

Selective Neck Dissection May Be Reasonable for Head/Neck Carcinoma

Selective Neck Dissection Following Adjuvant Therapy for Advanced Head and Neck Cancer.

Mukhija V, Gupta S, et al:

Head Neck; 31 (February): 183-188

Planned selective neck dissection is a reasonable option following primary radiotherapy or chemoradiotherapy for advanced stage head and neck squamous cell carcinoma.

Background: The need for neck dissection after primary chemoradiation for patients with >N2 disease at presentation is a well-accepted concept. However, it is less known whether selective neck dissection (SND) is sufficient to control the neck in these patients.

Objective: To evaluate one institution's experience with performing selective neck dissections after primary chemoradiation for patients with N2 or N3 disease.

Design: Retrospective review.

Participants: 58 patients were identified with advanced cervical nodal metastases (N2-N3) from squamous cell carcinoma of the head and neck. Patients were treated with primary radiation (XRT) or chemoradiation (CRT) followed by a staged SND.

Methods: Patients were analyzed for efficacy of SND in terms of locoregional recurrence, survival, and pathological status of the lymph nodes.

Results: 70 neck dissections were performed in 58 patients. Primary site was the tongue base in 15 (26%), tonsil in 16 (28%), hypopharynx in 12 (21%), larynx in 11 (19%), and unknown in 4 (6%). Of patients, 31 (53%) were N2a, 10 (17%) N2b, 12 (22%) N2c, and 5 (8%) N3. Interestingly, 22 (38%) received XRT, while 36 (62%) received CRT. SNDs were performed on all patients 3 to 6 weeks after completing therapy. Disease specific survival at 34 months (median time of follow-up) was 86.7%. Of patients, 9 died due to distant metastases, 3 had regional recurrence, and 1 had local recurrence. When comparing the XRT to the CRT group, there was no difference between the local and regional control rates, and there was a benefit in the CRT group with regards to distant control rates (72% versus 92%). On pathological exam, 13 (22.4%) specimens had residual tumor: 5 were treated with XRT, and 8 were treated with CRT. There was no statistically significant difference in survival when accounting for treatment type and nodal stage.

Conclusions: A staged SND is sufficient for patients receiving primary nonsurgical treatment for advanced head and neck squamous cell carcinoma.

Reviewer's Comments: As we try to refine our treatment algorithms, there is an attempt to reduce potential morbidity. Radical neck dissections are now quite uncommon. As such, if a planned neck dissection is considered after XRT or CRT for >N2 disease, why not do a SND? This study doesn't really tell us if there was level V involvement prior to treatment; clearly, for most tumors, levels II-IV are the most likely to be involved, but not always. The authors did not focus on imaging modalities, as it was assumed that the neck dissections would be performed. Overall, I think it's a reasonable option to do a SND, but would obviously think twice if there were bulky level V disease on presentation.

Additional Keywords: Neck Dissection

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Prognostic Value of SUV in Head, Neck Carcinoma Pts

Pretreatment FDG-PET Standardized Uptake Value as a Prognostic Factor for Outcome in Head and Neck Cancer.

Machtay M, Natwa M, et al:

Head Neck; 31 (February): 195-201

Maximum standardized uptake values noted on PET scans may be predictive of survival in patients with head and neck cancer.

Objective: To determine the prognostic value of positron emission tomography (PET) standardized uptake values (SUV) in patients with head and neck squamous cell carcinoma (HNSCC).

Design: Retrospective review.

Participants: 60 patients with newly diagnosed HNSCC between 2003 and 2005 who underwent PET scanning prior to any treatment. All patients had gross tumor identifiable by physical exam.

Methods: Patients underwent definitive cancer treatment with a combination of surgery, radiotherapy, and chemotherapy. Patients also underwent uniform PET scanning and SUV measurements were independently reviewed by 2 nuclear medicine specialists. SUV values were calculated by defining a region of interest (ROI) around the area of uptake that corresponded to the tumor. This mostly corresponded to the primary tumor, but in at least 3 cases, there was an unknown primary, so neck nodes were the ROI. Maximum SUV was calculated within the ROI. Using a cutoff of 9.0, SUV values were then correlated with clinical outcome.

Results: Majority of patients (52) had stage III/IV disease, with the remaining 8 having stage I/II, but in subsites with a high chance of occult nodal disease (tongue, supraglottis). Median maximum SUV was 7.2 (range 1.0 to 24.7). Of patients, 26 (57%) had a SUV ≥ 9.0 . The 2-year disease free survival in the SUV <9.0 group was 76%, versus 37% in the SUV ≥ 9.0 group. As expected, lower SUV's were associated with lower stage tumors. A multivariate analysis was thus undertaken to account for age and stage I to III versus IV. SUV remained a predictor of disease-free survival (hazard ratio 2.41; 1.10 to 5.32; 95% confidence interval). Interestingly, stage itself was not an independent predictor.

Conclusions: Patients with HNSCC exhibiting high SUV values ≥ 9.0 are more likely to have a poor outcome after cancer treatment. Thus, SUV may be a valuable biomarker to help guide level of therapy.

Reviewer's Comments: While it seems straightforward to think of SUV's, the actual calculation can often be variable and differ across centers and even within centers. Thus, one needs to take these values with a grain of salt. The numbers in this study are just too small to be really convincing. The authors grouped stages I-III and then did a 'multivariate' analysis comparing this to stage IV patients. It's very possible that the SUV is just a surrogate for tumor bulk, which is already incorporated into our staging system. Nonetheless, further prospective study with a larger patient sample size is warranted to really answer this question.

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Tinnitus Symptoms Are Not Correlated With Findings of Vascular Loops on MRI

Vascular Loops at the Cerebellopontine Angle: Is There a Correlation With Tinnitus?

Gultekin S, Celik H, et al:

AJNR Am J Neuroradiol; 29 (October): 1746-1749

Vascular loops are seen on magnetic resonance imaging in a significant fraction of people, but this finding is not correlated with tinnitus symptoms.

Background: Tinnitus is an extremely common problem which may annoy as many as a 1 in 8 people enough to prompt a visit to a physician. It can be very difficult to find an underlying cause in many of these patients. In 1975 Janetta first described vascular compression syndromes and developed microvascular decompression techniques. Since then vascular compression has been used to explain many symptoms including tinnitus, but it remains controversial.

Objective: To determine if magnetic resonance imaging (MRI) findings of vascular loops are correlated with tinnitus symptoms.

Design: Prospective study.

Participants: 58 patients with unexplained tinnitus, 42 of which had unilateral tinnitus, and 44 age and gender matched controls who did not have tinnitus.

