Indications, surgical technique, complications, and outcome, were reviewed in an effort to determine the role of the DPI in contemporary head and neck reconstruction.

RESULTS: Sixteen DPI flaps were successfully performed in 16 patients for a variety of reconstructions including esophageal, laryngeal, cutaneous, peristomal and pharyngeal defects. Fifty percent of flaps were delayed and 50% of donor sites were closed primarily. The donor skin paddle averaged 22.4 cm² with a range of 14 cm² to 40.8cm². There were no recipient site complications however there were 2 donor site complications: a mild skin slough and a hematoma. In all 16 cases, the DPI flap provided a thin and pliable source of donor tissue for head and neck reconstruction.

CONCLUSION: The DPI flap provides an excellent source of thin and pliable tissue for successful reconstruction of the esophagus, pharynx, larynx, cutaneous, and peristomal region defects. The reliability of the DPI flap is equivalent with reported reliability of free fascial flaps for head and neck reconstruction.

Laryngeal Webs: Surgical Course and Outcomes

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Richard JH Smith, MD*
Nancy Bauman MD
Jose Manaligod MD
Iowa City, IA

Laryngeal webs are uncommon, but potentially fatal, and often times require multiple surgeries to repair their glottis and create an adequate airway.

We describe the natural course of laryngeal web treatment, individual outcomes, and number of procedures to create an adequate airway.

IRB approval was obtained to perform a retrospective chart review of patients from 1984 to present with laryngeal webs.

Seventeen patients were identified with webs (10 males/7 females). Average age at diagnosis was 6 months (range, 1 day-2.5 years) and age at last follow up was 4 years (range, 0.5-12 yr). Most frequent presenting symptoms were weak cry, stridor, upper airway obstruction, and difficulty feeding. 6 Cardiac defects were found. Syndromes identified were VCFS, Opitz G/BB and Duane's. Cotton web grade on presentation was: Grade 1=4; Grade 2=2; Grade 3=9; Grade 4=1. Average subglottic extension of Grade 3/4 webs was 15 mm. 8 patients underwent tracheotomy. Grade 1 webs were treated with dilation (N=2), keel placement (N=1), and knife-lysis (N=1). Grade 2 webs were treated with laser-lysis (N=1) and LTR (N=1). Grade 3/4 webs were all treated with LTR's (average 1.3 procedures). Post-operative DLB's were done an average of 3.5 times (range 1-16). Voice outcomes were adequate (73%), weak (18%), and aphonic (9%). Cord function outcomes were normal (91%) and decreased (9%). Final airway result was normal (64%), persistent web (21%), posterior glottic gap (7%), and LTR failure (7%).

Multiple modalities were used to treat webs, with success achieved in the majority of patients. Grade 3 and 4 webs required laryngeal reconstructions. The majority of patients will have an adequate voice, normal laryngeal function, and achieve decannulation.

**Mediastinal Dissection Of Hypopharyngeal And
Cervical Esophageal Cancer**

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Kunihiko Nagahara, MD*
Sueyoshi Moritani, MD*
Morimasa Kitamura, MD*
Shinichi Takagita, MD*
Kyoto, Japan

Hypopharyngeal and cervical esophageal cancers are aggressive tumors with poor prognosis among head and neck cancers. Multiple lymph node metastases often occur not only in the neck but also in the mediastinum, which compromises prognosis. In this sense mediastinal dissection (MD) is crucial to improve cure and survival rates. However, excessive MD increases postoperative morbidity and mortality. Therefore it is important to know appropriate extent of MD to improve prognosis with minimal complications. We performed upper MD for 65 cases with hypopharyngeal cancer (HPC), 21 cases with cervical esophageal cancer (CE), and 9 cases with CE extending to upper thoracic esophagus (CE-UT), by means of the approach from the neck occasionally using upper sternotomy. Postoperative histopathological examinations were completed to determine the extent and frequency of nodal diseases in the mediastinum. Upper mediastinal metastases were detected in 8% of HPC, 38% of CE, and 55% of CE-UT. Most of the nodal metastases were observed in T4 cases, and were often accompanied with multiple metastases in the jugular chain and cervical paraesophageal nodes. Only one case with CE-UT presented with late nodal metastasis in the lower mediastinum. Complications were observed in 7 cases: 5 with tracheal necrosis and 2 with rupture of the innominate artery. The current results indicate that upper MD is essential and sufficient in CE and CE-UT cases, and may be required in HPC with the primary tumor extent of T4 and/or multiple neck metastases.

