Radiographic ECE Predicts Worse Survival in OPC

Radiographic Extracapsular Extension and Treatment Outcomes in Locally Advanced Oropharyngeal Carcinoma.

Kann BH, Buckstein M, et al:

Head Neck 2014; 36 (December): 1689-1694

In patients with locally advanced oropharyngeal carcinoma, radiographic extracapsular extension is an independent factor for reduced overall survival, progression-free survival, and distant control at 3 years.

Background: The implications of radiographic extracapsular extension (rECE) in patients with head and neck cancer are unknown at present.

Objective: To determine the prognostic significance of rECE on pretreatment scans in patients with advanced stage oropharyngeal cancer (OPC), especially as it pertains to subsequent survival.

Design: Retrospective chart review.

Participants: Patients with an initial diagnosis of stage III/IV OPC at Mount Sinai Medical Center from 2006 to 2012 for whom pretreatment head and neck CTs were available. Exclusion criteria were patients with clinically negative nodal status, those with recurrent cancer, or those electing to undergo palliative treatment.

Methods: The diagnosis of rECE was made by a single radiologist with criteria including loss of outer nodal margin definition, infiltration of adjacent fat planes around the node, and thick-walled enhancing nodal margins. Human papillomavirus (HPV) status of tumors was assessed with p16 expression or detection of HPV-16/18 DNA. Progression-free survival (PFS), overall survival (OS), locoregional control, and distant control were compared for rECE-present and rECE-absent cohorts.

Results: Of 111 patients included in the review, 64 had rECE and 47 did not. Compared to the rECE-absent group, the rECE-present group had significantly greater proportions of male patients and patients with ≥10 pack-years smoking history. Treatment regimens did not differ significantly between both cohorts, and only a small proportion of patients underwent surgery (25% from each cohort). When correlated with pathologic ECE (pECE) after surgery, the sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of rECE were 61%, 57%, 36%, and 79%, respectively. Median follow-up was 33 months. Three-year OS (rECE, 77%; no rECE, 95%), PFS (rECE, 71%; no rECE, 91%) and distant control (rECE, 81%; no rECE, 98%) were all significantly lower in the cohort with rECE. After controlling for age, gender, race, smoking pack years, HPV status, and treatment modality, the presence of rECE remained a negative prognostic factor for OS, PFS, and distant control.

Conclusions: rECE has a negative impact on survival in patients with advanced stage OPC.

Reviewer's Comments: The management implications for the pretreatment diagnosis of rECE are relevant given the interest in treatment de-intensification strategies, especially in HPV-positive OPC. While the authors clearly demonstrate a negative impact for rECE, this article has several limitations. The rECE cohort had a significantly larger proportion of smokers and higher stage nodal disease, and these factors could possibly account for the observed differences in survival if this study had more patients. The PPV for rECE in actual pECE was very low (36%), which brings into question the diagnostic criteria used by the radiologist for rECE. Future studies should address this issue to clearly define and validate what constitutes rECE. (Reviewer-Zhen Gooi, MD).

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Keywords: Oropharyngeal Carcinoma, Extracapsular Extension, Survival

Print Tag: Refer to original journal article
Intratympanic Steroids Accelerate Recovery in Bell Palsy

Intratympanic Steroid Injection for Bell's Palsy: Preliminary Randomized Controlled Study.

Chung JH, Park CW, et al:

Otol Neurotol 2014; 35 (October): 1673-1678

In patients with Bell palsy, the addition of intratympanic steroids to standard treatment with systemic steroids and antiviral medications appears to shorten the recovery time.

Background: Idiopathic facial paralysis or Bell palsy is commonly treated with systemic steroids and antiviral medications.

Objective: To determine the efficacy of intratympanic (IT) steroids in addition to standard therapy for treatment of Bell palsy.

Design: Prospective, blinded, randomized trial.

Participants: 31 patients with acute facial paralysis of House-Brackmann grade III or worse were enrolled (mean age, 43 years; age range, age 18 to 65 years) who presented at the authors' institution between December 2007 and March 2011.

Methods: Controls (n=17) received systemic steroids and antiviral medications, and 14 other patients received added treatment with IT dexamethasone injections given 3 times over 2 weeks. Patients were examined by an otolaryngologist blinded to treatment. Examinations were weekly for the first month and then monthly for 6 months.

Results: The primary outcome was complete facial recovery, which was 60% in the IT group and 50% in controls (difference not statistically significant). However, the mean time to improvement was significantly shorter in those given IT steroids (21 days) than in controls (42 days; P = 0.04). When patients with more severe paralysis (House-Brackmann grade IV or worse) were considered, complete recovery was 80% in those given IT steroids versus 50% in controls. Although the difference in these recovery rates was not significantly significant, the rate of recovery was still significantly faster in patients receiving IT steroids. Complications of IT steroids were minor and included brief vertigo, pain, and headache that resolved within 30 minutes in all cases.

Conclusions: Patients with Bell palsy who receive IT steroids have a significantly shorter recovery time than do those receiving only standard treatment, although the overall rate of recovery is not significantly different for the 2 groups.

Reviewer's Comments: Bell palsy has a very high recovery rate for cases with incomplete paralysis at presentation, which encompasses most cases. Thus, it would take a large number of patients to demonstrate the rate of recovery improves with another therapy, and this relative small study did not have that much power. However, in subgroup analysis, the data suggest that patients with more complete paralysis have a higher rate of recovery when given IT steroids. Clearly, more studies are needed, but I think it would be reasonable to treat patients with Bell palsy with IT steroids in addition to systemic steroids. (Reviewer-Benjamin T. Crane, MD).

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Keywords: Bell Palsy, Idiopathic Facial Paralysis, Treatment, Intratympanic Steroids

Print Tag: Refer to original journal article
**Microscope-Assisted Thyroidectomy Is Valuable Technique**

*Microscope-Assisted Thyroidectomy: Our Experience in One Hundred and Twenty-One Consecutive Cases.*

Williams SP, Wilkie MD, Tahery J:

Clin Otolaryngol 2014; 39 (October): 307-311

In a large case series from the United Kingdom, microscope-assisted thyroidectomy appears to be a feasible surgical approach that is associated with acceptable complication rates.