Methods: Patients were studied via MRI using 3D fast imaging employing steady-state acquisition or 3D FIESTA, as well as traditional pre- and post-contrast sequences. The type of vascular loop, any vascular contact with the eighth cranial nerve, and angle of the vestibulocochlear nerve at the cerebellopontine angle (CPA) were evaluated.

Results: Vascular loops were classified as types I through III based on the anatomy of the anterior inferior cerebellar artery. Type I includes loops in the CPA but not entering the internal auditory canal (IAC). Type II loops enter the IAC but involve <50% of the IAC length. Type III extend >50% of the IAC. Presence of vascular contact was also considered. Type I loops were found in 65% of tinnitus ears, 83% of unaffected ears, and 72% of controls. Type II loops were found in 26% of affected ears, 7% of unaffected ears, and 17% of controls. Type III loops were found in 9% of affected ears, 10% of unaffected ears, and 11% of controls. These results revealed that vascular loops were not significantly correlated with tinnitus regardless of the type of vascular loop. In addition to vascular loops, vascular contact with the eighth cranial nerve and the angulation of the nerve were examined. These measures also demonstrated no significant correlation with tinnitus symptoms. On average, 45% of subjects had vascular contact with the eighth cranial nerve which did not show a significant correlation with tinnitus symptoms. Similarly the angulation of the eighth cranial nerve caused by vascular contact occurred in 14% of subjects and there was no correlation with tinnitus symptoms.

Conclusions: There is no significant correlation between tinnitus symptoms and MRI findings vascular loops or vascular contact.

Reviewer's Comments: Potential vascular loops are not an adequate reason to order an MRI in tinnitus patients and one should be careful in over-interpreting vascular loops when incidentally discovered on MRIs. MRI should continue to be ordered for tinnitus patients in whom an acoustic neuroma, glomus tumor, or vascular stenosis is being considered as a tinnitus etiology.

Additional Keywords: Tinnitus

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Cigarette Smoking Increases Risk of Tympanoplasty Failure

Smoking and Tympanoplasty: Implications for Prognosis and the Middle Ear Risk Index (MERI).

Becvarovski Z, Kartush JM:

Laryngoscope; 111 (October): 1806-1811

The long term risk of tympanoplasty failure is 60% in patients who smoke.

Background: There are many factors which put patients at risk for failed tympanoplasty which include prior surgery, cholesteatoma, chronic otorrhea, and poor eustachian tube function. Smoking is a risk factor which is frequently overlooked since it is not explicitly taken into account in disease severity indexes such as the Middle Ear Risk Index (MERI).

Objective: To assess risk for graft failure in smokers who undergo tympanoplasty.

Design: Retrospective review.

Participants: 74 patients who underwent over-under tympanoplasty at the Michigan Ear Institute over a 6-year period.

Interventions: Tympanoplasty, and when required ossiculoplasty and mastoidectomy.

Methods: 15 patients included in the study were smokers who smoked a mean of 20 cigarettes per day with a range from 10 to 40. Patients' mean age was 46 years and ranged from 15 to 79. Patients were followed for a minimum of 1 year, although some were followed as long as 7 years. Graft take was defined as full take of the tympanic membrane at 6 months. Delayed failure was defined as perforation or atelectasis after 6 months. The MERI scale was used to rate the severity of preoperative disease and match smoking and non-smoking patients based on otorrhea, presence of cholesteatoma, presence of ossicles, effusion, and prior surgery.

Results: There was no significant difference in the MERI score between the smoking and non-smoking groups of patients, although there was a trend towards smokers to have a MERI >6 and having more wet perforations. Procedures were similar in both groups. Smokers were slightly more likely to have a canal wall down procedure, 33% versus 14% of non-smokers, but this effect was not significant. All non-smoking patients had full take of tympanic membrane graft at 6 months. Although there was no significant difference between smokers and non-smokers in the graft take rate within the first 6 months of surgery, the authors did note two smokers who had early perforations. Delayed failure or failure after 6 months was seen in 20% of non-smokers and a significantly greater 60% of smokers. However there was no significant difference between smokers and non-smokers with respect to hearing outcome.

Conclusions: In smokers the risk of graft failure after tympanoplasty is 3 fold higher.

Reviewer's Comments: Patients who smoke should be counseled that their risk of postoperative graft failure is much higher if they continue to smoke. In my experience this additional factor has been enough to get a few patients to stop smoking making them excellent candidates for smoking cessation programs. The paper does not address how otolaryngologists might modify their tympanoplasty technique in patients who smoke, and it is not clear that any technique is preferable

Additional Keywords: Smoking

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Low Frequency Hearing Loss on Audiogram Suggests Cardiovascular Disease

Audiometric Pattern as a Predictor of Cardiovascular Status: Development of a Model for Assessment of Risk.

Friedland DR, Cederberg C, Tarima S:

Laryngoscope; 119 (March): 473-486

There is a strong correlation between low frequency hearing loss and cardiovascular disease.

Background: Cardiovascular disease in the form of coronary artery disease and stroke accounts for 30% of deaths. Early identification of cardiovascular disease may be a way to arrest of disease progression. Presbycusis or the gradual hearing loss that occurs with aging is a condition associated with noise exposure, genetics, and systemic disease.

Objective: To explore the relationship between strial hearing loss and cardiovascular disease.

Design: Retrospective review.

Participants: 2 cohorts of patients: (1) Chart review of 1168 patients aged an average of 67.5 years who had an audiological assessment and whose medical charts were also available. (2) 90 patients with well defined cardiovascular disease who also had audiograms.

Interventions: Some patients had coronary artery bypass grafting and percutaneous transluminal coronary angioplasty.

Methods: Audiograms were examined at frequencies between 500 and 8000 Hz and classified into normal hearing, strial, low-sloping, mid-sloping, and high-sloping. Risk factors were tabulated as 5 variables: hypertension, diabetes, high cholesterol, age, and history of smoking. Events were tabulated as myocardial infarction, coronary artery disease, stroke, transient ischemic attack, and claudication.

Results: In the first cohort, 251 patients had strial hearing loss and 186 had normal audiograms. Of patients, 316 had some type of cardiovascular disease. Risk factors were present in 975 patients with an average of 1.7 risk factors per patient. The most common risk factor was hypertension followed by smoking. Strial hearing loss comprised only 22% of audiograms but for those with coronary vascular disease a strial pattern occurred in slightly >50% of patients. Strial loss occurred in 63% of cerebrovascular patients and 71% of peripheral vascular disease. The correlation of strial loss with cardiovascular disease was stronger than with other types of hearing loss. However in the second cohort of patients who had cardiovascular disease only 10% had the strial pattern of hearing loss.

Conclusions: The relationship between cardiovascular disease and strial hearing loss has previously been identified. The current study takes a slightly different approach by proposing that low frequency hearing loss may be a marker for cardiovascular disease rather than the reverse. Thus the authors suggest that audiogram may be a sensitive and reproducible screen for cardiovascular compromise.