**Expression Of A-Gustducin On Taste Buds In The
Rat Larynx**

Takeshi Nishio, MD*
Kaheita Hirasugi, MD*
Hiroyuki Okano, MD*
Ken-Ichiro Toyoda, MD*
Ryuichi Hirota, MD*
Hitoshi Bamba, MD*
Yasuo Hisa, MD
Kyoto, Japan

PURPOSE OF THE STUDY: The presence of laryngeal taste buds has been reported and they have been suggested to mediate the reflex response to protect the airway, but the functional roles of these taste buds have not been fully known. The a-gustducin subunit of the taste-cell-specific G protein (a-gustducin) is specifically localized in taste receptor cells of the tongue. We investigated the expression and distribution of a-gustducin in the taste buds of the rat larynx.

DESIGN AND METHOD: The tissues used in this study were obtained from eight male SD rats, ranging in age from 8 to 21 weeks. Serial sections from the rostral tip of the epiglottis to the arch of the cricoid cartilage were provided for immunohistochemistry to investigate the expression and distribution of a-gustducin.

SUMMARY OF RESULTS: The a-gustducin-positive taste buds were distributed most densely close to the caudal base of the laryngeal surface of the epiglottis, and along the aryepiglottic folds and arytenoids. The a-gustducin-containing taste buds seem to be located where they may come in contact with food traveling along the lateral food channels in the rat.

CONCLUSIONS: The taste buds in the rat larynx may work not only as chemical sensors that initiate the reflex reaction but possibly participate in gustatory reception.

Management of Strictures After Laryngopharyngeal Reconstruction

Jennifer Hsia, BA, *
William Carroll MD*
Glenn Peters MD,
Lawrence Johnson MD*
Eben Rosenthal MD
Birmingham, AL

OBJECTIVES: Stricture formation after laryngopharyngeal reconstruction is a common problem that severely limits postoperative function. This study was designed to describe our experience using endoscopic dilations for managing postoperative strictures.

STUDY DESIGN: Retrospective analysis of 28 patients, with a mean age of 58.6 years (range 40-69) who underwent free flap reconstruction following laryngopharyngectomy for hypopharyngeal malignancy.

METHODS: Postoperative mortality, morbidity, and functional evaluation based on the parameters of speech and swallowing were analyzed.

RESULTS: Patients were reconstructed using a tubed radial forearm (24), a tubed rectus (2), a jejunal (1), and a tubed anterior lateral thigh free flap (1). Twenty patients underwent radiation therapy. Overall free flap success rate was 100 percent. Average follow-up was 12 months (median 11 months). The incidence of major fistula formation was 10.7 percent, of stricture was 28.6 percent. A stricture was defined as a narrowing requiring two or more dilations. Follow-up data revealed that dysphagia improved by a grade or more in 62.5% patients who strictured. Among patients who developed strictures, all were able to discontinue tube feedings after undergoing dilations. Only one patient experienced a procedure-related complication - bleeding from the anastomotic site. No procedure related mortalities occurred.

CONCLUSIONS: Methods for conservative management of strictures and potential factors contributing to stricture formation are discussed. Endoscopic dilation represents the least invasive method of managing strictures. There exists the possibility of teaching patients who require multiple dilations how to self-dilate that should be further explored.

**The Destiny Of The Autologous Bone Marrow Derived
Stromal Cells Implanted To The Vocal Fold**

Shin-ichi Kanemaru, MD, PhD*

Koichi Omori MD, PhD

Masaru Yamashita, MD*

Akhmar Magrufov, MD*

Tomoko Kita, PhD *

Hisanobu Tamaki, MD*

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OBJECTIVES: The aim of this study is to investigate the destiny of the implanted autologous bone marrow derived stromal cells (BSCs) containing mesenchymal stem cells (MSCs). MSC is a pluripotent cell which has a potency to differentiate into cells of different lineages. In our previous study, we have reported success in regeneration of the injured vocal fold of canine model by implantation of BSCs. However, the destiny of the implanted BSCs was not known. Therefore, it is an important issue to trace the implanted BSCs to distinguish what kind of tissues they become at the injected side of the vocal folds.