**Background:** For thyroidectomy, minimally invasive surgery has been popular in the past decade, using different methods to minimize complications and reduce the incision length. New technologies have been introduced to enable these new surgical approaches. An Italian group initially introduced the endoscopes, and Korean surgeons have adopted the robotic method.

**Objective:** To delineate the authors’ series on the use of an operating microscope for thyroid surgery and to determine if its use improved the associated complication rates.

**Design:** Retrospective case series.

**Participants:** 129 consecutive patients undergoing thyroid lobectomies between November 2007 and April 2013 at a single center in the United Kingdom.

**Methods:** Open thyroidectomy was performed using the standard cervical incisions followed by mobilization of the gland from the tracheoesophageal groove. The microscope was then brought into the field to visualize the recurrent laryngeal nerve (RLN) and the parathyroid glands with their vascular pedicle. After this microscope-assisted dissection, the thyroid lobectomy was completed.

**Results:** Postoperatively, persistent hypocalcemia was seen in 1.7% of cases, but no cases of permanent RLN injury occurred. These numbers compared well to the 1% rate of permanent nerve injury and 2.6% to 4% rates of hypocalcemia that have been quoted in the literature. The authors did not record operative time in this case series.

**Conclusions:** Microscope-assisted thyroidectomy is an alternative method of thyroidectomy that may potentially reduce complication rates.

**Reviewer’s Comments:** As a case series, this paper demonstrates that microscope-assisted thyroid surgery is feasible, but it is unclear whether it is actually superior for reducing complication rates. More importantly, they do not report the operative time parameter to show that it is a better approach. Four other published reports have demonstrated that microscope-assisted thyroid surgery is feasible with acceptable operative time. It would be interesting to see if the use of loupes or an endoscope is comparable to the use of a microscope, but this would involve a more extensive randomized clinical trial that probably will not happen. Of course, one problem with microscope-assisted surgery is the increased duration of surgery that can be minimized with the use of the endoscope. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Thyroidectomy, Microscope-Assisted Surgery, Complications

Print Tag: Refer to original journal article
Laser Microsurgery Efficacious for Early Glottic Cancer

Transoral Laser Microsurgery for T1a Glottic Cancer: Review of 404 Cases.

Canis M, Ihler F, et al:

Head Neck 2014; (June 30 - verified on journal Website): epub ahead of print

In a large retrospective case series, transoral laser microsurgery for T1a glottic cancer is shown to confer overall survival and locoregional control similar to that seen with radiation therapy.

Background: The treatment options for early glottic cancer include radiotherapy and open partial laryngectomy or transoral endolaryngeal surgery, with the first option being preferred by most centers.

Objective: To report on survival outcomes of the largest cohort of patients with T1a glottic squamous cell cancer (SCC) treated with transoral laser microsurgery (TLM).

Design: Retrospective cohort study.

Participants: Patients with T1a glottic SCC treated between 1979 and 2006 at 2 tertiary care centers in Germany.

Methods: Exclusion criteria were prior history of upper aerodigestive tract malignancy, second primary tumor, or recurrent disease. The CO2 laser was used, and intraoperative frozen sections were obtained to guide the extent of surgical resection. Endpoints for analysis were overall survival (OS), disease-specific survival (DSS), larynx preservation, and locoregional control.

Results: The study cohort consisted of 404 patients (median age, 62 years) of which 92.6% were male. Median follow-up was 78.2 months. The 5-year OS and DSS were 87.8% and 98.0%, respectively. At least 1 recurrence developed in 56 patients, and a further 19 and 7 patients developed a second and third recurrence, respectively. Most recurrences were local and were treated with TLM, with only 11 patients ultimately requiring total laryngectomy. Median time to detection of the first recurrence was 34.4 months. Reported complications included postoperative bleeding requiring surgical intervention (n=2), airway obstruction treated with corticosteroids (n=2), and granulation tissue removed via microlaryngoscopy (n=66). No feeding tubes or tracheostomies were required in this cohort.

Conclusions: When compared to existing data in the literature, TLM has a low complication rate and confers survival outcomes and organ preservation rates similar to that seen with radiation therapy.

Reviewer's Comments: Using data from the largest cohort of patients reported to date, this article adds to the existing body of literature showing the effectiveness of TLM as a treatment modality for early stage glottic SCC. The authors demonstrate high survival rates similar to that of radiation therapy, which I believe is an overall reflection of the favorable prognosis of early stage glottic SCC, regardless of treatment modality. As such, any discussion on the advantages of 1 modality over another should highlight quality of life measures, side-effect profiles, and cost considerations. The authors briefly allude to this by describing the absence of feeding tube or tracheostomy use in their patient cohort. There is no description of voice quality outcomes, however. Prospective studies that compare these factors between different treatment modalities are needed to determine if TLM truly confers better outcomes in the treatment of early stage glottic SCC. (Reviewer-Zhen Gooi, MD).

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Keywords: Early Glottic Cancer, Transoral Laser Microsurgery, Outcomes

Print Tag: Refer to original journal article
Factors Predict Hypocalcemia After Total Thyroidectomy

Early Predictors of Hypocalcemia After Total Thyroidectomy: An Analysis of 304 Patients Using a Short-Stay Monitoring Protocol.

Noureldine Si, Genther DJ, et al:


Male patients with a postoperative intact parathyroid hormone level (IPTH) >20 pg/mL with no autotransplantation of parathyroid glands are at low risk for significant hypocalcemia after total thyroidectomy.

Background: The ability to determine which patients are at low risk of developing hypocalcemia following total thyroidectomy will enable safe patient discharge after outpatient procedures.