Reviewer's Comments: The authors believe audiogram may be a suitable cardiovascular compromise screen. However, other risk factors such as obesity, cholesterol level, blood pressure, smoking history, and others may be more practical screening tools. The data do not allow us to understand the temporal relationship between hearing loss and cardiovascular disease. The difference in the rate of strial hearing loss between the two cohorts suggests selection bias. However there is clearly an interesting correlation between cardiovascular disease and low frequency hearing loss.

Additional Keywords: Coronary Artery Disease

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Survival Analysis of Intratympanic Gentamicin Demonstrates Benefit

Time Course of Repeated Intratympanic Gentamicin For Menire's Disease.

Nguyen KD, Minor LB, et al:

Laryngoscope; (February): Epub ahead of print

Gentamicin controls vertigo symptoms in 96% of patients but almost half require multiple rounds of treatment.

Background: Initial treatment for Menire's disease (MD) usually consists of low sodium diet, oral diuretics, and intratympanic steroids. Patients with continued vertigo symptoms with these treatments can often be successfully treated by intratympanic gentamicin. Ideal protocol for this treatment remains controversial. Several prior papers have described this treatment, but the success rate of the procedure and the time course of recurrent vertigo symptoms have been controversial.

Objective: To use a Kaplan-Meier survival analysis to assess results (including probability of recurrent vertigo) of intratympanic gentamicin treatment of MD.

Design: Retrospective chart review.

Participants: 78 patients with unilateral MD.

Interventions: Patients received intratympanic gentamicin at a concentration of 26.7 mg/ml. Patients remained reclined for 30 minutes to allow time for the drug to diffuse into the inner ear.

Methods: All patients met criteria for probable or definite MD. First treatment round was defined as an initial injection, followed by a period where patients were re-evaluated every 3 weeks. Patients with continued vertigo symptoms were offered additional injections during these visits. Subsequent rounds were given if a patient developed symptoms >6 weeks after a prior injection.

Results: Intratympanic gentamicin was ultimately effective in controlling vertigo in 96% of the patients well enough that further ablative surgery was not required. Of patients, 54% had their vertigo symptoms controlled with the first round of therapy, an additional 21% after 2 rounds, and additional 5% with 3. When vertigo control duration was considered, 91% of patients had their symptoms controlled for 100 days, 70% for a year, and 63% for 2 years. Prior to the initial injection, patients had 13 attacks of vertigo per month. Following the first injection, the rate fell to 2 episodes per month. Patients who received a second injection had their vertigo rate drop from 9 episodes to 2 after the injections.

Conclusions: This paper suggests that recurrence of vertigo after intratympanic gentamicin should not be considered a failure of therapy because the number of vertigo attacks may be decreased or there may be a symptom-free interval after treatment. Furthermore, patients who have a high incidence of vertigo after intratympanic gentamicin are still likely to receive benefit from future injections.

Reviewer's Comments: This is a nice retrospective review of intratympanic gentamicin treatment which is novel in that it uses a Kaplan-Meier analysis. This analysis allows the data to be understood as time symptoms are controlled rather than simple successes or failures. It makes the point that if patients develop symptoms after gentamicin treatment they may still respond to subsequent intratympanic therapy.

Additional Keywords: Gentamicin

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Vestibular Injury in Cochlear Implantation

The Effects of Cochlear Implantation on Vestibular Function.

Melvin T-AN, Della Santina CC, et al:

Otol Neurotol; 30 (December): 87-94

Vestibular injury is a low risk in cochlear implant surgery, but it occurs; it should be considered in patients and discussed prior to surgery.

Objective: To better define risk of cochlear implantation surgery to the vestibular labyrinth.

Design: Prospective cohort study.

Participants: Adult cochlear implant recipients scheduled for surgery.

Interventions: Cochlear implantation.

Methods: Subjects' vestibular function was tested with a quantitative 3-dimensional head impulse test, clinical head impulse test, post-head shake nystagmus, caloric electronystagmography, vestibular-evoked myogenic potentials (VEMPs), dynamic visual acuity, and a Dizziness Handicap Inventory questionnaire. All implanted ears were tested both before surgery and 4 to 8 weeks after surgery. Cochlear implant surgery was performed with a standard transmastoid, trans-facial recess cochleostomy created anterior/inferior to the round window.

Results: 36 ears in 35 patients were tested preoperatively. Of those, 28 underwent postoperative testing; 1 had significantly reduced vestibular function postoperatively that was not present preoperatively. VEMPs were absent in 37% of tested ears prior to implantation and 31% had disappearance or worsening of the VEMP threshold postoperatively. Of ears, 1 had a significant drop in function by caloric testing.

Conclusions: Risk of vestibular damage with cochlear implantation is about 4%. The VEMP is the most sensitive test for surgery-induced vestibular hypofunction. The clinical head impulse test is not sensitive, but is very specific for mild to moderate vestibular hypofunction.

Reviewer's Comments: There are a few things to take away from this paper. The first is a number, 4%, which is good to remember as the risk of vestibular damage associated with cochlear implantation. The fact that the VEMPs got worse in 31% of ears, however, suggests that the risk of subclinical vestibular damage may be much higher than 4%. Nonetheless, cochlear implantation is a very low risk procedure, and benefits approach miraculous. Few centers have access to the quantitative head impulse test used in this study, which is the gold standard at this point for testing the vestibular function of individual canals. The head impulse test, however, requires no equipment other than the observer. If the head impulse test is abnormal (and catch up saccades are seen), the canal tested has reduced function, and this finding could drive the decision about which ear to implant when the hearing in the 2 ears is similar. Another part of the paper that is useful to mention is that different vestibular tests address different frequency responses of the vestibular periphery. Calorics test a very low frequency response, rotary chair is mid-frequency, and the head impulse test tests high-frequency. With the combination of these tests we can nearly do an audiogram equivalent, looking at the integrity of the vestibular system as a function of stimulus frequency.

Additional Keywords: Complications

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Differentiate Tumors Involving Jugular Foramen With Imaging

Primary Jugular Foramen Meningioma: Imaging Appearance and Differentiating Features.

Macdonald AJ, Salzman KL, et al:

AJR; 182 (February): 373-377

Imaging can differentiate paraganglioma from schwannoma from meningioma involving the jugular foramen.

Background: Common tumors that involve the jugular foramen are paraganglioma (glomus jugulare) and schwannomas of the ninth or tenth nerve.

Objectives: To present a less common tumor that can also involve the jugular foramen - primary jugular foramen meningioma and to compare this with imaging characteristics of the other more common lesions.

Design: Retrospective review.

