Is Laryngoscopy Necessary After Thyroid Surgery?

Computerized Acoustic Voice Analysis and Subjective Scaled Evaluation of the Voice Can Avoid the Need for Laryngoscopy After Thyroid Surgery.

Ortega J, Cassinello N, et al:
Surgery; 2009; 145 (March): 265-271

Acoustic voice analysis may help minimize need for laryngoscopy after thyroid surgery.

Objective: To determine whether voice analysis can replace laryngoscopy in postthyroidectomy care.

Design/Participants: Prospective analysis involving 64 consecutive patients undergoing thyroid surgery.

Methods: All subjects underwent laryngoscopy, voice analysis (including fundamental frequency, jitter, shimmer, noise-to-harmonics ratio, and maximum phonation time), and subjective voice evaluation using the GIRBAS scale. Evaluations were completed preoperatively, 1 week postoperatively, and 1 month postoperatively.

Results: 8% of patients were observed to have unilateral vocal fold palsy at 1 week, and 5% at 1 month; 36% of all patients had a decline in GIRBAS ratings 1 month after surgery. All patients with vocal fold paralysis demonstrated a significant change in GIRBAS scores; 65% of patients had alteration of 1 vocal parameter at 1 week, and only 5% had alterations in >=3 parameters. Similar results were observed at 1 month. Of those with vocal fold palsy, all had differences in 1 voice parameter, but only 40% demonstrated change in >=3 parameters.

Conclusions: The use of acoustic analysis and subjective voice assessment may be adequate unless alterations are observed from the preoperative state.

Reviewer's Comments: Voice change may be observed after thyroid surgery and can have a substantial impact in patient recovery and quality of life. Establishing the most cost-effective and accurate evaluation techniques is critical for provision of quality care. The authors evaluated 2 acoustic assessment techniques in contrast to laryngoscopy and concluded that they may negate the need for laryngoscopy. Although they provide some support for their claims, there are some concerns that must be addressed. First, patient perception of dysfunction and disability are completely overlooked in this series. The authors indicate that this sort of evaluation was excluded in order to increase patient comfort and objectivity. Previous reports have shown great utility of the Voice Handicap Index in this population to screen for potential dysfunction. Considering that voice dysfunction due to superior laryngeal nerve involvement would be unlikely to be uncovered with the reported acoustic parameters, this may have resulted in poorer identification of voice disorders and, therefore, greater patient impact and dissatisfaction. Another concern regarding these conclusions is that acoustic parameters yielded poor positive predictive values. When looking at the acoustic analysis, variation of 1 parameter was seen in 100% of vocal fold palsy patients but was also found in 65% of the general population. Clearly, this parameter would not demonstrate adequate specificity to be clinically relevant. Similarly, the cut-off of >=3 altered parameters yielded a prevalence of 5% in the population at large, but only 40% in the disordered group. Again, these findings are concerning for clinical utility. As a whole, this review does not support total abandonment of laryngoscopic evaluation or the need for formalized assessment of patient-perceived vocal handicap.

(Reviewer-Heather Starmer, MA CCC-SLP).

print tag: () Refer to original journal article.
Genetics of Otosclerosis--the Search Continues

Genetics of Otosclerosis.
Thys M, Van Camp G:
Otol Neurotol; 2009; June 19 (epub ahead of print):

The genetic basis of otosclerosis remains incompletely understood and is probably multifactorial.

Background: Otosclerosis is a very common cause of hearing loss. The incidence of otosclerosis on temporal bone studies has been found to be approximately 2.5% with no gender differences. However, the prevalence of clinical otosclerosis causing hearing impairment is much less, at about 0.4%. Clinical otosclerosis is also up to twice as prevalent in women as it is in men. When clinical otosclerosis occurs, it causes bilateral hearing loss in 85% of patients and sensorineural hearing loss in 10%.

Objective: To review the recent literature on the causality of otosclerosis.

Review: Endocrine factors such as estrogen have been suggested, but the influence of oral contraception could not be confirmed in a large study. Furthermore, the association between otosclerosis and pregnancy is accepted, but there does not seem to be a correlation with the severity of hearing loss. Sodium fluoride has been implicated in the prevention of otosclerosis and is supported by epidemiologic studies. The treatment of otosclerosis with sodium fluoride is controversial, and any benefit is usually minimal. More recent evidence suggests that sodium fluoride as well as dexamethasone may inhibit a sulfate transporter, which has a role in the pathogenesis of otosclerosis. The presence of measles virus and related antibodies in tissue affected by otosclerosis remains controversial. The incidence of otosclerosis has decreased since introduction of the measles vaccine in the 1970s; however, most vaccine recipients remain too young to develop otosclerosis. Thus, this association remains unproven as a cause for otosclerosis. A number of other diseases affect bone remodeling, including osteogenesis imperfecta, osteopetrosis, Paget's disease, and osteoporosis. Although some of these conditions are associated with conductive hearing loss and even otosclerosis, causality has not been established. A genetic component of otosclerosis is well established. The disease affects 40% of monozygotic twins. Albrecht proposed an autosomal dominant pattern of inheritance in 1922, and in 1960, Larsson proposed incomplete penetrance that lies between 25% and 40%. Other modes of inheritance are unlikely. Despite the strong familial background in many instances, 40% to 50% of cases are sporadic. Linkage analysis has indentified chromosomal regions where otosclerosis genes are likely to reside; however, no gene has yet been identified. Many patients lack a familial history of otosclerosis; in these patients, the possibility of a complex form of otosclerosis has been suggested. Investigation has included HLA typing and other genetic associations, but no definitive correlation has been found.

Reviewer's Comments: We have learned a lot about bone metabolism in the otic capsule, and our understanding of human genetics has also expanded. Although more is now understood about otosclerosis, the precise pathogenesis is not apparent, nor is it clear why some people develop clinical otosclerosis and others do not. (Reviewer-Benjamin T. Crane, MD).

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**Not All T2 Larynx Cancers Behave the Same**

*Meta-Analysis of Impaired Vocal Cord Mobility as a Prognostic Factor in T2 Glottic Carcinoma.*

McCoul ED, Har-El G:


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**T2 lesions should be separated into T2a and T2b to incorporate the seemingly worse outcome in patients with vocal cord motion impairment.**

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**Objective:** To evaluate reported studies on the results of patients with T2 glottic carcinoma and impaired vocal cord mobility who underwent primary radiotherapy.

**Design:** Retrospective meta-analysis of previously published results. This combined analysis involved published studies on patients with T2 glottic carcinoma as a result of impaired vocal cord mobility.