Objective: To identify factors predictive of hypocalcemia following total thyroidectomy.

Design: Retrospective cohort study.

Participants: Patients undergoing total thyroidectomy by a single surgeon between 2010 and 2012.

Methods: Analysis of calcium, intact parathyroid hormone (IPTH), and vitamin D levels obtained 6 to 8 hours postoperatively were reviewed. Mild hypocalcemia was defined as a serum calcium level between 8.0 to 8.4 mg/dL. Severe hypocalcemia was defined as a calcium level <8.0 mg/dL or symptoms of diffuse perioral/fingertip paresthesia, numbness, tetany, or positive Chovstek sign. Univariate and multivariate logistic regression analyses were performed to determine independent predictors of hypocalcemia, duration of hospitalization, and postoperative IPTH level.

Results: Of 304 thyroidectomies performed, 68 patients (22%) had mild postoperative hypocalcemia and 91 (30%) had severe hypocalcemia. On multivariate analysis, male gender was associated with a significantly decreased risk of developing either mild or severe hypocalcemia, while a malignant thyroid neoplasm was associated with an increased risk for mild hypocalcemia. For every 10-pg/mL increase in postoperative IPTH levels, the risk of significant hypocalcemia decreased 43% and the risk of hospitalization beyond 24 hours decreased 18%. Variables associated with a higher IPTH level were male gender and African-American race, while a progressively lower IPTH level was associated with a higher number of respected or auto transplanted parathyroid glands.

Conclusions: A lower postoperative IPTH level, female gender, and a diagnosis of malignant thyroid neoplasm are factors associated with hypocalcemia following total thyroidectomy and should be included in decision-making criteria when determining if a patient is safe for discharge after an outpatient procedure.

Reviewer's Comments: A pertinent feature of this article is that the authors propose an algorithm for a discharge pathway based on the study's results. In the low-risk category for hypocalcemia are men with IPTH ≥20 pg/mL or women with IPTH ≥30 pg/mL in whom no parathyroid glands were removed. These patients are deemed suitable for a same-day discharge. In the intermediate-risk category are men with IPTH <20 pg/mL or women with IPTH <30 pg/mL and/or 1 to 2 parathyroid glands removed and/or a diagnosis of thyroid malignancy. These patients should be admitted for calcium checks every 6 to 8 hours and should demonstrate absence of symptoms and a positive serum calcium trend prior to discharge. In the high-risk category are men with IPTH ≤10 pg/mL or women with IPTH ≤20 pg/mL and/or removal of >2 parathyroid glands. These patients should be admitted and started on calcium supplementation (IV if symptomatic, oral if asymptomatic) in addition to similar criteria for discharge as the intermediate-risk group. (Reviewer-Zhen Gooi, MD).

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Keywords: Outpatient Total Thyroidectomy, Early Predictors of Hypocalcemia

Print Tag: Refer to original journal article
Topical intranasal steroid spray may improve otitis media with effusion associated with adenoid hypertrophy.

**Background:** Topical nasal steroid sprays have been espoused for symptomatic adenoid hypertrophy, but level 1 evidence regarding the efficacy of nasal steroids remains unclear. Knowing whether nasal steroid sprays improve outcomes is important for both otolaryngologists and pediatricians because otitis media with effusion (OME) is so common. Adenoid hypertrophy is suspected to be the anatomic source of the effusion, so topical steroids have been tested to reduce this lymphoid hypertrophy and to potentially reduce the effusion rates.

**Objective:** To determine whether mometasone intranasal spray, a steroid spray, is effective in the treatment of OME in children with adenoid hypertrophy.

**Design:** Prospective randomized double-blind clinical trial performed in India.

**Participants:** 100 subjects whose ages ranged from 2 to 12 years and had grade 3 and 4 adenoid hypertrophy according to the Cassano classification with symptoms lasting ≥3 months. Exclusion criteria consisted of previous adenoidectomy, previous use of intranasal steroids, tonsillar hypertrophy, craniofacial abnormalities, and acute upper respiratory infections symptoms.

**Methods:** Patients were assessed with pneumatic otoscopy, tympanograms, audiograms, and nasopharyngoscopy. Of the 100 patients screened, 62 were randomly assigned to either placebo or active treatment with mometasone intranasal spray. Patients were monitored for symptoms and were tested with otoscopy and audiograms with tympanograms at 0, 8, and 24 weeks.

**Results:** The OME resolution rate was higher in patients receiving mometasone intranasal spray (93%; n=28) than in those receiving placebo (50%; n=32). Audiogram results also showed statistically significant hearing improvements in patients receiving nasal steroid spray compared to those receiving placebo. These results correlated with improved quality of life in the steroid group compared to management of OME in children with adenoid hypertrophy.

**Reviewer’s Comments:** Technically, this is a level 1 randomized controlled trial, and the statistics were impressive. The downside of this report is the low number of patients enrolled in each group. Regardless, this report should prompt larger trials. Given that this was done in India, it is unclear whether these results can be replicated in America, but there is no denying the results. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Adenoid Hypertrophy, Otitis Media With Effusion, Treatment, Intranasal Steroids

Print Tag: Refer to original journal article
Can the Elderly Tolerate Free Flap Surgery?

Surgical Outcomes in the Elderly Patient After Osteocutaneous Free Flap Transfer.

Weaver TS, Wester JL, et al:

Laryngoscope 2014; 124 (November): 2484-2488

Older age should not be a contraindication for osteocutaneous free flap surgeries.

Background: Head and neck surgical oncology can sometimes involve large resections, followed by free flap reconstructions for rehabilitation of swallowing and speech functions. Some have espoused that locoregional flaps should be used for older patients because their age may preclude them from a successful osteocutaneous free flap surgery, which may last hours longer than procedures for locoregional flaps.

Objective: To determine whether osteocutaneous free flap transfer is associated with increased postoperative complication rates in patients aged ≥70 years.