Participants: 5 patients with primary jugular foramen meningioma confirmed surgically and pathologically were included, as well as 8 patients with jugular foramen paraganglioma and 10 patients with jugular foramen schwannoma.

Methods: MRI and CT for all tumors were evaluated.

Results: All 5 primary jugular foramen meningiomas demonstrated extensive infiltration of the surrounding skull base and involvement of the middle ear cavity, internal auditory canal, hypoglossal canal, carotid space, and posterior fossa. Tumor in the temporal bone spared the otic capsule and extended into the hypotympanum in all cases. Dural tails were seen in all cases (characteristic of meningioma), but flow voids were not seen. Signal characteristics of the meningiomas were isointense or hypointense on T1, intermediate on T2, and intense uniform enhancement with contrast. CT in all cases showed an irregular appearance to the surrounding bone of the jugular foramen and skull base. Like the jugular foramen meningiomas, glomus jugulare tumors also extended into the hypotympanum and showed destruction of the bone margins of the jugular foramen. But unlike the meningiomas, glomus tumors did not spread medially into the hypoglossal canal or the posterior fossa, and no dural tails were observed. Glomus tumors typically also had flow voids. Jugular foramen schwannomas expanded the jugular foramen caliber while retaining the integrity of the bone margin and the majority of tumors extended into the posterior fossa. Signal characteristics of schwannomas showed hyperintensity with T2WI.

Conclusions: Radiologic characteristics can differentiate between lesions involving the jugular foramen. Primary jugular foramen meningiomas infiltrate the surrounding skull base in all directions and destroy surrounding bone margins. Jugular foramen paraganglioma extend superolaterally into the hypotympanum, and intracranial spread is unusual. Jugular foramen schwannomas follow the course of the cranial nerves of its origin, extending superomedially towards the lateral brainstem. Schwannomas expand the jugular fossa caliber while preserving its bony margins. Flow voids are characteristic only of paraganglioma.

Reviewers Comments: While all 3 lesions involving the jugular foramen addressed here - meningioma, schwannoma, and paraganglioma - are all benign lesions, management, prognosis, and expected morbidity associated with surgery is different for all. This review does a very good job at defining the typical imaging characteristics that can differentiate among these 3. Flow voids, think paraganglioma, dural tails think meningioma, well-defined bony margins of the jugular fossa think schwannoma.

Additional Keywords: Meningioma

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Survey Looks at How Well Patients Research Surgeon, Surgeries

Survey Says: Patients Prep Harder for Vacation than for an Operation.

Garneski S:

Am Coll Surg; (January 29): press release

Patients spend far less time researching their planned surgery than they would researching other important life decisions.

-Patient Education

Objective: To determine how thoroughly patients research their scheduled surgical procedure and surgeon.

Design: Cross sectional survey.

Methods: Approximately 1000 registered voters were surveyed via telephone early in 2008 and asked if they had surgery within the past 5 years, and whether they bought or leased a new car or spent, >\$1000 on something for their home. They were then asked to quantify how much time they researched these events while considering them.

Results: One-third of subjects had a surgical procedure within the past 5 years; half (51%) bought or leased a new car; and three-fifths (62%) made a \$1,000 on something for their home. Average time spent researching the surgery or the surgeon was 1 hour. The time spent researching changing jobs, buying or leasing a new car, making a purchase for the home, and planning a vacation was 10, 8, 5, and 4 hours, respectively. More than one-third of subjects did not check their surgeons' credentials before having the procedure.

Conclusions: Patients spend too little time researching their surgeon and their surgery in preparing for procedures.

Reviewer's Comments: This survey was sponsored by the American College of Surgeons, and they found that the average person researches a surgical procedure or their surgeon for 1 hour in preparation for surgery, which was only a fraction of the time spent researching other "important" decisions like buying a car. They concluded that patients aren't properly informed about their surgery or surgeon. On one hand, having patients properly informed about their disease or upcoming surgery is good. The key word here is "properly." We all have patients who show us reams of information from the internet. I had one patient that brought me a print out telling me everything they knew about me - which was my contact information and whether or not I had any disciplinary taken against me. That's all, and they decided to see me based on this. Patients can extensively "research" their diagnosis, or more commonly misdiagnosis, from the internet. Do we want patients putting more time in searching the internet for information about their surgery or disease? I would contest that the problem with the internet is over-information rather than lack of it. There is undoubtedly good information there, but it is typically hidden in a sea of not-so-great information. Our duty is to educate patients about our proposed surgery and their diagnoses. I don't think patients need to research like they would a vacation. Our duty is to present patients with the most up-to-date, evidence-based medicine we can. That is why you are listening to me right now and I do my best to make sure I am helping you help your patients!

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Evaluating Aspiration, Stricture After IMRT

Dose to Larynx Predicts for Swallowing Complications After Intensity-Modulated Radiotherapy.

Caglar HB, Tishler RB, et al:

Int J Radiat Oncol Biol Phys; 72 (November): 1110-1118

Dose to larynx and inferior constrictors correlate to aspiration and esophageal stricture following intensity-modulated radiotherapy.

Objective: To determine factors correlating to swallowing dysfunction after radiation therapy for head and neck cancers.

Design: Retrospective analysis.

Participants: 96 sequential patients treated with intensity-modulated radiotherapy (IMRT) for head and neck cancers.

Methods: Of patients, 85% underwent definitive radiation, 91% had chemotherapy (either induction or concurrent), 96% had stage III/IV tumors. Patients with clinical evidence of dysphagia (Swallowing Performance Scale [SPS] score >1) underwent modified barium swallow studies. Aspiration was scored using the Penetration-Aspiration Scale (PAS). Patients were scored as having aspiration if they had a PAS score >4 AND a SPS score >4. Stricture was scored if it was reported on the swallowing study. Clinical variables such as age, gender, race, smoking/alcohol history, primary site, tumor stage, lymphovascular invasion, perineural invasion, radiation intention, and chemotherapy were assessed for correlation. Specific doses to swallowing structures were assessed. Logistic regression analyses were utilized.

Results: 66% of patients had some level of swallowing dysfunction according to SPS results; 37.5% were found to have stricture formation. Factors correlated with stricture formation included smoking history, dose to inferior constrictors, and dose to the cervical esophagus. Of patients, 32% had documentation of aspiration, however no clinical variables were significantly correlated. In contrast, mean dose to the larynx and inferior constrictors was highly correlated with aspiration.

Conclusions: The radiation dose received by the inferior pharyngeal constrictors and larynx appear to have the strongest correlation with short-term swallowing status.