**Methods:** A PubMed search was performed and was narrowed down to identify references reporting results of vocal cord motion impairment. Outcome measures included local control, local control after salvage therapy, overall survival, and disease-specific survival. Ultimately, 21 studies were included in the meta-analysis.

**Results:** The mean 5-year local control of T2a (normal vocal fold mobility) cancers was 76.2% versus 64.4% for T2b (impaired vocal fold mobility). There was a statistically significant improved local control rate for the T2a lesions (OR, 1.83; *P* <0.001). For the 7 studies that reported data on survival after salvage surgery, T2a lesions also had improved survival over the T2b lesions (OR, 1.90; *P* =0.005). Overall survival was not significantly different in the 5 studies that reported data, although disease-specific survival was statistically improved in the T2a lesions compared to the T2b lesions (OR, 2.51; *P* =0.002).

**Conclusions:** T2 lesions should be separated into T2a and T2b to incorporate the seemingly worse outcome in patients with vocal cord motion impairment. Further study is needed to establish whether patients with T2b disease fare better with up-front surgery versus radiotherapy.

**Reviewer's Comments:** The authors present some compelling data suggesting that vocal fold motion impairment is a poor prognostic sign, and designating these patients as "early" stage disease may, in fact, be inappropriate. The mere fact that the vocal fold becomes impaired suggests deeper penetration of the cancer with increased bulk of the disease, versus the superficial lesion that happens to cross up to the supraglottis or down to the subglottis. I concur with their conclusion that we should compare these outcomes with primary surgical measures, short of total laryngectomy, which is arguably overly aggressive. With the advancement of open partial and, more particularly, endoscopic techniques, we may be able to provide better oncologic results for these patients.

(Reviewer-Patrick K. Ha, MD).

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How Common Is Permanent RLNP After Thyroidectomy?

Diagnosis of Recurrent Laryngeal Nerve Palsy After Thyroidectomy: A Systematic Review.

Int J Clin Pract; 2009; 63 (April): 624-629

Review data suggest the necessity of a 12-month follow-up to assess recurrent laryngeal nerve after thyroidectomy.

Background: Recurrent laryngeal nerve palsy (RLNP) is widely recognized as a potential sequela after thyroidectomy and may lead to voice, swallowing, or breathing difficulties.

Objective: To review pertinent literature regarding RLNP after thyroidectomy to determine the prevalence of both temporary and permanent RLNP.

Design: Systematic review.

Methods: 27 articles including 25,000 patients were reviewed. The average rates of temporary and permanent RLNP were extracted and analyzed.

Results: The average incidence of temporary and permanent RLNP were 9.8% and 2.3%, respectively. There was significant variance in the identification of temporary RLNP, with ranges of 1.4% to 38.4%. Reports of permanent RLNP ranged from 0% to 18.6%. The most common follow-up time recommended was 1 year, which was noted in 45.5% of studies.

Conclusions: There appears to be potential for differing levels of sensitivity and specificity for different diagnostic tools, which makes direct comparison of studies difficult. The authors conclude that a standardized method of recording is necessary to avoid reporting bias and improve the quality of comparative analysis.

Reviewer's Comments: This is an interesting look at a number of series that have reported the incidence of RLNP after thyroid surgery. The population sampled was quite varied, as were the methods of evaluation. Two studies used only clinical history, while 13 used mirror laryngoscopy, 15 used fiberoptic laryngoscopy, and 6 used videostroboscopy. The authors note that there is substantial difference in prevalence rates depending on the method of assessment; however, no statistical evaluation is used to substantiate this claim. The paper suggests that differences in the reported rates of RLNP may be due entirely to differences in evaluation techniques; however, given the lack of analysis of the statistical difference, this claim seems premature. Other factors likely play a role in the differing rates in the included publications such as surgeon experience, type/extent of surgical resection, existence of preoperative nerve involvement, and pathology of disease. Without controlling for these factors that likely have a very high impact on the incidence of RLNP, it is difficult to attribute the differences purely to the assessment technique. The authors claim that, based on their results, fiberoptic laryngoscopy should be established as a "gold standard" for evaluating RLNP after thyroidectomy. The main reason for this claim appears to be due to its relative availability, ease of use, and cost effectiveness. While this claim may be true, it is not supported directly by the analysis conducted. Videostroboscopy is discounted as impractical despite the fact that it can provide subtle clues that can be quite relevant clinically for diagnosis and prognosis. A gold standard should be developed based on solid evidence of its superiority over other techniques, not just how available it is. In the era of evidence-based medicine, this appears particularly salient. (Reviewer-Heather Starmer, MA CCC-SLP).

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Nutritional Support for Cancer Patients--PEG vs NGT

Prospective Study of Percutaneous Endoscopic Gastrostomy Tubes Versus Nasogastric Tubes for Enteral Feeding in Patients With Head and Neck Cancer Undergoing (Chemo)Radiation.

Corry J, Poon W, et al:
Head Neck; 2009; 31 (July): 867-876

Nutritional support is an important aspect of care for patients undergoing chemotherapy/radiotherapy for head and neck cancer, but how it is delivered remains debatable.

--Objective: To report one institution's experience with percutaneous endoscopic gastrostomy (PEG) tubes versus nasogastric tubes (NGTs) for nutritional support in patients undergoing primary chemotherapy/radiotherapy for head and neck cancer.

Design: Prospective study.

Participants: 105 patients undergoing primary radiotherapy or chemoradiotherapy for head and neck cancer.

Methods: Patients had feeding tubes inserted if oral intake was <50% of the calculated daily needs and/or if there was a >5 kg weight loss from the beginning of treatment. The primary end points were adequacy of nutritional support, complications, and patient satisfaction.

Results: Of the 105 patients, 73 received an NGT, while 32 received a PEG tube. There was no clinical difference in demographics between groups. The median radiation dose at the time of insertion was 47 Gy for the NGT and 46 Gy for the PEG group. At the time of insertion, there was no difference in weight loss in either group, but at 6 weeks' posttreatment, there was a greater weight loss for the NGT than for the PEG group (3.6 kg loss vs 0.8 kg gain; P <0.001). At 6 months' posttreatment, this difference persisted (4.3 kg loss in the NGT compared to 1.0 kg in the PEG group). The PEG tubes stayed in for a median of 146 days, while the NGT was in place for 57 days. At 6 months' posttreatment, grade 3 dysphagia was reported in 25% of PEG patients compared to 8% in the NGT group (P =0.07). Tube dislodgements occurred in 62% of patients with an NGT versus only 19% of those with a PEG. There were more infections in the PEG group (66%) than in the NGT group (30%). Patients with NGTs consistently complained more about altered body image and inconvenience, although there was no difference in the overall quality-of-life scores throughout.