Participants: 44 elderly patients aged ≥70 years who underwent osteocutaneous free flap surgeries, which included fibular, radial forearm, and scapular free flap surgeries.

Methods: The authors compared the following factors for patients aged ≥70 years to those aged <70 years: donor site morbidity, flap complications, hospitalization, tracheostomy, and G-tube dependence rates.

Results: Comparing the 2 age cohorts, no significant differences were found in complication rates, decannulation rates, overall hospitalization rates, ICU stays, and length of hospitalization stays. Patients aged ≥70 years were more prone to be discharged to rehabilitation facilities than were younger patients, who were more likely be discharged to home.

Conclusions: The postoperative sequelae do not differ significantly for patients aged ≥70 years and those aged <70 years who undergo osteocutaneous free flap surgeries.

Reviewer's Comments: There are some reports that octogenarians have higher rates of medical complications after long surgeries, but there is no clear evidence as it relates to free flap surgeries. In this cohort analysis, the rates of donor site complications are higher than the national rates, but these rates did not differ significantly for the elderly and the younger cohorts in this study. A multivariate analysis was not performed in this study to control for comorbidities, which introduced selection bias into the study. However, the results of this study clearly show that older age should not be a contraindication for osteocutaneous free flap surgeries. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Osteocutaneous Free Flap Surgeries, Outcomes in Elderly

Print Tag: Refer to original journal article
What's the Best Way to Sterilize Flexible Laryngoscopes?
An Evaluation of Varying Protocols for High-Level Disinfection of Flexible Fiberoptic Laryngoscopes.
Liming B, Funnell I, et al:
Laryngoscope 2014; 124 (November): 2498-2501

Compared to the use of reprocessing machines for decontaminating flexible fiberoptic laryngoscopes, decontamination with alcohol, germicidal, and Cidex soaks appear to be equally effective.

Background: An important instrument for otolaryngologists is the flexible fiberoptic laryngoscope (FFL), and recent reports show that some decontamination methods can leave bacterial contamination. Given the current medical environment that places a premium on patient safety, many medical centers have adopted reprocessing machines to optimize the decontamination process for FFLs. However, these reprocessing machines are expensive and time-consuming.

Objective: To perform a head-to-head comparison between the reprocessing machine and other various means of decontamination for FFLs.

Methods: After laryngoscopy, FFLs were cleaned using 1 of 8 different decontamination methods. The scopes were then placed into a culture broth, and the broth was cultured. Both bacterial and fungal cultures were performed. The different cleaning methods included water rinse, soap wash, alcohol, germicidal wash, Cidex® OPA soaks, or different combinations of these washes and soaks.

Results: Other than simple water or soap washes, all remaining decontamination methods compared well with the reprocessing machine in the bacterial growth culture test: none of the cultures had bacterial growth after these decontamination methods. In short, bacterial decontamination with isopropyl alcohol, germicidal wash, or Cidex soaks was as good as the bacterial decontamination achieved using a reprocessing machine. Similar tests were done with fungal cultures, but the results were not clear since only 3 of 10 unclean FFLs had positive fungal growths.

Conclusions: Chemical methods of decontamination (alcohol, germicides, and Cidex) all provide bacterial decontamination of FFLs that is as effective as the bacterial decontamination achieved using reprocessing machines.

Reviewer's Comments: This important study compared the reprocessing machine to less expensive methods of decontaminating FFLs. In short, alcohol, germicidal washes, and Cidex soaks can be effective in preventing bacterial contaminations in these frequently used instruments. The authors used only 1 test to check for bacterial contamination. More sensitive methods, such as PCR methods, were not used. But the results of these preliminary studies suggest that the reprocessing machines may be overkill. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Flexible Fiberoptic Laryngoscope, High-Level Disinfection

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Dilatation Provides Stable Airway for Subglottic Stenosis in WG

Long-Term Outcome of Airway Stenosis in Granulomatosis With Polyangiitis (Wegener Granulomatosis): An Observational Study.

Martinez Del Pero M, Jayne D, et al:

JAMA Otolaryngol Head Neck Surg 2014; 140 (November): 1038-1044

Dilatations and adjuvant treatments with anti-inflammatory agents can provide a stable airway in patients with subglottic stenosis associated with Wegener granulomatosis.

Background: Subglottic stenosis that stems from Wegener granulomatosis (WG) is difficult to manage. Despite the current use of immunosuppressive medications and rituximab, it is unclear whether the management of subglottic stenosis will change. Currently, these lesions are managed with various forms of dilatations and topical applications of anti-inflammatory agents. At times, primary resections of subglottic lesions have been successful. As for dilatation, we question how long their effect can last.

Objective: To determine the duration of effect achieved using dilatation and other conservative measures to manage a series of patients with WG.

Design: Retrospective single-center study.

Participants: A series of 39 patients with WG and airway stenosis.

Methods: Patients were managed with either dilatation or laser-assisted radial cuts to the lesion. Some were treated with topical mitomycin C. The authors measured airway patency and recorded the number of airway interventions in this cohort treated from 1997 to 2012.

Results: 36 patients had subglottic stenosis and 30 had lower airway stenosis. The authors' conservative management consisted of dilatation, possible use of laser-assisted radial cuts to the lesions, and mitomycin. A stable airway was maintained that did not require intervention in 34 of 36 patients with subglottic stenosis (97%). More than 75% of patients were managed with dilatation, while only 13% had laser-assisted dissection. About half of these patients received adjuvant steroids, mitomycin, or intralesional alemtuzumab treatments.

Conclusions: In patients with subglottic stenosis associated with WG, conservative treatment (dilatations, laser-assisted cuts to lesion, topical mitomycin) achieved a 97% rate of airway patency during a 12-month follow-up. The complication rates were 6.6%. The authors note that the airway can be stable for years, although clinically symptomatic stenoses can recur.