Reviewer's Comments: For those who provide care to patients with head and neck cancers, it comes as no surprise that the increase in aggressive organ preservation approaches has led to an increase in toxicity. One toxicity with the potential for significant alteration in patient satisfaction is dysphagia. We have all seen patients who develop marked dysphagia after non-surgical treatment. Identification of this problem has led to advanced techniques such as IMRT. Despite these measures, patients continue to experience dysphagia. One consideration regarding IMRT is the identification of structures most critical to maintenance of functional swallowing. This study identified dose to the larynx and inferior constrictors as critical. In fact, no aspiration was reported in the patients with doses to the larynx <48.2Gy. In addition, no strictures were reported when doses to the inferior constrictors were limited to <53.9Gy. Clearly, at times, oncologic control will necessitate doses of these magnitudes. In those cases, ensuring involvement by a speech and swallowing therapist prior to initiation of therapy is critical. One major confounding factor of this study is that only patients who demonstrated clinical evidence of dysphagia were formally evaluated. As a result, silent aspirators were not captured. We should expect an even larger number of patients to experience difficulties. It is critical that future prospective studies include formal, instrumental swallowing assessments for all patients.

Additional Keywords: Aspiration

print tag: () Refer to original journal article.

Surgical Safety Checklists May Be Beneficial to Surgeons, Staff

A Surgical Safety Checklist to Reduce Morbidity and Mortality in a Global Population.

Haynes AB, Weiser TG, et al:

N Engl J Med; 360 (January): 491-499

Surgical safety checklists appear to help reduce mortality rates and inpatient complications.

Background: Surgery is a medical specialty that can often lead to other health complications.

Objective: To initiate a program that would employ a 19-item surgical checklist to enhance team communication and standard of care for surgical patients.

Methods: Over the course of a year, 8 hospitals in 8 cities participated in the World Health Organization's Safe Surgery Saves Lives program. There was a prospective collection of data on clinical processes and outcomes from 3733 study participants aged 16 years. These patients underwent non-cardiac surgery. In addition, data was collected on 3955 patients after the Surgical Safety Checklist was established. Primary end point was determined by rate of complications during hospitalization within the first 30 postoperative days.

Results: Upon introducing the Surgical Safety Checklist, rate of death declined from 1.5% to 0.8%. Similarly, inpatient complications decreased from 11% to 7% after implementing the checklist.

Conclusions: Instituting the checklist reduced the death rate and inpatient complications in patients that were aged 16 years and underwent non-cardiac surgery.

Reviewer's Comments: This study gives surgeons a relative confidence that "timeouts" are beneficial. There are limitations to this study, of course. Since the cohorts studied are international hospitals, these results may not apply to American hospitals. Only 1 American hospital was used in the study, and in that site, the death rate actually increased after the checklist was started. Of course, these checklists are already in practice in most hospitals in the United States, so these results may provide a validation for these practices. What's also not clear is whether these findings are applicable to outpatient ambulatory surgeries, which make up a substantial volume for otolaryngologists. What's most interesting about this paper is the question of mechanism, which is not really addressed in the report. Is it a simple matter of improved communication within the surgical team that decreases the complication and death rates, or is it the flattening of the traditional hierarchy of the surgical team that is creating the result? We can all go through the perfunctory action of safety checklists and timeouts, but if we do not accommodate the annoying person at the end of the 10-hour case that the sponge count is still not correct, no checklist can help improve the safety of our patients.

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Desire to Quit Smoking Can Be Enhanced With Financial Motivation

A Randomized, Controlled Trial of Financial Incentives for Smoking Cessation.

Volpp KG, Troxel AB, et al:

N Engl J Med; 360 (February): 699-709

Financial incentives can induce smoking among those who wants to quit.

Background: Smoking is a preventable cause of premature death. Of smokers, 70% express a desire to quit smoking but are unsuccessful at smoking cessation for a variety of reasons.

Objective: To determine rate of smoking cessation when smokers are given a substantial financial incentive.

Methods: 878 employees from a company were randomly assigned to either receive information about smoking-cessation programs (442 employees) or receive financial incentives in addition to information about smoking-cessation programs. Participants receiving financial support were allotted \$100 for completing a smoking-cessation program, \$250 for cessation of smoking within 6 months of enrolling in the study, and \$400 for abstaining from smoking for an additional 6 months after initially quitting. A biochemical test was performed in order to verify the study participant's cessation. Individuals were categorized by heavy or non-heavy smoking, their work site, and their income. Depending on whether initial cessation began at 3 or 6 months, primary end point was smoking cessation 9 or 12 months following enrollment. Secondary end points comprised completion of smoking-cessation programs and smoking cessation within the first 6 months of enrollment.

Results: Those participants in the financial group had a substantially higher percentage of smoking cessation than the information-only group 9 or 12 months after enrollment (14.7% vs 5.0%, $P < 0.001$) and 15 or 18 months after enrollment (9.4% vs 3.6%, $P < 0.001$). Additionally, the incentive group had more individuals that enrolled in a smoking-cessation program (15.4% vs 5.4%, $P < 0.001$), finished a smoking-cessation program (10.8% vs 2.5%, $P < 0.001$), and continued smoking cessation within the first 6 months after enrolling in the study (20.9% vs 11.8%, $P < 0.001$).

Conclusions: Data from this study show that financial incentives can increase smoking cessation.

Reviewer's Comments: The experimental setup was clean for the most part. Subjects were randomized and similar subjects were in the 2 groups. Self reporting of smoking cessation was verified with biochemical test called cotinine test that can detect tobacco metabolite for 7 days. It should be noted that the subjects were those who contemplated quitting and the test may not be applicable to those who do not want to quit. Also, the study was directed toward the middle class, so financial incentives for quitting may not work for those who are financially independent. One way to look at the findings is that financial incentives do in fact induce changes in the smoking behavior that is statistically significant in comparison to those who are given a simple direction to quit. However, if you look at the absolute number of cessation rates, even for those who quit, it is modest at best. Only 10% would quit for a year out even with a \$750 carrot in their faces, not to mention the more severe consequences of disease and early death.

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CO2 Laser Resurfacing Can Be Safe, Effective for Some Pts

Long-Term Results of Carbon Dioxide Laser Resurfacing of the Face.

Ward PD, Baker SR:

Arch Facial Plast Surg; 10 (July-August): 238-243

Carbon dioxide laser resurfacing can be an effective treatment of facial rhytids, but appropriate patient selection is important to minimize the risk of long-term hypopigmentation.

Background: Carbon dioxide laser has been commonly used in facial resurfacing. The laser causes thermal tissue damage by vaporizing water molecules, in turn stimulating increased collagen production by fibroblasts to smooth out facial rhytids. Skin pigmentary changes are a frequent adverse effect, but degree of change is often highly variable and unpredictable.

Objective: To evaluate clinical effectiveness and complications associated with use of carbon dioxide laser in treatment of facial rhytids and solar aging based on the experience of the senior author.