Conclusions: For patients undergoing chemotherapy/radiotherapy, PEG tubes do not necessarily have a decisive advantage over NGTs. A careful decision should be made regarding which patients might need longer-term nutritional support.

Reviewer's Comments: There are several debates over the use of PEG or NGT for patients undergoing nonoperative therapy for head and neck cancer. Given the heterogeneity of patients and treatment regimens, one must weigh these often intangible factors and plan accordingly. I have found that NGTs are less practical for patients in terms of use, as well as their ability to maintain social activity. I also believe that continued swallowing therapy during treatment can be of use to counteract some of the disuse atrophy that NGT advocates believe is a big disadvantage of PEG tubes in terms of dependence. Therefore, with all of these variables in play, it is good to see and learn how other institutions manage these patients, but it may not be practical to espouse universal guidelines.

(Reviewer-Patrick K. Ha, MD).

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Surgery Plus RT for Rare Cancer

Radiation Therapy for Minor Salivary Gland Carcinoma.
Cianchetti M, Sandow PS, et al:
Laryngoscope; 2009; 119 (July): 1334-1338

Radiotherapy is an important adjunct in the treatment of minor salivary gland carcinomas.

**Objective:** To evaluate the outcomes of patients with minor salivary gland carcinoma treated with primary radiotherapy (RT) or with RT as an adjuvant to surgery.

**Design:** Retrospective case review.

**Participants:** 140 patients with previously untreated minor salivary gland carcinoma.

**Methods:** Demographic and outcome data were compiled.

**Results:** Of the 140 patients, 64 with unresectable disease were treated with RT alone, while 76 were treated with surgery and RT. Interestingly, 6 patients received RT prior to surgery, and 70 had postoperative RT. Recurrent disease was noted in 72 patients (51%). The 10-year local control rates for T1 to T3 tumors were 76% for RT alone and 100% for surgery plus RT. For T4 tumors, these rates were 32% for RT alone and 71% for surgery and RT. This was statistically significant after multivariate analysis. Locoregional control was also improved in the surgery plus RT group, though the distant metastases rates were not affected by treatment group. The 10-year cause-specific survival for patients with T1 to T3 disease was 92% for RT and 72% for surgery plus RT. For T4 disease, the survival was 24% for RT alone and 58% for surgery plus RT. Disease-specific survival and overall survival were both statistically significantly improved in the surgery plus RT group. However, on multivariate analysis, only stage was a significant influence on these survival rates.

**Conclusions:** Surgery plus adjuvant RT is the ideal treatment for minor salivary gland carcinomas, but there is a subset of cancers that can be cured with RT alone.

**Reviewer’s Comments:** I thought the title of this study was a bit misleading, from a surgeon's standpoint, given that it over emphasizes the role of RT in the treatment of minor salivary gland carcinomas, which is primarily surgical. I understand that these are rare tumors, and assembling a series of them is difficult, but they lumped many different histologies together in this analysis, which is not really fair. We all know that a low-grade mucoepidermoid carcinoma will behave differently than a carcinoma ex-pleomorphic adenoma. Nevertheless, the conclusion that RT plays an important role in the treatment of these cancers is valid, and while primary RT may be viable in a subset of patients, this study fails to truly identify in which patients this is a good option. (Reviewer-Patrick K. Ha, MD).

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Supraglottoplasty Improves Swallowing in Infants With Laryngomalacia

Impact of Supraglottoplasty on Aspiration in Severe Laryngomalacia.
Richter GT, Wooten CT, et al:
Ann Otol Rhinol Laryngol; 2009; 118 (April): 259-266

Aspiration is not a contraindication for the use of supraglottoplasty to treat laryngomalacia, as many infants have improved swallowing function after surgery.

**Objective:** To assess the incidence of aspiration in infants with severe laryngomalacia who have surgical treatment with supraglottoplasty.

**Design:** Retrospective review of airway databases from 2 pediatric centers.

**Participants:** 50 consecutive infants with laryngomalacia severe enough to require supraglottoplasty, who were also studied with functional endoscopic evaluation of swallowing (FEES), were included.

**Methods:** Supraglottoplasty was performed using "cold-knife techniques" with microlaryngeal instruments for indications of severe airway obstruction or chronic respiratory compromise in infants with laryngomalacia. FEES was performed in awake children, with or without laryngopharyngeal sensory testing, to assess laryngeal penetration of feeds or aspiration past the vocal folds.

**Results:** Laryngeal penetration was seen in 44 infants (88%) with severe laryngomalacia prior to surgery, and aspiration beyond the vocal folds was seen in 36 children (72%). After supraglottoplasty, FEES was performed again at a median of 3.8 months after surgery; resolution of laryngeal penetration was seen in 36 patients (82%) and resolution of aspiration was seen in 31 (86%). None of the 14 infants without aspiration preoperatively demonstrated aspiration after surgery. Laryngopharyngeal sensory testing (LPST) showed improvement of preoperative LPST threshold after surgery. The 5 infants with persistent aspiration after surgery had a variety of medical comorbidities, including heart and/or neurologic disease, syndromic diagnosis, or the need for subsequent tracheotomy.

**Conclusions:** Swallowing function improves after supraglottoplasty in infants with severe laryngomalacia, as evidenced by reduction in aspiration and laryngeal penetration by FEES. Supraglottoplasty does not appear to cause aspiration in infants with normal preoperative swallowing. Persistent aspiration can be seen after supraglottoplasty in infants with complex upper airway obstruction or concomitant medical issues.

**Reviewer's Comments:** Infants with laryngomalacia often have swallowing dysfunction, as demonstrated in this series where 88% had some degree of swallowing difficulties noted on FEES. Supraglottoplasty is an operation that widens the laryngeal introitus, and creates concern for impairment of laryngeal protection during swallow. These authors used a standard technique to assess swallow function (FEES) before and after supraglottoplasty. They found improvement in swallow function in the majority of infants, and we can hypothesize that this improvement is from better coordination of respiration and feeding with decreased work of breathing. While patient selection remains a concern in a retrospective review, as well as the possibility of different results if videofluoroscopic swallow evaluations had been done, this study supports the use of cold supraglottoplasty to improve respiration and swallow functions in well-selected children with severe laryngomalacia. (Reviewer-David E. Tunkel, MD).

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No Optimal Pharmacologic Agent for Tx of Vestibular Migraine

Fotuhi M, Glaun B, et al:
J Neurol; 2009; 256 (May): 711-716

No good studies exist of migraine-associated vertigo treatment. Diet and lifestyle changes are recommended as initial therapy, followed by medications if initial treatment fails.