Reviewer’s Comments: From this series, the authors present their algorithm in the management of airway stenosis associated with WG. They have instituted a multidisciplinary practice that includes otolaryngology, pulmonary, and rheumatology. For cases requiring airway improvements, the authors dilate with either laser, bougie, or balloon dilatations with adjuvant topical anti-inflammatory agents. Overall, these managements are commonly used by tertiary centers. Unfortunately, the authors did not provide any specific interventions that were associated with better airway control. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Wegener Granulomatosis, Subglottic Stenosis, Interventions, Outcomes

Print Tag: Refer to original journal article
Sensitivity to ACE Inhibitors Leading Cause of Angioedema

Risk Factors Associated With Severe and Recurrent Angioedema: An Epidemic Linked to ACE-Inhibitors.

Loftus PA, Tan M, et.al:

Laryngoscope 2014; 124 (November): 2502-2507

Important risk factors for the development of angioedema include sensitivity to angiotensin-converting enzyme inhibitors, race, gender, age, and cardiopulmonary disease.

**Background:** Angioedema (AE) patients are difficult to manage given their potential for a tenuous airway. Most respond to steroids and antihistamines, but a few cases require airway interventions or additional medical and surgical attention.

**Objective:** To review the authors’ series of AE patients.

**Participants:** Nearly 900 patients with AE who presented to the Montefiore Medical Center from 2008 to 2013.

**Methods:** The authors analyzed the patients’ demographic and clinicopathologic parameters and correlated risk factors associated with hospitalizations, airway interventions, and AE recurrences.

**Results:** Sensitivity to angiotensin-converting enzyme inhibitors (ACEi) was the most common cause of AE. Other clinical parameters associated with severe AE cases were Hispanic race, ASA class ≥III, coexisting cardiopulmonary disease, smoking history, and older age. In this series, 17% of patients had recurrent episodes of AE, and nearly 25% of patients with recurrent AE were still taking ACEi medications. Recurrent episodes of AE correlated with age, idiopathic AE, and coexisting cardiopulmonary disease.

**Conclusions:** This is one of the largest series of AE, and its findings confirm that ACEi sensitivity is the most common cause of AE, accounting for 25% to 39% of these cases. Idiopathic AE accounted for 16% of the cases, but it also was the most common cause of recurrent AE.

**Reviewer’s Comments:** Several interesting risk factors associated with airway interventions in these AE patients were found: increased age, idiopathic AE, and coexisting cardiopulmonary disease. The other interesting finding was that patients with ACEi-induced AE continued to take ACEi medications, which speaks to the lack of a thorough workup and/or the lack of communication between patients and health care providers. The weaknesses of this report include the use of a retrospective design and the use of a not-yet-validated database. However, overall, this was a good report. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Angioedema, Risk Factors, Sensitivity to ACE Inhibitors

Print Tag: Refer to original journal article
Endoscopic airway dilation surgery for laryngotracheal stenosis can be managed as an outpatient surgery.

**Background:** Laryngotracheal stenosis (LTS) in the adult population can be a complicated problem for otolaryngologists, and there are many approaches to its management. Surgical approaches range from endoscopic dilations to open resections whenever possible. Some surgeons routinely admit patients scheduled to undergo endoscopic airway management for monitored observation, while others treat these cases as outpatients.

**Objective:** To compare the postoperative complication rates for patients with LTS undergoing endoscopic management of LTS as inpatients versus outpatients.

**Design:** Case series.

**Participants:** 91 patients who underwent 223 endoscopic procedures during a 5-year study interval.

**Results:** 114 cases were outpatient cases, while 109 cases were admitted for observation. The typical surgery was performed with jet ventilation, and dilations were performed with balloon dilators or rigid dilators. When these 2 cohorts were compared, no statistically significant differences were found in the rate of complications. Among outpatients, only 1 case required readmission for respiratory distress, which represented <1% of the total number of cases. Among inpatients not admitted to the ICU, none required transfer to a higher level of care for closer observation. Within the 2 groups, none experienced any cardiopulmonary problems.

**Conclusions:** Endoscopic airway surgery can be managed as an outpatient procedure rather than routinely admitting patients for close monitoring.

**Reviewer's Comments:** This report is typical of the current trend toward outpatient surgery in the field of laryngology. This study contains several obvious types of bias, particularly that of selection bias. In addition, this report may be focused on stable stenotic disease that arises from idiopathic stenosis and Wegener granulomatosis, which is more amenable to dilations. Patients with active granulation tissue may require closer observation and may not be accurately represented in this report. However, with regard to those patients who can be managed with endoscopic dilation procedures, outpatient surgery may suffice. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Laryngotracheal Stenosis, Endoscopic Surgery, Admission

Print Tag: Refer to original journal article
MRI Improves Preop Diagnosis of PA of the Parotid Gland

MRI Criteria for the Diagnosis of Pleomorphic Adenoma: A Validation Study.

Zaghi S, Hendizadeh L, et al:


In patients with parotid gland lesions, 5 “high probability” features seen on MRI can be helpful for diagnosing pleomorphic adenoma.

**Background:** Pleomorphic adenoma (PA) is typically diagnosed on fine-needle aspiration biopsy (FNAB) or after excision. As for imaging, salivary gland lesions are examined with either CT or MRI. Ultrasounds (US) are used should there be a need for FNAB. However, there is no clear consensus as to the best way to manage salivary gland lesions. For deep parotid lesions, US may not be appropriate. Most agree that MRI is the best form of imaging for salivary gland lesions, with many reporting that MRI can provide diagnostic information.

**Objective:** To determine whether MRI is reliable for identifying PA in patients with primary parotid gland tumors.

**Methods:** Because previous reports suggest a high positive predictive value (PPV) of MRI for PA, the authors examined their series of patients to calculate the specificity, sensitivity, PPV, and negative predictive value (NPV) of MRI for diagnosing PA in the parotid gland. The authors developed an algorithm to tag a parotid lesion as "PA with high probability" based on 5 specific MRI features: bright T2-signal, sharp margins, heterogenous nodular enhancements, lobulated contours, and T2-dark rims. Both 1.5-T and 3.0-T MRI scans were used. More than 100 MRI scans were selected, and their final pathology was acquired from surgical specimens.