Design/Participants: Retrospective review of 47 patients

Methods: Patients underwent complete facial carbon dioxide laser resurfacing over an 8-year period in an academic facial plastic surgery practice. All but 1 patient had Fitzpatrick skin type I to III. Same laser setting is used for all patients with decreased power over the eyelid skin region; 3 passes were used. A previously validated wrinkle scale was used for grading facial rhytids before and after treatments.

Results: Mean improvement of 45% in facial rhytids score was seen at the end of follow-up period with comparable improvement in all facial subsites analyzed. Milia or acne was the most common complication encountered at 30%, followed by hyperpigmentation (17%), hypopigmentation (13%), infection (2%), and ectropion (2%). Hypopigmentation was the only long-term adverse effect seen. Subjects who developed hypopigmentation after treatment had greater improvement of facial rhytids from the laser treatment (74% improvement in facial rhytids score compared to 42% score improvement in those patients who did not experience hypopigmentation).

Conclusions: Carbon dioxide laser resurfacing can be a safe and effective treatment for facial rhytids in appropriately selected patients.

Reviewer's Comments: Post-laser resurfacing hypopigmentation is an extremely difficult problem to treat and this has contributed to decreased popularity of carbon dioxide laser resurfacing. The risk can be minimized by avoiding sun exposure before and after treatments and recognizing those patients that may be at a higher risk for developing hypopigmentation (darker skin type, increased age, and increased rhytidosis).

Additional Keywords: Carbon Dioxide Laser

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Labial Artery Anatomy Key in Abbe Flap Design

The Anatomical Basis of the Abbe Flap.

D L Schulte, D A Sherris:

Laryngoscope; 111 (March): 382-386

Labial arteries can most often be found in the tissue plane between the oral mucosa and orbicularis oris muscle.

Background: The Abbe flap is useful for reconstruction of lateral upper and lower lip defects involving one-third to two-thirds of the lip when the oral commissure is not involved. It is a pedicled flap based on the labial artery. A better understanding of the labial artery anatomy, particularly in relation to the vermilion border, free margin of the lip, and orbicularis oris muscle is important in successful flap design.

Methods: Anatomical dissections of 9 adult cadaver heads, age ranging from 41 to 90 years, were analyzed. Studied were 16 superior labial arteries and 15 inferior labial arteries injected with latex.

Results: The superior labial artery was found to pass deep to the zygomaticus major muscle and remained as a single vessel in all dissections. Angular artery was found to branch off from the superior labial artery within 5mm lateral and 10mm medial to the oral commissure. Medial to the commissure, the artery was consistently found to be within 10mm of the free margin of the lip. Near the midline, the artery was found within the vermilion border in 75% of cases. The vessel passed between the oral mucosa and orbicularis oris muscle in 81% of cases and was found within the muscle in remainder of cases. Inferior labial artery typically branched off from the facial artery near the oral commissure, but with a more variable course. It traveled deep to the depressor anguli oris in all cases and was identified within 15mm of the free lower lip margin. Near the midline, the inferior labial artery was found to travel between the oral mucosa and orbicular oris muscle in 87% of cases and was found within the muscle in remainder of cases.

Conclusions: In this anatomical study, both superior and inferior labial arteries were found in the plane between the oral mucosa and orbicularis oris muscle in >80% of cases. Superior labial artery is usually identified within 10mm and inferior labial artery within 15mm of the free lip margin.

Reviewer's Comments: The Abbe flap is a useful lip reconstruction technique when the oral commissure is intact. Knowledge of labial artery anatomy is important in flap design. The search for the labial artery pedicle should begin just outside of the vermilion border with blunt dissection based on artery locations in this study. As shown in this study, labial arteries course closer to the lip margin as they travel toward midline and are found in the plane between oral mucosa and orbicularis muscle or within the muscle.

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Total Thyroidectomy: Harmonic Scalpel Vs Clamp, Tie Technique

Modified Lateral Neck Lymphadenectomy: Prospective Randomized Study Comparing Harmonic Scalpel With Clamp-and-Tie Technique.

Miccoli P, Materazzi G, et al:

Otolaryngol Head Neck Surg; 140 (January): 61-64

Use of the harmonic scalpel in total thyroidectomy and lateral neck lymphadenectomy results in shorter operative time, less postoperative lymph drainage, and decreased pain compared to the traditional clamp and tie technique.

Background: The harmonic scalpel employs ultrasound technology to seal and divide tissue with less thermal energy production than electrocautery. This technique has been shown to decrease operative time, blood loss, and postoperative lymphatic drainage in thyroidectomy surgery in various studies but not with a lateral neck dissection

Objective: To compare use of harmonic scalpel to traditional clamp-and-tie technique in total thyroidectomy with lateral neck dissection.

Design/Participants: Prospective, randomized study of 37 consecutive patients.

Interventions: A single surgeon performed each surgery consisting of a total thyroidectomy with lateral neck dissection (levels II-V) with either a harmonic scalpel or a clamp and tie technique.

Methods: Patients with papillary thyroid carcinoma with neck metastasis undergoing surgery were randomized by sealed envelope opened in the operating room 1 of 2 treatment groups (harmonic scalpel or clamp/tie). Patients and an independent observer were blinded to treatment.

Results: There were no differences in demographics, pathologic data, or complications between groups. Use of the harmonic scalpel resulted in significantly shorter operative times for both the thyroidectomy (7 minutes faster) and neck dissection (11 minutes faster) components of the operation. Greater lymphatic drainage was present in the clamp/tie group between 24 to 48 hours and their neck circumference increased in size compared to the harmonic group. Harmonic group reported less postoperative pain on the visual analogue scale.

Conclusions: Use of the harmonic scalpel in total thyroidectomy with lateral neck dissection results in shorter operative time, less postoperative lymphatic drainage, and decreased postoperative pain compared to the traditional clamp/tie technique.

Reviewer's Comments: This elegantly designed produced level 1 evidence in support of the harmonic scalpel over the clamp/tie technique for total thyroidectomy with lateral neck dissection. It provides an example of the highest level of evidenced based surgery available in our field - a prospective, randomized trial with both patient and observer blinded to treatment group. The authors provide a thorough description of the surgical technique as well as the statistical analysis and sample size calculation - which is often neglected. I commend the authors on a superb study producing the highest level of evidence in favor of the harmonic scalpel over the clamp/tie technique for thyroid and neck surgery.

Additional Keywords: Harmonic Scalpel

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Gene Expression Profiles in Oropharyngeal Cancer

Genomewide Gene Expression Profiles of HPV-Positive and HPV-Negative Oropharyngeal Cancer.