MATERIAL AND METHOD: After harvesting bone marrow from the femora of the green fluorescent transgenic mouse, adherent cells were cultivated and amplified selectively. By the fluorescence-activated cell sorter, it was investigated what kind of cell markers were positive in these cells. These cells were then injected into the nude rat's injured vocal fold through the incision made at the lower border of the cricoid cartilage. By an immunofluorescence technique, the histological examinations of the resected vocal fold were performed eight weeks after the treatment.

RESULTS: A part of cultivated cells expressed strongly positive for surface antigen cell markers of MSCs: CD29 & #12289; CD44 & #12289; CD49e and Sca-1. Implanted cells were alive and also positive for keratin and desmin, epithelial and muscle markers, respectively.

DISCUSSION: Cell therapy using BSCs offers the potential to improve the quality of healing process of injured vocal fold.

Stenting As A Treatment Modality In Malignant Stenoses

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PURPOSE: Cancer of the upper aerodigestive tract can cause airway stenosis. Since surgery and radio-chemotherapy is limited, palliative treatment modalities are necessary.

PATIENTS AND METHODS: Tracheal stenoses had occurred in 12 patients (9 men, 3 women, mean age 68.8 years) with esophageal carcinoma (n=4), peristomal recurrent tumor after hypopharyngeal carcinoma (n=4), 1 primary carcinoma of the trachea, and 1 mediastinal metastasis (hypopharyngeal carcinoma). 17 self-expanding nitinol-stents were placed under general anesthesia with endoscopical and fluoroscopical guidance.

RESULTS: Stent insertion was successful in all cases and led to an immediate relief of the morphological and functional airway obstruction. No immediate complications were noted. In two cases additional stents were necessary because of tumor over growth and tumor related tracheoesophageal fistula.

CONCLUSION: Tracheobronchial stents have proved their efficacy in the treatment of malignant incurable tracheobronchial obstructions. The main advantage is the rapid and effective opening of the stenosed central airway.

**Laryngeal Amyloidosis: Is There More Than Meets
the Eye?**

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OBJECTIVE: Laryngeal amyloid disease often presents with dysphonia, dysphagia, or dyspnea. Upper airway amyloid typically represents discrete disease localized to the airway. Diagnosis of multi-focal airway disease or primary (AL) systemic amyloidosis alters treatment recommendations. To define the distribution of disease among patients referred with laryngeal amyloidosis, we analyzed our experience in a large amyloid referral center.

METHODS: We reviewed records of patients with biopsy-proven airway amyloid referred to the multi-disciplinary Amyloid Airway Clinic at Boston University between 1998 and 2004. Patients underwent extensive testing for systemic disease. Localized disease was defined as the absence of plasma cell dyscrasia or amyloid deposits outside the airways. Extent and distribution of airway disease was determined by laryngoscopy; bronchoscopy and CTs were reviewed when available.

RESULTS: We evaluated 35 patients with biopsy-proven amyloid deposits at or above the cricoid cartilage. Five patients (14%) had primary systemic amyloidosis; 30/35 (86%) had localized disease. Disease distribution: 4 nasopharynx (11%); 1 nasopharynx with glottic involvement (3%); 3 lingual (9%); 9 supraglottic (26%); 3 supraglottic with glottic extension (9%); 1 supraglottis with tracheal extension (3%); 7 glottic (20%); 2 glottic with subglottic extension (6%); 2 subglottic (6%); and 3 subglottic with tracheal extension (9%). Multifocal disease occurred in 10/35 patients (29%).

CONCLUSIONS: Thorough airway evaluation often identified disease well beyond the level noted at diagnosis. Additionally, significant numbers of patients with upper airway amyloid had systemic disease documented by full hematological testing. We recommend multi-disciplinary assessment and care of patients with upper airway amyloidosis.

**Contemporary Practice In Pediatric Vocal Fold
Motion Impairment: A Survey Of The ABEA**

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PURPOSE: To survey current opinion and practice in pediatric laryngology regarding the presentation, diagnosis and management of pediatric unilateral vocal fold motion impairment (UVFMI).

METHODS: A 16-item survey was distributed via e-mail to members of the American Broncho-Esophagological Association practicing pediatric otolaryngology. Comparisons to a recent survey regarding adult vocal fold motion impairment are made.