Objective: This paper reviews manuscripts published in the English language between 1990 and 2008.
Methods: 9 articles were identified that addressed specific therapeutic interventions and their outcomes for vestibular migraine. Of these articles, only 1 was a randomized, double-blinded, placebo-controlled study.
Review: This study looked at the selective serotonin receptor antagonist, zolmitriptan, in 8 patients compared with the response in 9 patients treated with a placebo. The study found that 38% of patients treated had a positive response compared to 22% of patients taking the placebo. However, these results were considered inconclusive due to the small numbers of patients. The other 8 papers reviewed were observational studies, 3 of which were prospective.
Discussion: Let's take a brief look at the prospective studies. Baloh et al studied the effectiveness of Acetazolamide in patients with familial migraine, vertigo, and essential tremor. All 5 patients in the study showed a marked decrease in the frequency of headaches, vertigo, and severity of tremor. Maione reported pharmacologic prophylactic efficacy in 33 patients. Patients were treated for 6 months with either propanolol, metoprolol, clonazepam, flunarizine, or amitriptyline. Satisfactory control of vertigo was reported by 70% of patients, while 24% had a >50% reduction in symptoms, 15% had a small reduction, and 1 patient had no change in symptoms. In the final prospective study, Carmonoa and Settecase treated with Topirimate 100 mg per day for 6 to 16 months and reported that all patients remained without symptoms. The remaining 5 studies were all retrospective in nature. Bikhazi surveyed 111 patients treated for migraine headache who also had symptoms of dizziness or vertigo. In these patients, the treatment for headache also often relieved the vertigo symptoms. A retrospective review of 79 patients who received pharmacotherapy for migraine-related dizziness or vertigo was also reviewed. Improvement was seen in 86% of patients with dizziness symptoms, but the medication used was not standardized and included benzodiazepines, tricyclic antidepressants, beta blockers, and calcium-channel blockers, with patients receiving up to 6 medications in some cases. A review of charts by Replog and Goebel showed that of 13 patients treated with diet alone, all experienced significant relief. Patients treated with diet and nortriptyline or diet and atenolol or calcium-channel blockers had a rate of 78% or 58% relief, respectively. The remaining 2 studies included <20 patients each, and demonstrated improvement in vertigo symptoms using a variety of medications.
Reviewer's Comments: Despite vestibular migraine being a common diagnosis, the diagnostic criteria is not uniform, and there are no solid data that point us to the optimal pharmacologic agent for treatment. I would recommend treatment of vestibular migraine first with diet and lifestyle modification. If this fails, treatment with pharmacotherapy is a reasonable option with several good choices available. (Reviewer-Benjamin T. Crane, MD).

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Smoking Affects Outcome After Otologic Surgery

Effects of Smoking on Otologic Surgery Outcomes.
Kaylie DM, Bennett ML, et al:
Laryngoscope; 2009; 119 (July): 1384-1390

Smokers tend to have worse disease presentation and hence more extensive otologic surgical treatments with worse hearing results.

Background/Objective: Smoking has been implicated as a risk factor for Eustachian tube dysfunction. Moreover, smoking has been linked to increased operative complications. In this context, the authors wanted to study the effects of smoking on chronic ear surgery. Their hypothesis was that active smokers would have worse outcomes from chronic ear surgeries outside of postoperative complications. They also investigated ear surgery outcomes from former smokers.

Design/Participants: A retrospective review of patients who underwent chronic otologic surgery at a single institution from 1990 to 2004. Included were children aged >=12 years, a minimum of 1-year follow-up, and complete perioperative hearing analysis. The patients were classified as active smokers, nonsmokers, or former smokers. The former smokers were subclassified into those who quit <5 years ago and those who quit >5 years ago. The extent of disease, extent of surgery, rates of complications, revision surgeries, canal wall status, and the final hearing outcomes were compared between each of the groups. Indications for canal wall down surgery were fistula, cholesteatoma in the only hearing ear, and cholesteatoma adherent to the facial nerve. Ossiculoplasty was performed for chain discontinuity.

Results: 1183 patients who underwent 1531 procedures were included in this series; 63% were nonsmokers and 21% were active smokers. In this case series, smokers had a higher frequency of cholesteatomas and canal wall down and ossiculoplasty surgeries. Revision rates were higher among smokers. Smokers tended to have worse hearing outcomes than nonsmokers. Former smokers also had higher rates of ossiculoplasty surgery. Analysis of former smokers subclassified into >5 years or<5 years showed that both subgroups had higher rates of ossiculoplasty.

Conclusions: Smokers fared significantly worse in the management of chronic ear disease, in terms of extent to disease, extent of surgery, and final hearing outcomes.

Reviewer's Comments: This retrospective study shows that nonsmokers have less severe disease on presentation in comparison to smokers and former smokers as a whole, which dictates the extent of surgery, need for revision surgery, and hearing outcomes. When the former smokers were stratified into <5 and >5 years, their prognosis for chronic ear disease changed such that those former smokers who quit >5 years behaved like nonsmokers. (Reviewer-Young J. Kim, MD).

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No Requirement for Postoperative RAI in PMC

Survival Impact of Treatment Options for Papillary Microcarcinoma of the Thyroid.

Lin HW, MD; Bhattacharyya N:

Laryngoscope; 2009; August 4 (epub ahead of print):

Disease-specific survival rates of papillary microcarcinoma are independent of the type of surgery or the addition of postoperative radioiodine therapy.

**Background/Objective:** In accordance to guidelines from the American and European Thyroid Associations, papillary microcarcinomas (PMCs) can be managed with ipsilateral thyroid lobectomy without postoperative radioactive iodine (RAI) therapy. Some would favor total thyroidectomy due to the multifocal nature of the disease. These recommendations are derived from extensive studies that looked at tumor recurrence rates. Since the prognosis from this disease is so good, treatment-dependent disease-specific survival (DSS) has not been extensively analyzed. The authors, therefore, studied the value of postoperative RAI in DSS of PMCs.

**Design/Methods:** This is a cross-sectional population analysis of a prospectively maintained database (the Surveillance, Epidemiology, and End Results Database [SEER]) from 1988 to 2005. Included were cases of papillary thyroid carcinoma from the database, and metastatic disease was excluded. DSS rates were analyzed with respect to the type of thyroidectomy and postoperative RAI treatment. Cox regression analysis was used to determine the association between DSS and type of treatment.