**Results:** Of the 103 parotidectomy cases, 41 were diagnosed as PA based on final surgical specimen. Based on MRI features, 21 cases met all 5 criteria for PA of high probability. On final histopathology, 18 of these 21 cases were consistent with PA, and the remaining 3 cases were carcinoma. From these values, the 5 MRI-based criteria for diagnosing PA had a specificity of 95% and a sensitivity of 44%. The PPV was 86%, while the NPV was 72%. The overall diagnostic accuracy of MRI was 75%.

**Conclusions:** MRI can offer an important diagnostic tool in the management of a subset of parotid lesions.

**Reviewer’s Comments:** In general, the numbers reported in this paper are consistent with those reported in the literature. Others have reported specificity in the range of 84%. Of course, the problem with the MRI is its sensitivity, which is approximately 44%. This is accounted for by the fact that, on MRI, PAs have features that overlap with other pathologies, much like its pathologic features, and hence its name of “pleomorphic” adenoma. These overlapping features are present on FNAB as well. For example, FNAB is notoriously unable to distinguish PA from carcinoma ex-pleomorphic adenoma. Overall, this report reiterates the potential for MRI to improve the preoperative diagnosis for parotid gland lesions. (Reviewer-Young J. Kim, MD, PhD).

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Keywords: Pleomorphic Adenoma, Benign vs Malignant Histology, MRI

Print Tag: Refer to original journal article
In hospitalized otolaryngology patients, routine use of chemoprophylaxis in the perioperative period to reduce the likelihood of venous thromboembolism may not always be indicated.

**Background:** While the use of chemoprophylactic agents has been shown to reduce venous thromboembolism (VTE) events in surgical patients, similar data on otolaryngology patients are lacking.

**Objective:** To determine the effect of chemoprophylaxis (CHPX) on the incidence of VTE and bleeding complications in the perioperative period in a population of otolaryngology patients.

**Design:** Retrospective cohort study.

**Methods:** Chart review of 3498 patients admitted for otolaryngologic surgery between 2003 and 2010 at a tertiary academic medical center. VTE and bleeding events within 30 days of admission were recorded and compared for patients receiving VTE CHPX and those not receiving VTE CHPX. The Caprini risk score was used to retrospectively stratify the patient population into low-, medium-, and high-risk groups for subset analysis.

**Results:** Most of the study population consisted of head and neck patients (69%), while the remainder was divided almost equally between otology, plastic and reconstructive, and general otolaryngology patients. The incidence of VTE was not significantly different for patients who did not receive CHPX compared to those who did (1.3% vs 1.2%, respectively; \( P = 0.75 \)). However, when stratified by risk, the incidence of VTE was progressively higher in patients not receiving CHPX: low-risk group, 0.5% with or without CHPX; medium-risk group, 1.9% with CHPX versus 2.4% without; high-risk group, 10.7% with CHPX versus 18.3% without. Patients receiving CHPX were significantly more likely to experience bleeding complications (3.5%) than were those not receiving CHPX (1.2%; \( P < 0.001 \)). This effect was more marked in the subset of patients undergoing free tissue transfer (CHPX, 11.9%; no CHPX, 4.5%, \( P = 0.01 \)), which was attributed to concurrent antiplatelet medication use.

**Conclusions:** In a population of otolaryngology patients, the incidence of VTE events increases in those at higher risk for VTE based on the Caprini scoring system. Bleeding complications are more common in patients receiving CHPX for VTE, especially in those undergoing concurrent antiplatelet therapy.

**Reviewer's Comments:** This article is interesting because it demonstrates that the use of VTE CHPX may not be indicated as a routine measure in otolaryngologic practice because patients in our specialty do not necessarily face the same postoperative issues with mobility as orthopedic or general surgery patients. These results make the case for a graded assessment of a patient's VTE risk before commencement of routine CHPX instead of using a one-size-fits-all approach. This study also highlights the increased risk of bleeding complications associated with CHPX, especially in patients undergoing free-tissue transfer. The article would have been strengthened if (1) further subset analysis was performed between the different otolaryngologic subspecialties, and (2) mortality data from bleeding and VTE complications were reported. (Reviewer-Zhen Gooi, MD).

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Keywords: Otolaryngology Surgery, Postop VTE & Bleeding, Effect of Chemoprophylaxis

Print Tag: Refer to original journal article
Duty Hour Limits Not Reducing Surgical Volume for Residents

The Effect of Duty Hour Regulation on Resident Surgical Case Volume in Otolaryngology.

Curtis SH, Miller RH, et al:
Otolaryngol Head Neck Surg 2014; 151 (October): 599-605

For graduating otolaryngology residents, the implementation of duty hour restrictions is not associated with a reduction in surgical case volume, as measured by key indicator cases.

**Background:** The impact of duty hour regulations implemented by the Accreditation Council for Graduate Medical Education (ACGME) on resident surgical case volume in otolaryngology has not been studied.

**Objective:** To compare surgical volumes for key-indicator type cases among graduating otolaryngology residents before and after implementation of duty hour regulations.

**Design:** Analysis of American Board of Otolaryngology and ACGME resident case log data.

**Methods:** The number of key indicator cases logged by graduating residents was compared for 2 periods: 1996 to 2003 (before duty hour regulation) and 2004 to 2011 (after implementation of restrictions). The 2009 ACGME definition of key indicator cases was used. Subset analysis was performed for key indicator cases grouped into the following 4 categories: general/pediatrics, head and neck, otology/audiology, and facial plastics and reconstructive surgery.