RESULTS: 81 surveys were distributed and the response rate was 26% (n=21). The majority of respondents (73%) found that the peak incidence for UVFMI patients is in the first 2 years. The most common etiologies noted were iatrogenic and idiopathic, similar to the adult study. Dysphonia, feeding difficulty and choking were the dominant symptoms. On physical exam, dysphonia and glottic incompetence are seen most commonly, closely followed by stridor. Practitioners favored flexible laryngoscopy for evaluation. Videostroboscopy is rarely performed. Blood tests are routinely used for diagnosis in 40% of patients; when ordered, Lime titer, chemistry panel and rheumatoid factor are the most common. Medications were used in UVFMI management 35% of the time; when medications are trialed, proton pump inhibitors are used most often (86%). Unlike adults, EMG is rarely used for evaluation. For those physicians performing temporary vocal fold medialization, human collagen is used by 56%

CONCLUSION: Current practice regarding pediatric UVFMI is quite varied, likely reflecting the broad range of clinical presentations and practitioner preferences. Several differences from adult practice are noted and discussed.

**X-Linked Dystonia Parkinsonism (Lubag)
Presenting as Adductor Laryngeal Breathing
Disorder**

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Lubag is an x-linked recessive dystonia parkinsonism (XDP) that affects Filipino men originating principally from the Panay Island. The name “lubag” is derived from the term used by the Ilongo speaking Filipinos to describe any movement characterized by torsion, including children with cerebral palsy. This disease is characterized by severe, progressive torsion dystonia, which dominates the first 10 to 15 years of the illness and is associated or replaced by parkinsonian features in the later years of life. It is important that otolaryngologists are aware of this condition because of the initial dystonic symptoms may present as voice, swallowing, respiratory or temporal mandibular joint disorders. We report a patient with XDP whose primary manifestation of dystonia includes an adductor laryngeal breathing dystonia with marked respiratory stridor. This patient’s respiratory symptoms were successfully temporized with botulinum toxin injections, although he finally required a tracheotomy for symptomatic relief and pulmonary toilet. Because of the broad range of symptoms, XDP patients can be misdiagnosed as idiopathic dystonia. Parkinson’s disease, or Parkinson’s-plus syndromes, which emphasizes the importance of eliciting an accurate family history in individuals with movement disorders.

**Management Of Thyroid Cancer Infiltrating The
Airway: A Series Of 43 Patients**

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Thyroid cancer infiltrating the airway is generally associated to an ominous prognosis. Aim of the present paper is to evaluate our experience in both palliative and therapeutic approach to these patients.

Between 1982 and 2004, 43 patients have been treated for thyroid cancer invading the airway. They have been classified in 2 groups: 32 with lesions amenable of endoscopic palliative treatment (Group A) and 11 (Group B) with tumors resectable by crico-tracheal resection and anastomosis (CTRA). Contraindications to CTRA were: anaplastic history, compromised general conditions, and crania-caudal extension of airway invasion exceeding 5.5 cm. Patients of Group B were treated by rigid bronchoscopy and Nd:YAG laser-assisted resection with insertion of Dumon prosthesis (18 cases) or T-tube (1). Twenty-seven patients died of thyroid cancer (mean, 6.2 months), 4 are alive with disease (mean, 24.7 months), and 1 has no evidence of disease 72 months after treatment. Four-year determinate survival is 7.6%. CTRA encompassed cricoid arch removal with tracheal resection ranging from 3 to 5 tracheal rings. During postoperative course, 3 patients needed a temporary tracheotomy (1 is still tracheotomy-dependent 8 months after surgery). Six patients have no evidence of disease, and 4 are alive with distant metastases but without local-regional recurrence (mean, 16 months), and 1 died for other causes 32 months after surgery. Four-year determinate survival is 66.7%.

Management of airway invasion by thyroid malignancies encompasses a wide spectrum of therapeutic options. Choice of treatment must be based on patient general conditions, tumor histotype, and cranio-caudal extension of airway involvement.