**Results:** Similar to the tumor recurrence studies with PMC, no difference was observed in DSS among patients who were surgically treated with total thyroidectomy versus subtotal thyroidectomy or lobectomy. Similar DSS rates were noted, regardless of whether they were treated with postoperative RAI treatment or not. Interestingly, overall survival was statistically better for those treated with RAI.

**Reviewer's Comments:** According the SEER database, there has been a substantial increase in PMC diagnosed throughout the country. The 90 cases in 1988 ballooned to 1372 cases in 2005. It is unclear from this study whether this is due to improved reporting, improved diagnosis, or a true increase in incidence. As such, clinicians will be faced with more treatment dilemmas regarding PMC. The most interesting finding is that overall survival is statistically improved with RAI treatment. Given the nature of the study, it was difficult to provide any hypothesis to this novel finding. But what this finding may spur is more controversy as to the benefits of postoperative RAI to these patients. (Reviewer-Young J. Kim, MD).

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Look for Temporal Bone Abnormalities on CT Scans

Imaging Correlation of Children With DFNB1 vs Non-DFNB1 Hearing Loss.
Kochhar A, Angeli SI, et al:
Otolaryngol Head Neck Surg; 2009; 140 (May): 665-669

The timing of imaging studies in children with sensorineural hearing loss may be influenced by the results of genetic testing.

Background: Mutations in the genes GJB2 and GJB6 at the locus DFNB1 (genes that encode the proteins connexin 26 and connexin 30) are the most frequent cause of autosomal recessive nonsyndromic sensorineural hearing loss. A common diagnostic test for children with hearing loss is high-resolution temporal bone CT.

Objective: To compare the frequency of abnormalities on high-resolution temporal bone CT scans in 2 groups of children with sensorineural hearing loss--1 group with DFNB1 mutations and 1 group without such abnormalities.

Design: Case-control series.

Participants: 19 children with congenital nonsyndromic hearing loss, 9 with biallelic DFNB1 mutations, and 10 with other causes of hearing loss. All children had severe to profound hearing loss.

Methods: Molecular testing of blood samples for GJB2 and GJB6 mutations was performed. High-resolution temporal bone CT scans were analyzed visually and with absolute measurements for abnormalities of the cochlea, vestibule, semicircular canals, and the vestibular aqueducts. The Fisher exact test was used to analyze the frequency of abnormalities between the groups, and the Wilcoxon rank test was used to compare the absolute measurement values on CT scans.

Results: When visual inspection of scans was used, none of the 18 ears of the 9 patients with DFNB1-related hearing loss had abnormalities on CT scan. Ten of the 20 ears of the 10 patients with non-DFNB1 hearing loss had temporal bone structural abnormalities on CT scan using visual inspection. When absolute measurements were used to analyze scans, one DFNB1 ear had a slightly enlarged vestibular aqueduct (1.6 mm width, where 1.5 mm is considered normal). The mean vestibule width was greater in the non-DFNB1 group (4.17 mm vs 3.57 mm). The vestibular aqueduct width was statistically greater and the lateral semicircular canal island width was statistically smaller in the non-DFNB1 group as well.

Conclusions: Children with hearing loss related to DFNB1 are less likely to have temporal bone CT scan abnormalities than children with hearing loss from other etiologies.

Reviewer's Comments: The work-up of the child with sensorineural hearing loss continues to evolve. We debate the appropriate timing of the CT scan as well as other studies. This small study echoes most of the prior literature about temporal bone anatomy in children with hearing loss from connexin mutations, namely that it is quite unlikely to find temporal bone abnormalities on CT scan in these children. Early molecular testing for DFNB1 in infants diagnosed with hearing loss will help guide the timing and need for temporal bone scanning. (Reviewer-David E. Tunkel, MD).

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Removing Lingual Tonsils May Help Children With OSA

Persisted Pediatric Obstructive Sleep Apnea and Lingual Tonsillectomy.

Lin AC, Koltai PJ:
Otolaryngol Head Neck Surg; 2009; 141 (July): 81-85

Children with OSA that persists after adenotonsillectomy may show improvement after lingual tonsillectomy.

Objective: To document the effect of lingual tonsillectomy on obstructive sleep apnea (OSA) in children who have already had adenotonsillectomy, and to describe a method of lingual tonsillectomy using coblation and endoscopy.

Design: Retrospective case series.

Participants: 26 patients aged 3 to 20 years, who had polysomnography diagnostic of persistent OSA after tonsillectomy and adenoidectomy, and who had lingual tonsillar hypertrophy diagnosed by flexible endoscopy during sleep, were included.

Methods: Endoscopic-assisted coblation lingual tonsillectomy was performed using nasotracheal intubation for general anesthesia. A Jennings mouth gag was used to open the mouth and a silk tongue traction suture was used to pull the tongue forward. A 4-mm 30 degrees telescope was used transorally to visualize the lingual tonsils, and the ArthroCare Coblator EVac70 is used with coblation settings of 8 and coagulation settings of 5. Lingual tonsil tissue is resected from the circumvallate papilla to the vallecula.

Results: 26 patients, with a mean age of 11 years, were treated; 56% had medical and neuromotor comorbidities including syndromic diagnoses. Postoperative polysomnography was performed 4 months after surgery. The respiratory disturbance index decreased from a mean of 14.7 to 8.1 after lingual tonsillectomy, which was statistically significant ($P =0.020$). While the mean oxygen saturation nadir improved from 89% to 90.4%, this was not significant. Two patients developed clinically silent adhesions between the epiglottis and the tongue base.

Conclusions: Endoscopic-assisted coblation lingual tonsillectomy is effective treatment for lingual hypertrophy contributing to persistent OSA in some children.

Reviewer's Comments: We now recognize that adenotonsillectomy does not cure all children with OSA, and in fact we are probably underestimating the number of children with persistent sleep-related obstruction after adenotonsillectomy. More concerning is that persistent obstruction can be seen in some children without neuromotor disease, obesity, or craniofacial anomalies. Lingual tonsil enlargement may be a factor in some of these cases, and these authors describe a surgical method to remove lingual tonsils that affords improved exposure with the endoscopes and improved tissue removal with the coblator. It is concerning that by even the least stringent criteria, the patients in this study still have persistent OSA after lingual tonsillectomy. However, they do have far fewer obstructive events and this group of patients includes a large number of complex syndromic children. (Reviewer-David E. Tunkel, MD).

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Can ESS Can Improve Symptoms of Chronic Rhinosinusitis?

Symptom-Specific Outcomes of Endoscopic Sinus Surgery: A Systematic Review.
Chester AC, Antisdell JL, Sindwani R:
Otolaryngol Head Neck Surg; 2009; 140 (May): 633-639

ESS improves individual major chronic rhinosinusitis symptoms and headache.