**Results:** Mean total number of key indicator cases per graduating resident was 440.8 from 1996 to 2003 versus 500.4 from the 2004 to 2011. By subset analysis, the number of key indicator cases increased in the general/pediatrics category by a mean of 17.68 (statistically significant change). An increase in mean number of head and neck key indicator cases and a decrease in mean number of otology and facial plastics and reconstructive cases were observed, however these changes were not statistically significant.

**Conclusions:** Analysis of ACGME and ABOto case log data show no definite decrease in the number of key indicator cases performed by residents following implementation of duty hour regulations.

**Reviewer's Comments:** I believe this paper, while attempting to describe the change in case volume before and after implementation of duty hour regulations, falls short in 1 main area. The authors do not clearly describe individual key indicator surgical data -- each key indicator case type was de-identified by assigning these cases with alphabets from A to N, leaving the reader guessing as to what procedure 'C' or 'F' actually references. The authors acknowledge that the data obtained is subject to variations in case logging methods, primarily in the practice of 'unbundling' in which a trainee logs multiple key indicator cases even when operating on the same patient. Although the data used in this study show no decrease in surgical case volume, a longer-term comparison and a study of individual key indicator procedure data are needed before definite conclusions can be made on the actual change in surgical volume following the implementation of duty hour regulations. (Reviewer-Zhen Gooi, MD).

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Keywords: Otolaryngology Residents, Surgical Case Volume, Effect of Duty Hour Restrictions

Print Tag: Refer to original journal article
Acute Wheezing May Be Red Flag for Vit D Deficiency

Subnormal Levels of Vitamin D Are Associated With Acute Wheeze in Young Children.

Hammar KS, Hedlin G, et al:

Acta Paediatr 2014; 103 (August): 856-861

Add acute wheezing to the list of symptoms of vitamin D deficiency.

**Background:** Vitamin D deficiency is known to be associated with increased susceptibility to infections, decreased lung volume, and the development of asthma and atopy. Ultraviolet B radiation is important for the production of 25-hydroxyvitamin D (25[OH]D) in the skin.

**Objective:** (1) To determine if subnormal levels of vitamin D are associated with acute wheeze, atopy, or viral/bacterial infections by comparing levels of 25(OH)D among children with acute wheezing before age 4 years versus a control group without wheeze. (2) To determine whether levels of 25(OH)D <75 nmol/L are associated with colonization with certain viruses and/or bacteria in acute and recurrent infections during a 2- to 4-month period.

**Participants:** 130 children aged 6 months to 4 years with acute wheezing.

**Methods:** A control group of 101 age-matched children with no wheezing symptoms were compared with the study group. Vitamin D levels were determined for included patients at presentation and were re-evaluated after 2 to 4 months.

**Results:** Of 130 children with wheezing, 80% were admitted for treatment. Of these, 82% had oral steroid therapy within the first 24 hours. This was the first wheezing episode in 22%. Parental asthma and pollen allergy, mothers’ smoking during pregnancy, no exclusive breastfeeding, and child-care attendance were factors associated with acute wheeze. Children with acute wheezing had more recurrent respiratory infections, earlier reported RSV infections, and bacterial pneumonias than did healthy controls. Vitamin D insufficiency (25[OH]D <75 nmol/L) was found in 39% of children with acute wheeze and in 24% of controls. In older children, vitamin D levels were insufficient in both groups.

**Conclusions:** In young infants, wheezing is almost 3 times more likely to occur in children with vitamin D insufficiency than in normal controls. Children between ages 24 and 48 months are at a high risk of vitamin D insufficiency. Subnormal vitamin D levels do not correlate with either atopy or viral/bacterial infections.

**Reviewer's Comments:** Sixty articles on the effect of vitamin D deficiency are in the *Practical Reviews* archives describing problems as gastrointestinal disorders, hyperactivity, adolescent depression, ear infections, atopy, asthma, and bone fractures. This article finds that children with acute wheezing have a 3-fold increase in vitamin D insufficiency compared to children with no wheezing. This serves as a large red flag to those caring for children with acute wheezing. Testing for 25(OH)D levels is warranted to detect low levels and to identify these children who need treatment to prevent other problems of low vitamin D. Since vitamin D levels are partially dependent on sun exposure, the incidence may vary by geographic location and other cultural variables. So don't wait until you see a case of rickets before you screen for vitamin D. Treatment could decrease the amount of respiratory problems, behavior issues, or bone fractures. (Reviewer-Charles I. Schwartz, MD).

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Keywords: Acute Wheeze, Vitamin D Deficiency

Print Tag: Refer to original journal article
Continuous Maintenance Rituximab Not Needed With Low-Volume FL

Rituximab Extended Schedule or Re-Treatment Trial for Low–Tumor Burden Follicular Lymphoma: Eastern Cooperative Oncology Group Protocol E4402.

Kahl BS, Hong F, et al:

J Clin Oncol 2014; 32 (October 1): 3096-3102

Patients with low-volume follicular lymphoma can be managed for many years with Rituxan only prior to receiving chemotherapy.

**Background:** The value of maintenance Rituxan® (MR) in the management of indolent lymphoma has been discussed for years. The question of whether MR is better than intermittent Rituxan (IR), given only at progression, has never been adequately addressed.

**Objective:** To determine whether MR is superior to IR given at progression in the treatment of low-volume follicular lymphoma (FL).

**Design:** Patients with treatment-naïve low-volume FL who responded to initial Rituxan were randomly assigned to either MR or IR given only at progression.

**Participants:** Patients were previously untreated with either chemotherapy or biologicals and had low-volume FL, normal blood counts, no B symptoms, and less than massive splenomegaly.

**Methods:** All enrollees were treated with standard-dose Rituxan weekly x 4 and then re-evaluated at 13 weeks. Patients in complete response or partial response were then randomized to either MR (1 dose of Rituxan every 13 weeks) or IR (observation only until progression, at which time they were given 4 weekly doses). These approaches were repeated until disease progression on therapy, at which time further treatment was at the discretion of the investigator. Patients were evaluated for time to treatment failure, time to first cytotoxic therapy, toxicity, quality of life, and overall survival.