Lohavanichbutr P, Houck J, et al:

Arch Otolaryngol Head Neck Surg; 135 (February): 180-188

HPV-positive oropharyngeal cancer tissue differentially over express genes involved in cell division, DNA replications, DNA repair, and cell cycling.

Background: One new development in the field of oral cavity and oropharyngeal squamous cell carcinoma (OSCC) has been the critical etiological role of human papillomavirus (HPV). There are a number of known risks factors for OSCC including cigarette smoking and betel quid chewing. Rather recently, researchers have found high-risk HPV infections associated with OSCC. Their data have shown a distinct difference between HPV-positive OSCC patients and HPV-negative OSCC patients, particularly in their responsiveness to nonsurgical treatments.

Objective: To compare gene expression profiles between HPV-positive and HPV-negative OSCC study participants.

Methods: Tissue samples were obtained from 119 patients with primary OSCC and from 35 patients without cancer. An Affymetrix U133 plus 2.0 array was used to analyze gene expression profiles of both normal and OSCC tissue. Polymerase chain reaction and Roche LINEAR ARRAY HPV Genotyping test were chosen to detect HPV DNA. The Ingenuity Pathway Analysis Software analyzed gene expression to compare their individual biological functions. Both high-risk HPV as well as low risk HPV genes were screened.

Results: From the 119 tumors specimens collected, 41 tested positive for HPV DNA. In addition, 2 normal tissue samples tested positive for HPV DNA. Of 43 HPV-positive samples (both cancer and normal), 39 were HPV-16. There was a higher incidence of oropharyngeal cancer (23 of 31) compared to that of oral cavity cancer (18 of 88). There was no statistical difference in gene expression between HPV-positive and HPV-negative oral cavity cancer; however, there were 446 probe sets (347 published genes) differentially expressed in HPV-positive oropharyngeal cancer compared to HPV-negative oropharyngeal cancer. The most pronounced roles of these genes are their participation in cell cycling, DNA replication, and DNA repair. Some of these genes are associated with radiation and chemotherapy sensitivity.

Conclusions: Data presented here suggest that differences in gene expression in HPV-positive and HPV-negative oropharyngeal cancer may be advantageous to customizing patient management of both tumor types.

Reviewer's Comments: We currently appreciate that HPV associated squamous cell carcinoma antigens (SCCAs) are prominent in the oropharynx, and most cancer centers test for HPV status, if possible. Solid epidemiological data and retrospective analysis from various cancer centers showed that HPV associated oropharyngeal SCCA's are quite responsive to chemoradiotherapy. HPV enhance cell division by the expression of E6 and E7 oncoprotein that inactivate retinoblastoma and p53 gene product. So the findings that HPV positive cancer cells upregulate genes that are involved in DNA replication, DNA repair, and cell cycling is not surprising. What is interesting is that some genes that are associated with resistance to 5-FU and taxanes are also upregulated. Differential expression level of a single gene and their responsive to a single chemotherapeutic agent remains to be determined. This report, however, reminds us that HPV screening for oropharyngeal cancers is important.

Additional Keywords: Genotype

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Early Tracheotomy May Be Beneficial in Elderly Pts

Early Tracheotomy in Elderly Patients Results in Less Ventilator-Associated Pneumonia.

Schneider GT, Christensen N, Doerr TD:

Otolaryngol Head Neck Surg; 140 (February): 250-255

Tracheotomy performed early can reduce ventilator associated pneumonia and reduce the hospitalization stay

Background: Ideal timing of tracheotomy remains a challenging question for physicians as there are many risks associated with it.

Objective: To establish a time frame for tracheotomy in elderly patients in order to prevent ventilator-associated pneumonia, morbidity, and mortality.

Design: Historical cohort study.

Methods: There were 158 intensive care unit (ICU) patients aged 65 years. Study participants underwent tracheotomy from March 2003 to June 2007. Physicians collected and analyzed patient demographics, outcomes, and ventilation data.

Results: Early tracheotomy group consisted of 43 patients that were intubated for 7 consecutive days. Late group consisted of 115 patients who received their tracheotomy after >1 week on the ventilator. There was not a considerable difference in demographics between the 2 groups, however there was a noteworthy statistical significant lower rate of ventilator-associated pneumonia in the early versus the late group ($P < 0.001$). There were more intubations per patient ($P < 0.001$), a lower total ICU admission time ($P < 0.001$), and a reduction in total hospital time in the early tracheotomy group compared to that of the late tracheotomy group. Additionally, even though clinicians found no statistical difference in mortality, there was a "trend" of lower mortality in the early group versus the late group.

Conclusions: This study suggests that early tracheotomy in elderly patients is coupled with a decrease in ventilator-associated pneumonia, more frequent intubations, a reduction of total admission time, and a trend toward lower mortality.

Reviewer's Comments: This retrospective chart analysis at a single institution investigates for any value in tracheotomy performed within 7 days when the expectations are high that the patient will require prolonged intubation. The literature has conflicting data with respect to benefits to patients in regards to early tracheotomy. For obvious reasons, early tracheotomy can reduce the ICU stay and the hospitalization time for the patient, so insurance companies may side in favor of early rather than late. However, the benefits to the patient for early tracheotomy are not so clear. This is a solid study showing that early tracheotomy can reduce ventilator-associated pneumonia, a severe consequence of long term intubation and ventilation. The primary criticism, of course, is the retrospective nature of this study, and so it was difficult to account for selection bias. Regardless, this paper suggests early tracheotomy may reduce ventilator-associated pneumonia.

Additional Keywords: Ventilatory Dependence

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Understanding the Relationship Between URI and Otitis Media

Rate of Concurrent Otitis Media in Upper Respiratory Tract Infections With Specific Viruses.

Alper CM, Winther B, et al:

Arch Otolaryngol Head Neck Surg; 135 (January): 17-21

For rhinovirus related vUTRI, 50% had coincident otitis media with cold like illness, while 32% had no cold like illness.

Background: Most patients who present to us for new onset acute otitis media (OM) or upper respiratory infectious (URI) disease are due to viral etiology. Patients with a new occurrence of OM will usually have a concurrent viral upper respiratory tract infection (vURTI) about 50% of the time; however there are inconsistent data regarding the relationship of specific viruses with OM episodes, as well as the relationship between URI with OM.

Objective: To investigate the correlation of new onset OM and cold-like illness (CLI) with nasopharyngeal detection of various viruses by polymerase chain reaction (PCR).

Design/Participants/Methods: A prospective, longitudinal study starting from 213 children aged 1 to 5 years with initial presentation of CLI. Follow-up for CLI included a diary, weekly pneumatic otoscopy for assessment of middle ear status, and PCR to analyze coincident vURTI.