Background: Reports of symptom improvement following endoscopic sinus surgery (ESS) have been variably reported in the literature. Although postoperative changes in overall symptoms have been reported by multiple investigators, a minority of studies have evaluated symptom severity on an individual basis.

Objective: To evaluate the relative effectiveness of surgery in the improvement of individual chronic rhinosinusitis (CRS) symptoms by selectively reviewing the available literature.

Design/Participants: This is a systematic review of the available literature evaluating symptom severity scores for at least 2 major criteria in patients undergoing ESS.

Methods: A meta-analysis was conducted individually for each symptom, with the standardized difference between preoperative and postoperative scores represented as the effect size (ES). Twenty-one of 289 studies met the inclusion criteria. The pooling of all studies included a total of 2070 patients with CRS, with a mean follow-up of 13.9 months. Preoperative mean percent symptom severity scores were similar for nasal obstruction, postnasal discharge, and hyposmia. Less severe scores were noted for facial pain and headache.

Results: All postoperative symptom severity scores decreased following ESS when compared to preoperative scores. The overall ES for all symptom scores was 1.21. Scores for nasal obstruction improved the most with an ES of 1.73. Hyposmia (ES, 0.97) and headache (ES, 0.98) improved the least. Moderate improvement was observed for postnasal discharge (ES, 1.19) and facial pain (ES, 1.13). Expressed as percentages of preoperative symptom severity, median improvements were 60.8% (facial pain), 58.8% (nasal obstruction), 46.6% (postnasal discharge), 48.9% (hyposmia), and 53.2% (headache). The role of duration as a moderator was evaluated by comparing studies of >1 year or <1 year of follow-up. The overall ES for longer and shorter studies was not significantly different. Only anosmia resulted in a larger ES for longer studies.

Reviewer's Comments: This study by Chester et al is the first large scale meta-analysis to evaluate relative improvement of individual major CRS symptoms. Their data established that all major symptoms of CRS, as well as headache, improve significantly after ESS. Duration of follow-up appears to have an insignificant effect on symptom improvement. Substantial improvements in nasal obstruction, postnasal discharge, and facial pain were noted, with lesser improvements in hyposmia and headache. The authors do note that the accuracy of ES calculations was limited by considerable variation among trials, perhaps due to differences in study design and patient population. While this does create some statistical uncertainty, the overall results of the study are nonetheless important. The real utility of this report is as a resource for patient counselling, in that the ability of ESS to improve individual symptoms of CRS can now be supported and easily reported to patients. (Reviewer-Justin H. Turner, MD, PhD).

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Objective: To determine the association of anogenital and oral/oropharyngeal human papillomavirus (HPV)-related malignancies in men.

Design: Population-based, retrospective study using the Surveillance, Epidemiology, and End Results (SEER) cancer database.

Participants: Patients included 47,308 men ≥20 years of age who had oral/oropharyngeal or anogenital cancer.

Methods: The SEER database was queried to identify all index squamous, basosquamous, or basaloid anogenital cancers, as well as squamous cell carcinomas (SCCs) of the oral cavity and pharynx. Standardized incidence ratios (SIRs) for the development of subsequent second primary cancer development were calculated by dividing the observed number of cases by the expected number of cases. The expected number was determined by stratification by age, sex, and marital status.

Results: Oral cavity/pharyngeal carcinoma primaries were found in 43,012 men, and primary anogenital cancers in 4296 men. Of the oral/pharyngeal cancer group, 25 developed subsequent anogenital cancer, and of the anogenital cancer group, 38 developed subsequent oral/pharyngeal cancer. For the men with oral/pharyngeal cancers, the SIR was 1.9-fold elevated for the development of anogenital cancer. For men with anogenital primaries, there was a 3.0-fold increase in the SIR. Both of these values were statistically significant. Interestingly, the same trends did not hold true for women. There was an association in that development of second-primary tumors in either case was higher in never-married men versus ever-married men.

Conclusions: The reciprocal association of these cancers supports HPV as a causative agent. The elevated risk of bidirectional second primary development in never-married men may be a surrogate marker for sexual practices favorable for HPV transmission.

Reviewer’s Comments: This is an interesting epidemiologic study, though it is limited in its impact. It is known that HPV is associated with approximately 50% of oropharyngeal cancers, and it is known that this risk is associated with sexual practices. So the current study is just another way of loosely demonstrating what we know. I was struck that the absolute numbers of second cancers was quite low. Factors to be considered are that smoking was not included, nor was HIV status, as the data were not within the SEER database. Furthermore, the classification of oral or pharyngeal cancers is sometimes unclear. Overall, this was an interesting epidemiological way of looking at the effects of HPV-related cancers. (Reviewer-Patrick K. Ha, MD).
Low Prevalence of Oncogenic HPV in Adults

Ernster JA, Sciotto CG, et al:
Arch Otolaryngol Head Neck Surg; 2009; 135 (June): 554-557

While it has been shown that there are increased prevalence of HPV-16, and HPV-18 infection among head and neck squamous cell cancer patients, it is still unclear whether the prevalence of these infections are increased among the general adult population.

Background: While there is established literature to show that the prevalence rate of HPV-16 and HPV-18 infections is higher among oropharyngeal cancer patients, it is unclear whether there has been an increased prevalence of HPV-16 and HPV-18 infection among the general population.

Objective: To evaluate whether there has been an increased prevalence rate of these oncogenic viruses among the general population.

Methods: The authors retrospectively analyzed archived, paraffin-embedded, noncancerous palatine tonsils among the general adult population in 2 different time period. Age- and sex-matched specimens from 1979 to 1982 (group A) and from 1997 to 2001 (group B) were obtained, and qualitative type-specific polymerase chain reaction (PCR) was used to test for HPV-16 and HPV-18 from DNA preparation from paraffin-embedded tissue. The outcome measure was the prevalence of HPV-16 and 18 in these tonsil tissues with respect to incidence of HPV-positive oropharyngeal squamous cell carcinoma (SCC) during the same time periods.

Results: The authors found that all the specimens in both groups tested negative for HPV-16 and HPV-18 among the 107 to 119 specimens tested in both time periods.

Conclusions: This analysis suggests that HPV infection in the palatine tonsils of the general adult population may be low, and may not indicate a temporal correlation with the cancer patient population who have been noted to have an increasing rate of HPV-positive oropharyngeal SCC.