**Results:** Of 545 patients enrolled in the study; 289 patients survived culling and were randomized. Treatment arms were balanced. There was no difference in overall or complete response rate between the 2 groups. In addition, failure-free survival was not different, with 50% in the IR group and 53% in the MR group still responding at 5 years. Despite this, there was a difference in cytotoxic-free survival at 5 years (IR, 80%; MR, 92%). Toxicities were very modest with no serious complications, and quality of life was equally good for the 2 groups. There was no increase in serious infections with MR. The typical number of doses was 4 in the IR group and was 18 in the MR group.

**Conclusions:** Rituxan given at progression is as effective as maintenance Rituxan in every way except in time to first chemo. The extra cost for this slight advantage was estimated at $69,000.

**Reviewer's Comments:** This trial does not answer the question of whether watchful waiting in these patients is still an option. A recent trial in the United Kingdom showed that single-agent Rituxan is superior to this approach. Patients had to have low-tumor-burden FL but too much disease burden for radiation -- these patients are relatively uncommon. Nonetheless, the trial has great value for disabusing us of the notion that these patients require continuous maintenance therapy. (Reviewer-James J. Stark, MD, FACP).

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Keywords: Non-Hodgkin Lymphoma, Follicular Lymphoma, Maintenance vs Intermittent Rituximab

Print Tag: Refer to original journal article
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Otolaryngology—Head & Neck Surgery
Volume 24 Number 10: December 15, 2014
Quiz Code: 33042P

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Quiz Questions

1. A diagnosis of radiographic extracapsular extension of metastatic lymph nodes in oropharyngeal carcinoma is shown to have a negative impact on overall survival.
   Circle one: True False

2. In patients with Bell palsy, the addition of intratympanic steroids to standard treatment with systemic steroids and antiviral medications appears to shorten the recovery time.
   Circle one: True False

3. Among the various surgical approaches to thyroidectomy, microscope-assisted thyroidectomy is definitively superior for reducing complication rates.
   Circle one: True False

4. As a treatment modality for early stage glottic squamous cell carcinoma, transoral laser microsurgery appears to confer significantly worse survival outcomes compared to that seen with radiation therapy.
   Circle one: True False

5. Following total thyroidectomy, the risk of postoperative hypocalcemia is increased in patients with a lower intact parathyroid hormone level, female gender, and a diagnosis of thyroid malignancy.
   Circle one: True False

6. Treatment with topical intranasal steroid spray may improve the resolution rate of otitis media with effusion associated with adenoid hypertrophy.
   Circle one: True False

7. After osteocutaneous free flap surgeries, hospital discharge rates to rehabilitation facilities are similar for patients aged ≥70 years and for those aged <70 years.
   Circle one: True False

8. For decontaminating flexible fiberoptic laryngoscopes, Cidex soaks can reduce bacterial contamination to a level similar to that achieved using reprocessing machines.
   Circle one: True False

   Circle one: True False

10. Hispanic race is not a risk factor for the occurrence of angioedema.
    Circle one: True False

11. Laryngotracheal stenosis surgery approached endoscopically always requires that it be managed as an inpatient surgery.
    Circle one: True False

12. In patients with parotid gland lesions, 5 "high probability" features seen on MRI are associated with a sensitivity >80% for identifying pleomorphic adenoma.
    Circle one: True False

13. The incidence of venous thromboembolism in the perioperative period does not differ significantly for hospitalized otolaryngology patients who do or do not receive chemoprophylaxis.
    Circle one: True False

14. Following implementation of duty hour regulations, there has been a definite decrease in the number of key indicator cases performed by otolaryngology residents.
    Circle one: True False

15. In young infants, wheezing is almost 3 times more likely to occur in children with vitamin D insufficiency than in normal controls.
    Circle one: True False

16. For patients with low-volume follicular lymphoma, giving maintenance Rituxan on a regular schedule is significantly more efficacious than is treatment with Rituxan given only at disease progression.
    Circle one: True False
1. T Older adults with anosmia have a greater odds ratio of dying than do those with cancer.

2. F Multiple randomized controlled trials have demonstrated large reductions in Reflux Symptom Index scores of patients treated with prokinetic agents for laryngopharyngeal reflux.

3. F Thyroid perichondrial flaps may be used for tracheal stenosis below the second ring.

4. T Intraoperative steroid use is associated with a higher risk of postoperative bleeding in the pediatric population as compared with adults undergoing tonsillectomy.

5. F Follicular variant of well-differentiated thyroid carcinoma (WDTC) has worse prognosis than conventional WDTC.

6. T Deep neck infection in the elderly comes from the odontogenic and salivary gland regions.

7. T Retrospective data suggest that oncologic outcomes are not being sacrificed with transoral robotic surgery compared to open surgery in the treatment of oropharyngeal carcinoma, regardless of human papillomavirus immunohistochemical staining.

8. F Gender does not impact sarcoma prognosis in adults.

9. F There are no clear differences in recurrence rates between endoscopic versus open approaches to diverticulectomy.

10. F Skin stretch induced during minimally invasive endocrine surgery persists for months after surgery.

11. F Tonsillectomy is the standard treatment for halitosis.

12. T There is a small increased incidence of malignancy in children who have had CT scans of the brain and the head and neck area.

13. T A combination of saliva and plasma samples positive for human papillomavirus (HPV) DNA following treatment of HPV-positive oropharyngeal head and neck squamous cell carcinoma is associated with decreased overall survival.

14. T A positive level IIA lymph node metastasis is shown on logistic regression analysis to be a highly significant factor in predicting level IIB metastases.

15. T Patients with Chiari I malformation who have transverse sinus stenosis have significantly greater pituitary flattening than do those without transverse sinus stenosis.

16. F Nasopharyngeal carcinoma patients with lateral invasion have significantly better overall survival and distant metastasis-free survival than do those with medial invasion.