**Foreign Body Management: A Case of Tooth Crown
Aspiration**

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Foreign body aspiration is a common health problem which often results in life threatening complications. It can result in a spectrum of changes, from minimal symptoms, often unobserved, to respiratory compromise, failure, and even death. Foreign bodies in the tracheobronchial tree can present with varied pathology, such as cough, respiratory distress episodes, in long standing cases episodes of fever, haemoptysis and chest infection. Especially in children there is often no reliable access to the clinical history. According to this a high index of clinical suspicion and radiological findings are necessary for diagnosis. We report a case of tooth crown aspiration in a 58-year-old woman during adaptation procedure of the crown in a situation of minimized oral reflexes under local anesthesia. The patient presented with moderate dyspnea and decreased air entry on the right side three hours after aspiration. After x-ray crown removal from the right main bronchus was done in general anesthesia with a standard forceps and the help of a rigid ventilation bronchoscope, controlled by telescope. Because of already massive oedema of the bronchialmucosa there was no possibility to grasp and remove the crown by flexible endoscope. Although foreign body management is a very common procedure, it remains a difficult problem to diagnose and treat.

**The Role of the Otolaryngologist in
Tracheobronchomegaly**

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PURPOSE: To inform the otolaryngologist of the pathophysiology and presentation of tracheobronchomegaly (TBM) and assist with the diagnosis and management of this rare and challenging condition.

DESIGN: Two cases of congenital TBM (Mounier-Kuhn Disorder) are reported. The pathophysiology, clinical presentation and management of TBM are then discussed.

Tracheobronchomegaly (TBM) is a rare disorder characterized by enlargement and hypercompliance of the trachea and mainstem bronchi. Previously undiagnosed patients are often referred to the otolaryngologist because of chronic cough, stridor and possibly respiratory distress. Furthermore, critical care physicians often seek otolaryngology consultation on orally intubated and ventilated patients with TBM because of difficulty ventilating and prolonged intubation. This condition can be quite challenging to manage. To assist the otolaryngologist in the diagnosis and management of TBM we report our experience with two patients, and then review the pathophysiology, presenting signs and symptoms and current management of TBM. Digital video tracheobronchoscopy from our patients will be presented.

CONCLUSIONS: The otolaryngologist may be confronted with TBM in an ambulatory or critical care setting. Knowledge of the pathophysiology, presentation and reported physician experience with TBM may enable the otolaryngologist to positively influence the care of patients with this often devastating condition.

**Pattern of Laryngopharyngeal and
Gastroesophageal Refluxes**

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Double-probe 24-hour pH monitoring remains the gold standard for the diagnosis of Laryngopharyngeal Reflux Disease, even though there is no consensus with respect to the interpretation of the data collected. The pattern of laryngopharyngeal (LPR) and gastroesophageal refluxes (GER) was investigated using pH monitoring, and the validity of using a pH 5.0 level as indicative of LPR was examined.

Tetra-probe 24-hour pH monitoring was performed in 56 LPR cases. The four pH probes were located every 10 cm. The proximal probe was placed in the hypopharynx (just above the upper esophageal sphincter), a second, in the middle esophagus, a third, a few centimeters above the lower esophageal sphincter (LES), and the distal probe, in the stomach. We used a pH level of less than 4.0 or 5.0 as a significant LPR event at the proximal probe.

The reflux number, total and fractional time of pH<4 was correlated with the distance from the LES, and was predominant during the upright period (daytime). Even though there were few LPR events at a pH level less than 4.0, LPR became significant at a pH level less than 5.0 and the cause of laryngeal organic lesions. When the pH level used was less than 5.0, the number, the time and fractional time of LPR became predominant during the supine period (nocturnal) in a quarter of the cases (27%).

The larynx is more susceptible to acid reflux injury than the esophagus. Using a pH level of 5.0 as indicative of LPR in the hypopharynx is valid.