Reviewer’s Comments: This is a flawed study whose negative results illustrate some critical biology of HPV infection in the oropharynx. The critical flaw was in analyzing all the tonsillar tissue for HPV DNA. The authors admit that they should have processed the epithelial tissue only, rather than include the lymphoid tissue. HPV's oncogenesis stems from its infection of the epithelial layers. Furthermore, the authors used previous literature data that decided that the prevalence of HPV-16 and 18 in the noncancer population was around 3.9%. However, these studies used different methods to study the presence of the HPV gene in different patient populations. Subsequently, the data obtained from this current study did not correlate with the literature value. Since no HPV gene was detected in both time period groups, no true conclusion can be made about this study, except to acknowledge that oncogenic HPV infection prevalence rate in the general adult population is low. (Reviewer-Young J. Kim, MD).

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Preincision IOPTH Value May Not Be Necessary

Optimal Use of Intraoperative PTH Levels in Parathyroidectomy.


Preincision intraoperative parathyroid hormone (IOPTH) value adds little to the outcome of parathyroidectomy directed by intraoperative PTH value.

**Background:** Primary hyperparathyroidism is frequently managed with localization studies followed with unilateral exploration. Intraoperative parathyroid hormone (IOPTH) assay has been an important adjunct to focal exploration. However, the optimal protocol for IOPTH use is still controversial. Although most use the preincision IOPTH value as the baseline value to judge the success of parathyroidectomy, its true value is still not defined.

**Objective:** To study the clinical value of IOPTH values obtained at various time points during the surgery.

**Design/Methods:** This is a case series from a single surgeon's experience. Patients undergoing parathyroid surgery were followed from 2003 to 2007 and IOPTH obtained at preincision and 5 minutes postexcision time points and analyzed for their clinical impact intraoperatively.

**Results:** 112 patients, who had parathyroidectomy, were screened, and 30 patients were excluded for nonprimary hyperparathyroidism. Preincision IOPTH did not affect any intraoperative decision making. The authors also noted that 65.3% of the time, surgery was terminated after a 5-minute postexcision IOPTH value.

**Conclusions:** The authors conclude that preincision IOPTH displayed no value in focal parathyroidectomy, while 5-minute postincision IOPTH value helped to save operative time in nearly 66% of the cases.

**Reviewer's Comments:** This report falls in the category of "how I do it" literature, rather than a peer reviewed report that critically addresses significant clinical questions. The problem with the use of IOPTH values is that there is no clear evidence-based medicine to direct its use. One obvious question is the use of preincision IOPTH value. The concern is that the manipulation of the adenoma or the normal parathyroid glands can increase the IOPTH value, and, therefore, the preoperative PTH value, which was determined with a different assay system, may not be used as a baseline value to compare the postexcision IOPTH value. If the surgeon's parameter for success is 50% of the baseline, then preincision or pre-excision is necessary. However, if 1 of the biochemical parameters for success is that the IOPTH value is normal, then the preincision value is useless anyway. The IOPTH value may not be useful at all if the preoperative IOPTH value is normal or slightly above normal in a well-localized primary hyperparathyroid patient. So, in general, the pre-incision IOPTH value may not be useful, a priori, for focal parathyroidectomy. This report states that this assumption correlates with their experience, but they have no controlled quantitative measurements to justify their statements. (Reviewer-Young J. Kim, MD).

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Prosthesis Placement at Laryngectomy Is Very Promising

Evaluation of Voice Prosthesis Placement at the Time of Primary Tracheoesophageal Puncture With Total Laryngectomy.

Deschler DG, Bunting GW, et al:
Laryngoscope; 2009; 119 (July): 1353-1357

Tracheoesophageal prosthesis placed at the time of laryngectomy is effective and safe.

Background: In order to improve the quality of life for laryngectomy patients, European centers have adopted placing a voice prosthesis at the time of laryngectomy. Many centers in the U.S. have adopted primary tracheoesophageal puncture (TEP), but placement of the prosthesis at the time of laryngectomy is still not an accepted protocol.

Design/Methods: This was a retrospective chart review from 2003 to 2008 of patients who had primary TEP prosthesis placed by the corresponding author. Patient presentation, type of prosthesis placed, associated complications, and voice restoration follow-up was analyzed.

Results: Of the 30 patients who had the prosthesis placed primarily, 28 received preoperative radiation. Most of the patients had 20F Blom-Singer prosthesis, and 1 had a 16F Blom-Singer. No complications or immediate dislodgements were noted in this case series. Of the 30 subjects, 29 had initial phonation 1 to 2 weeks after the surgery; at 1-year follow-up, 77% had successful TEP voice. Of those who were disease free, 92% had functional voice at 1-year follow-up.

Conclusions: This study illustrates that the TEP prosthesis can be safely and effectively used immediately after laryngectomy. Voice restoration rates were high and long-term success was acceptable.

Reviewer's Comments: This paper reiterates the European literature that TEP prosthesis can be placed at the time of surgery without any complications. Now this is a case series without a clear control group to compare their results. However, assuming their controls are the rates quoted in literature, it appears that prosthesis can be placed without significant fears of dislodgement. One advantage of catheter placement through the TEP site was tube feeding immediately postoperative without uncomfortable nasogastric tubing. However, the advantages for prosthesis placement primarily are numerous. One hypothetical concern is that the catheter would orient the tract in a more vertical direction, while the prosthesis would lie in a more natural horizontal plane. The primary prosthesis placement would avoid another surgery. Combined with previous literature from the European centers, prosthesis placement primarily at the time of laryngectomy is very promising. (Reviewer-Young J. Kim, MD).

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T4 SCCA of Larynx--Don't Use Chemoradiation

The Effect of Treatment on Survival in Patients With Advanced Laryngeal Carcinoma.

Stage IV or T4 disease of the larynx may be best treated with surgery rather than chemoradiation.

Background: Dr Henry Hoffman from Iowa published an important Triological Thesis in 2006 that demonstrated a decrease in survival among advanced laryngeal cancer patients throughout United States. They used National Cancer Database data on more than 150,000 cases of squamous cell cancer (SCCA) of the larynx, and showed the alarming decrease in survival since the institution of organ-preserving treatment modalities from 1985.

Objective: The authors of this current report evaluated a single institution's experience with laryngeal SCCA in response to Hoffman's report. They investigated various factors associated with decreased survival in laryngeal cancer.

Design/Participants: Retrospective analysis of 451 patients with laryngeal SCCA from 1985 to 2002 at a single academic institution. Excluded were those with metastatic disease, history of prior treatments for head and neck squamous cell cancer (HNSCC), and incomplete follow-ups.