Results: 176 participants had 1 virus detected through PCR. Coincidence rates for OM detected were 44% for rhinovirus, 56% for respiratory syncytial virus, 39% for coronavirus, 73% for influenza A, 20% for influenza B, 50% for adenovirus, and 36% for parainfluenza virus. Of those infected with rhinovirus, 50% with and 32% without a concurrent CLI were associated with OM. In addition, the risk of new OM in these individuals was predicted by assessment of their daily environment as well as their OM and breast feeding history.

Conclusion: Nasopharyngeal detection of all viruses tested in this study was associated with new OM regardless of concurrent CLI. Rate of occurrence among the viruses assayed was not statistically significant.

Reviewer's Comments: Understanding the relationship between URI, otitis media, and its associated etiology can be useful for otolaryngologist, so this report first separates the broad category of URI as CLI that is the clinical presentation and vURTI as CLI with known viral etiology. However, despite their heroic efforts, the findings are not very clear, except for rhinovirus related URI. For 134 subjects identified with rhinovirus vURTI with all the pertinent clinical data present, 24% were not associated with either CLI or OM, 13% only had OM without CLI, 31% only had CLI without OM, and 31% had both. If we can extrapolate these data, a take home message is that most new OM are coincident with a rhinovirus vURTI. Although coincidence rate for RSV and influenza viruses were high, the absolute number of detection level of these viruses were low (13%).

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Single Vs Multiple Rows of Staples for Endoscopic Zenker Repair

Endoscopic Stapling of Pharyngeal Pouch: A 10-Year Review of Single Versus Multiple Staple Rows.

Roth JA, Sigston E, Vallance N:

Otolaryngol Head Neck Surg; 140 (February): 245-249

Multiple stapling of the common wall for endoscopic repair may be associated with higher rates of complications and longer hospitalization.

Background: Endoscopic stapling has gained approval for treating Zenker diverticulum. Endoscopic stapling is a minimally invasive procedure that divides the wall of the pharyngeal pouch. Frequently, there are cases in which a single row of staples is insufficient at completely dividing the common wall, particularly at the inferior aspect of the common wall. As a result, multiple rows will be applied.

Objective: To contrast effects of endoscopic stapling of pharyngeal pouches with single versus multiple rows of staples.

Design/Participants: Retrospective, 10 year review of the medical records of 38 patients that had endoscopic stapling of pharyngeal pouches.

Methods/Results: Patients that had single row stapling of the pharyngeal pouch were less likely to experience postoperative leak (36% vs 0%, $P < 0.05$), they had a reduction in total hospital time, and they were able to return to both clear fluids and a solid diet ($P < 0.05$) quicker than those patients that underwent stapling with multiple rows. There were however, no differences in patient satisfaction or rate of recurrence among the 2 groups.

Conclusions: Data from this study suggest that even though multiple rows of stapling may be used for complete division of the common wall, it substantially increases the rate of esophageal or pouch perforation.

Reviewer's Comments: The problem with endoscopic Zenker repair is that the instrument used for Zenker was not designed for Zenker repair. There are stapling device designed specifically for Zenker to accommodate the distal common wall shelf that persists after the initial stapling. Others have reported using retention sutures to bring the distal end of the common wall to a more proximal position prior to stapling. Many who perform endoscopic Zenker repair have performed multiple stapling to make their surgery "perfect". This report suggests that such multiple stapling increases the chance of perforation. One criticism is that this retrospective review followed a 10-year course of surgeries, and it is unclear whether any other variables were controlled, such as the size of the pouch and preoperative morbidity. Larger diverticulum tended to have more stapling, but it is unclear whether it is the size with tenuous mucosa, or the multiple stapling, or a combination of both. There are reports that smaller pouches have more complication rates, including perforations. Regardless, this paper demonstrates that overaggressive stapling may be counterproductive, and that staged endoscopic Zenker repair is a good option.

Additional Keywords: Endoscopic

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Surgical Tx for Oropharynx Carcinoma Can Be Effective

Outcomes of Primary Surgical Treatment of T1 and T2 Carcinomas of the Oropharynx.

Moncrieff M, Sandilla J, et al:

Laryngoscope; 119 (February): 307-311

Primary surgical treatment is an effective option for selected early-stage primary cancers of the oropharynx.

Background: Treatment of oropharyngeal cancers has trended recently to the use of primary radiotherapy with or without chemotherapy. These treatment modalities have been found to be effective for low-volume tumors and are thought to spare some of these patients from the functional deficits associated with surgical resection. Yet, radiotherapy and chemotherapy are also associated with considerable morbidity, including mucositis, xerostomia, speech and swallowing deficits, osteoradionecrosis, and need for gastrostomy feeding.

Objective: To present the results of a cohort of patients with T1 and T2 carcinomas of the oropharynx treated with primary surgical management with or without adjuvant radiotherapy.

Design/Participants: A retrospective, nonrandomized analysis of the therapeutic results of 92 patients with early stage oropharyngeal carcinoma treated with primary surgical management at a single institution.

Methods/Results: Surgical approach was evenly distributed, with approximately half of tumors reached via transoral approach, and half via lip-split/mandibulotomy. Approximately 50% of patients required reconstruction using free tissue transfer. Of patients, 76% also underwent either elective or therapeutic neck dissection and 62% received adjuvant radiotherapy based on histopathological findings. Overall 5-year local control rate was 87%. Overall 5-year regional control rate was 93%, with advanced stage (N3) neck disease associated with poorer prognosis. Overall 5-year disease-specific survival for all patients in the study was 83%. Again, prognosis was poorer for advanced stage neck disease. There was no difference in survival between patients receiving surgery alone and those receiving surgery and adjuvant radiotherapy.

Conclusions: This study shows high rates of locoregional control and disease-specific survival for oropharyngeal carcinomas treated with primary surgical management with or without adjuvant radiotherapy. In the present study, 39% of patients were treated with surgery alone, and the use of primary surgery permitted a reduced radiotherapy dose for those patients who received adjuvant radiotherapy.

Reviewer's Comments: The current study establishes primary surgical management as an option for treatment of early stage oropharyngeal carcinoma. This is in agreement with a limited number of other studies comparing surgery with or without radiotherapy versus radiotherapy alone. One limitation of the study, which was addressed by the authors, is that no quality-of-life data was obtained as part of the follow-up period. Since chemoradiation has largely been advocated based on the hope that it may reduce functional compromise and other morbidities, this data would obviously be quite useful. However, other studies have addressed this to some degree, and have largely found limited differences in functional outcome for both treatment modalities. Since there continues to be no firm consensus regarding the appropriate treatment of early stage oropharyngeal carcinoma, a randomized controlled trial comparing surgery and chemoradiation treatment modalities with quality-of-life data will hopefully be forthcoming.

Additional Keywords: Surgery

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