Endoscopic Treatment Of Severe Tracheal Stenosis

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Endoscopic treatment of subglottic and tracheal stenosis has traditionally been reserved for short segment and web-like stenoses that do not involve tracheal or cricoid cartilage. A retrospective review of 20 consecutive patients definitively treated endoscopically for circumferential and complete tracheal stenosis is presented. Patients who presented with tracheostomy dependence or dyspnea secondary to clinically significant tracheal or subglottic stenoses over a 21-month period were treated endoscopically. Mitomycin-C was applied following dilation in 18 patients. Eighteen surgeries were performed on an outpatient or short-stay basis. Three patients with complete stenosis and cartilage collapse underwent T-tube stent placement for less than 23 days. No complications were observed in the endoscopic treatment group postoperatively. Four out of five complete stenoses and five of seven circumferential stenoses with cartilage involvement remained patent after one procedure. Eight of eight patients with circumferential stenosis and intact cartilage resolved after the initial treatment. Two of twenty patients (10%) eventually required tracheal resection. The follow up period ranged from 4 to 21 months. In conclusion, severe and complete tracheal stenoses may be successfully treated endoscopically using the technique described. An endoscopic approach may be considered prior to tracheal resection in select cases. Endoscopic treatment is associated with few complications and morbidity, requires less operative time, and shorter hospitalization.

Key Words: tracheal stenosis, endoscopic, dilation, stent

Office Bronchoesophagoscopy

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The development of the ultrathin transnasal esophagoscope has expanded the armamentarium of diagnostic tools available to the laryngologist. This instrument is of sufficient length and has operating channels and controls that allow examination of the pharynx, larynx, trachea, and bronchial trees, as well as the esophagus and stomach. Patients with upper airway obstruction can often have conditions that affect the esophagus, such as reflux, tumor compression, or fistula. This report describes the use of this endoscope to examine the upper aerodigestive tract in 15 patients with upper airway obstruction due to a variety of conditions, including laryngotracheal stenosis, tumor, and fistula. The procedure was conducted in the office or at the patient's bedside using only topical anesthesia without conscious sedation. The pharynx and esophagus was examined first, and then the endoscope was passed through the larynx to examine the trachea and bronchi. The procedure was conducted without complications in all patients. Office or bedside bronchoesophagoscopy without sedation is a safe and useful procedure for the laryngologist. It particularly aids in treatment planning for surgical intervention.

**Intermittent Vocal Fold Motion Impairment
Associated With Vagal Nerve Stimulator Function**

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Vagal nerve stimulators are indicated for refractory seizure disorders. This involves placement of an electrical stimulator around the vagus nerve within the carotid sheath. Electrical stimulation is then intermittently given in a cyclical fashion via a power source implanted subcutaneously in the chest. Patients frequently complain of hoarseness when the stimulator is active. The etiology of this hoarseness has thus far not been elucidated. We present two patients with vagal nerve stimulators who presented for evaluation of these symptoms. Videolaryngoscopy was performed throughout a cycle of stimulation. Both patients were noted to have intermittent true vocal fold motion impairment during stimulation which subsequently resolved as the stimulation ended. Further investigation of the laryngeal findings in patients with vagal nerve stimulators is ongoing.

Video-endoscopy To-go

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PURPOSE: Design of a simple and light-weight wireless internet video-endoscopy system to take to the patient's bedside.

DESIGN AND USE: Imagine an entire video-endoscopic system the size of a thick pad of paper and cell phone. The portable system includes: camera, processor, monitor, and computer, built with commonly available technology. It is small and inexpensive, easy to record, catalogue, and email patient's endoscopic videos and stills.

For example, a resident performs an endoscopy in the intensive care unit to evaluate vocal cord function. The resident, and assembled team, watch the video on the tablet monitor in real time as it is recorded. Selected images are annotated by drawing directly on the screen. An auto-generated email is created, with the attached annotated pictures, and sent for review.

The system consists of readily available technology: an endoscope coupled Silicon Technology's CCN 1320v c-mount CCD camera connected via USB 2.0 to a Compaq Tc1100 Tablet PC. The images are stored in a Microsoft 2003 Access database in mpeg format. Real time video is displayed on the tablet's monitor during endoscopy. Camera resolution and frame speed range from 640*480 to HDTV quality at 30 frames per second. The TC1100, operating on Windows XP tablet PC Edition 2005, has built in wi-fi 802.11b & Bluetooth for wireless LAN access. The user interface design capitalizes on the Tablet PC's, pen on screen, inking features.

CONCLUSION: This is a pen driven video-endoscopy system that will capture images, previously not captured, outside of the clinic and operating room providing patient and educational benefit.

Myofibrosarcoma of the Head and Neck in Children

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PURPOSE: Childhood myofibrosarcoma is a distinct malignant soft tissue tumor that occurs almost exclusively in the head and neck. We describe our experience with the clinical presentation, treatment and outcome of patients with this rare tumor.