Results: In this case series, the supraglottic subside was 50% of the cases, while the glottic subside were only 30%. Sixty-nine percent of the patients presented with stage III or IV disease. Overall, disease-specific survival was comparable to other literature. Interestingly, patients with stage IV disease had significantly better 5-year survival with operative treatment followed by radiation in comparison to chemoradiation treatment. Those treated with radiation alone fared the worse. Cox proportional hazards analysis showed that stage and nodal status dictated prognosis, which compares well with the literature. Interestingly, no operative treatment for T4 disease and stage IV disease significantly worsened their 5-year survival rate.

Conclusions: Total laryngectomy is associated with improved 5-year survival for those with stage IV disease and T4 primary tumors.

Reviewer's Comments: Given the fact that the RTOG 91-11 trials did not include a significant number of T4 diseases in their trials, those who ventured to extrapolate these data to treat T4 laryngeal disease with organ preservation modalities did not have evidence-based medicine to back them. This was the running hypothesis for the authors of this article. This illustrates that randomized clinical trials do not always translate to evidence-based medicine. Randomized clinical trials are always restricted in their ability to generalize their findings to complicated patient care. This report, however, does not account for the rise in endoscopic laser surgery for advanced laryngeal malignancies since 1985. There are no clear documentations of endolaryngeal laser surgery in their methods section, and there is no analysis in the result section to account for this variable. The decrease in the survival rate of laryngeal SCCA may be multifactorial with overuse of chemoradiation as a modality for advanced malignancies as 1 contributing variable. (Reviewer-Young J. Kim, MD).

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Acute Mastoiditis and Subperiosteal Abscess in Children May Be on the Rise

Suppurative Complications of Acute Otitis Media: Changes in Frequency Over Time.

Thorne MC, Chewaproug L, Elden LM:
Arch Otolaryngol Head Neck Surg; 2009; 135 (July): 638-641

There appears to be an increase frequency of acute mastoiditis and subperiosteal abscess in the pediatric population that is not fully explained by referral patterns, changes in antibiotic use, or drug resistance microbiology.

Background: The impetus for the current study is to examine the consequence of the recent trends to withhold antibiotics for acute otitis media. While it may be true that the medical community has been guilty of overprescribing antibiotics, there are clear incidence data that the onset of antibiotic use is associated with reduction in severe complications from otitis media.

Objective: The authors review their experiences in the management of suppurative complications of acute otitis media from 2000 to 2007.

Design/Methods: This is a retrospective chart review study at an academic tertiary children's hospital from 2000 to 2007. Included were children with mastoiditis, sigmoid sinus thrombosis, or all abscess formation. Patients with cholesteatoma were excluded. The charts were reviewed for extracranial and cranial complications as well as bacteriological results. The frequencies of OM complications were analyzed over the 7-8 year period using correlation analysis with Spearman rank correlation. Other variables studied were previous antibiotic treatment, antibiotic resistance, and transfer into the tertiary care.

Results: 87 children were included in this study. During the study time interval, there was a statistically significant increased frequency of acute mastoiditis and subperiosteal abscess, controlling for case volume. This increased frequency in the complications of otitis media was not associated with increased rate of patient transfers into the children's hospital. There was an increase in prevalence of antibiotic-resistant organism, but this prevalence was low.

Conclusions: The authors have noted statistically significant increased frequency of acute mastoiditis and subperiosteal abscess without a clear explanation for this increase.

Reviewer's Comments: The authors noted an increases frequency of acute mastoiditis and subperiosteal abscess that is clearly not associated with changes in referral pattern, with changes in antibiotic use pattern, or with changes in microbiology of otitis media. The authors acknowledge that they cannot translate their findings as true changes in incidence. With their limited study, the results did not show any correlations with antibiotic use patterns or with changes in microbiology, but these negative results do not rule out that these potential etiologies can contribute to the increased frequency of these complications of otitis media. (Reviewer-Young J. Kim, MD).

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**TLM May Be Viable for Base of Tongue SCC**

*Functional and Oncologic Results Following Transoral Laser Microsurgical Excision of Base of Tongue Carcinoma.*

Camp AA, Fundakowski C, et al:  
*Otolaryngol Head Neck Surg;* 2009; 141 (July): 66-69

| Transoral laser excision of the base of the tongue squamous cell carcinoma can result in acceptable locoregional control associated with acceptable quality of life. |

**Background:** Surgical resection of the base of the tongue (BOT) squamous cell carcinoma (SCC) can be a morbid procedure. Many centers, therefore, treat advanced BOT cancer with chemoradiation upfront. There have been no survival advantages between local resection with radiotherapy versus composite resection with radiotherapy. However, the recent advances in transoral laser microsurgery (TLM) have allowed possible surgical resection of advanced BOT tumors so that surgical morbidities may be reduced.

**Objective:** The authors examined their series with TLM on BOT tumors for survival and quality of life (QOL).

**Design/Methods:** This study was a case series at a single institution. Included were patients with BOT SCC primarily treated with transoral laser excision from 1995 to 2005. Excluded were those with distant metastases, previous chemotherapy, and/or radiotherapy. This group was followed for at least 24 months, and the outcome consisted of disease-specific and overall survival, as well as University of Washington Quality-of-Life data that were obtained.

**Results:** 71 patients were included in this series. Although 76.1% were finally staged as stage IV, 51% were T2 lesions, and 21% were T3 lesions; 85% had neck disease. Most patients received adjuvant therapy. Overall, the locoregional recurrence was 10%. Two patients had BOT recurrence and 2 had recurrent neck disease. At 24 months, overall survival in this series was 90%, and disease-specific survival was 94%. UW quality-of-life data from 65% of the patients showed that 63% responded "outstanding" or "very good." Most had had mild or no pain, near normal swallowing, no G-tube dependence, and "normal" speech.

**Conclusions:** Transoral laser excision of the BOT squamous cell carcinoma can result in acceptable locoregional control associated with acceptable QoL.

**Reviewer's Comments:** This is a case series without any controls, so it is difficult to directly compare TLM experience with other modalities for BOT tumors. Furthermore, 1 of the intentions of the study was to assess the QoL measurements from this group of patients. However, only 65% of the patients responded, so it is difficult to actually assess the QOL. The QOL in patients who undergo primary chemoradiotherapy has been documented previously, but we cannot compare the UW QOL data generated from this report to other UW QOL data. The one telling finding in this report is that 69% of the BOT lesions treated were T1 or T2, which suggests that TLM may be appropriate only for smaller BOT lesions. Although these patients had stage IV, this was probably due to the neck disease, rather than bulky BOT lesions. Of course, this report does not address whether these BOT lesions were HPV positive.  
(Reviewer-Young J. Kim, MD).

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