METHODS: We retrospectively reviewed the clinical course of 8 patients diagnosed with myofibrosarcoma of the head and neck at our institution between 1963 and 2003. The data collected on each patient include age at diagnosis, sex, race, presenting signs and symptoms, treatment, and outcome.

RESULTS: Our cohort of eight patients (representing 1.7% of all head and neck tumors at our institution) included 5 females and 3 males. The median age at diagnosis was 9 years (range 1.7-18.5). Five patients were Caucasian, 2 African-American, and 1 Haitian. The most common presenting complaint was a painless mass (n=6). The primary site of disease was maxilla (n=3), mandible (n=2), nape of neck (n=1), suprasternal notch (n=1) and palatine tonsil (n=1). All patients had localized disease at diagnosis. Four patients were treated with surgery alone, 2 with surgery and postoperative chemotherapy, and 2 with preoperative chemotherapy. Four patients are alive with no evidence of disease with a median follow-up of 6 years (5.2-12.7 yr). None of the patients treated with chemotherapy had a durable response. Radiation therapy was ineffective in the relapse setting.

CONCLUSIONS: Myofibrosarcoma of the head and neck is a rare and often aggressive tumor in children. In our experience, these tumors are resistant to chemotherapy and radiation therapy. Complete surgical resection offers the best chance for long-term survival.

**A Newborn Case Of Laryngeal Cyst Complicated
With Pneumothorax And Pneumomediastinum**

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Toshiyuki Uno, MD
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Benign congenital laryngeal cyst is rare entity. It often causes chronic hoarseness and/or mild stridor. The case reports of congenital laryngeal cyst complicated with pneumothorax and pneumomediastinum are very rare.

A 3,112g full-term male newborn developed stridor worsening on crying 12hr after birth. Chest retractions are present with inspiration. Chest X-rays showed the presence of right pneumothorax and pneumo-mediastinum. Transnasal flexible laryngoscopic examination revealed a large cystic mass, which occupied almost the entire supraglottic airway. It seemed to arise from vallecula or aryepiglottic fold. Fiber-guided endotracheal intubation was performed successfully and emergency surgery was arranged. The operation was performed with the techniques of laryngomicrosurgery under general anesthesia. The cystic wall was punctured by 21G fine needle and serous liquid contents were aspirated. The cyst was found to be attached to the left aryepiglottic fold after this procedure. Excision of the cystic lesion was entirely performed.

Postoperatively, the patient remained intubated overnight. The next day, extubation was performed without any trouble. The stridor disappeared after the extubation. The pneumothorax and pneumo-mediastinum improved without further medical intervention. The histopathological examination revealed that the cystic wall consisted of normal squamous epithelial cells.

**Endoscopic Staple Diverticulostomy for Zenker's
Diverticulum: A Technique Modification to Reduce
Recurrence**

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Endoscopic staple diverticulostomy (ESD) has been shown to be a safe and effective surgical technique for treatment of Zenker's diverticulum, with lower complication rates, faster recovery time, and faster operative time when compared to open transcervical diverticulectomy. In approximately 10 percent of patients recurrence of symptoms occurs after ESD, usually as a result of scar formation between the residual lateral tissue of the divided common wall leading to partial stenosis of the diverticulostomy. In an attempt to reduce this rate of recurrence, we introduce a novel modification of the ESD technique. After completion of the stapled diverticulostomy, the endosurgical stapler is then used to excise a unilateral portion of the previously divided common wall, thus creating a widely patent communication between the diverticulum and esophagus. By removing this lateral residual common wall tissue we hypothesize that stenosis will be less likely to occur leading to lower rates of symptom recurrence.

This technique has been successfully performed on nineteen patients between April 2004 and July 2004 without complication. The technique will be reviewed in detail, and preliminary data regarding safety, efficacy, and recurrence rates will be presented.

Injection of Micronized Alloderm into the Posterior Pharyngeal Wall: a Novel Technique for the Treatment of Velopharyngeal Incompetence (VPI).

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OBJECTIVE: To present a novel approach for the treatment of Velopharyngeal Incompetence (VPI) by augmentation of the posterior pharyngeal wall by an injection of micronized alloderm (Cymetra, LifeCell Corporation).

DESIGN: Two case studies.

MATERIAL AND METHODS: Two adults with acquired VPI were included in the study, one had a neurologic condition and the other had post-radiation weakness. Under direct endoscopic visualization, micronized alloderm paste was injected submucosally into the posterior pharynx at the level of the maximally elevated velum. A "pseudo-Passavant's ridge" was thereby created. Patients were evaluated at 1-week post-intervention, and a subjective assessment, nasopharyngolaryngoscopic (NPL) exam, and formal speech evaluation was performed.

RESULTS: Subjectively, patients reported a dramatic decrease in hypernasality of speech and nasal regurgitation of liquids. Nasopharyngoscopic exam revealed sustained augmentation of the posterior pharynx with corresponding closure of the velopharyngeal valve. Formal speech evaluation demonstrated a decrease in rhinolalia.

DISCUSSION: By presenting pilot data, we have described a novel approach for the treatment of adult VPI by injecting micronized alloderm into the posterior pharyngeal wall. This study lays the groundwork for a more formalized investigation involving a larger number of subjects, durability of the injectable product and the possible use in cleft palate children.

**Verrucous Lesions of the Larynx: A Difficult
histopathologic Situation**

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OBJECTIVE: To show that verrucous lesion of the larynx is not synonymous with verrucous carcinoma, and clinical and pathological diagnosis of such lesions may be very challenging.

STUDY DESIGN: Retrospective study based on chart review of 5 patients with verrucous lesions of larynx that were difficult to diagnose.

METHODS: The charts of the 5 patients were reviewed. The pathological information of each patient was also reviewed.

RESULTS: Clinically these lesions all had wart like projections with well defined margins. All were on the vocal folds. The pathological terms used to describe the verrucous lesions included: verruca vulgaris, hyperkeratosis, parakeratosis, verrucous hyperplasia, well differentiated carcinoma, and verrucous carcinoma. One patient received up to 4 different pathologic diagnosis for the same lesion. All the patients did well with conservative local excision with micro laryngoscopy with laser. None have recurred.

CONCLUSION: These 5 verrucous lesions of the larynx are uncommon. They have unique finger like projections making them verrucous lesions. Histologically, they did not have the invasive nature of verrucous carcinoma. The final pathologic diagnosis may be difficult, even for experienced pathologists. Because of histological similarity between verrucous lesions, the presence of verrucoid changes is not synonymous of verrucous carcinoma.

**Management Of The Difficult Laryngeal Exposure
During Micro-Laryngoscopy**

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Adequate exposure of the larynx in performance of phonomicrosurgery is critical in performing binocular surgery. Sometimes the exposure is simply inadequate using existing operating laryngoscopes. This is despite counter pressure and using a small endotracheal tube. A review of our experience in the management of 22 such cases either referred for a further management or during primary surgery is done to better evaluate what was done. A stepwise systematic management for better exposure is proposed. The stepwise management options are: a) Hollinger laryngoscope is used with monocular vision but bimanual surgery, b) Jet ventilation used in conjunction with the Hollinger laryngoscope, c) Telescopic surgery aided by using a 30 degree or 70 degree telescope and using anterior scissors and forceps, and d) laryngeal mask anesthesia and fiberoptic excision through the laryngeal mask. Using such a graded response all the patients were able to be surgically treated by 25 procedure attempts. Thirteen patients were treated using technique of Hollinger laryngoscope alone. Five underwent surgery with jet ventilation and Hollinger laryngoscope. Three patients had success with telescopic surgery guidance and one patient needed fiberoptic excision through and laryngeal mask devise. Such a graded approach to the difficult exposure allows the surgeon to maintain some of the advantages of operative microlaryngoscopy and avoid open surgery.

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ACTIVE MEMBERSHIP REQUIREMENTS

BYLAWS (Article III, Section 2a) – Admission to the Association shall be by invitation only. All nominations for Active membership shall be made by the Council. Elections to membership shall be made by the Association.

BYLAWS (Article III, Section 2e) – Each candidate for Active Membership must be a graduate of medicine, a diplomat of the recognized Board in his/her specialty, engaged for three years or more in the active practice of this specialty, and one who by his/her endoscopic skill and scientific ability has proven his/her expertise in Broncho-Esophagology, Laryngology, Gastroenterology, Pulmonology, Thoracic Diseases and/or related disciplines by submitting five authored articles by him/her addressing such areas of expertise.

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