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Abstract Selection

Proton beam stereotactic radiosurgery of vestibular schwannomas. Harsh, G. R., Thornton, A. F., Chapman, P. H., Bussiere, M. R., Rabinov, J. D., Loeffler, J. S. Department of Radiation Oncology, Stanford University Medical Center, 300 Pasteur Drive, R227, Stanford, CA 94305, USA. Gharsh@stanford.edu. *International Journal of Radiation Oncology, Biology, Physics* (2002) September 1, Vol. 54 (1), pp. 35–44.

PURPOSE: The proton beam's Bragg peak permits highly conformal radiation of skull base tumors. This study, prompted by reports of transient (30 per cent each) and permanent (10 per cent each) facial and trigeminal neuropathy after stereotactic radiosurgery of vestibular schwannomas with marginal doses of 16–20 Gy, assessed whether proton beam radiosurgery using a marginal dose of only 12 Gy could control vestibular schwannomas while causing less neuropathy. METHODS AND MATERIALS: Sixty-eight patients (mean age 67 years) were treated between 1992 and 1998. The mean tumor volume was 2.49 cm^3. The dose to the tumor margin (70 per cent isodose line) was 12 Gy. The prospectively specified follow-up consisted of neurologic evaluation and MRI at six, 12, 24 and 36 months. RESULTS: After a mean clinical follow-up of 44 months and imaging follow-up of 34 months in 64 patients, 35 tumors (54.7 per cent) were smaller and 25 (39.1 per cent) were unchanged (tumor control rate 94 per cent; actuarial control rate 94 per cent at two years and 84 per cent at five years). Three tumors enlarged: one shrank after repeated radiosurgery, one remained enlarged at the time of unrelated death, and one had not been imaged for four years in a patient who remained asymptomatic at last follow-up. Intratumoral hemorrhage into one stable tumor required craniotomy that proved successful. Thus, 97 per cent of tumors required no additional treatment. Three patients (4.7 per cent) underwent shunting for hydrocephalus evident as increased ataxia. Of six patients with functional hearing ipsilaterally, one improved, one was unchanged, and four progressively lost hearing. Cranial neuropathies were infrequent: persistent facial hypesthesia (two new, one exacerbated; 4.7 per cent); intermittent facial paresthesias (five new, one exacerbated; 9.4 per cent); persistent facial weakness (two new, one exacerbated; 4.7 per cent) requiring oculoplasty; transient partial facial weakness (five new; one exacerbated; 9.4 per cent), and synkinesis (five new, one exacerbated; 9.4 per cent). CONCLUSION: Proton beam stereotactic radiosurgery of vestibular schwannomas at the doses used in this study controls tumor growth with relatively few complications.

Frequency of Epstein-Barr virus-specific cytotoxic T lymphocytes in the blood of Southern Chinese blood donors and nasopharyngeal carcinoma patients. Whitney, B. M., Chan, A. T. C., Rickinson, A. B., Lee, S. P., Lin, C. K., Johnson, P. J. Hong Kong Cancer Institute, Prince of Wales Hospital, Chinese University of Hong Kong, Shatin, N.T. Hong Kong SAR, People's Republic of China. brucemwhitney@cuhk.edu.hk. *Journal of Medical Virology* (2002) July, Vol. 67 (3), pp. 359–63.

Undifferentiated nasopharyngeal carcinoma is very common among Southern Chinese. While most patients have the disease detected and treated early, those who are diagnosed with advanced stages face a poor prognosis. Nasopharyngeal carcinoma is associated with latent Epstein-Barr virus (EBV); it was suggested previously that a cytotoxic T-lymphocyte (CTL)-based therapy targeting EBV proteins may offer a possible new form of treatment for this disease. The most likely target of this treatment is latent membrane protein 2 (LMP2). To define further the preexisting level of anti-EBV immunity in Chinese subjects, the frequency of peripheral blood mononuclear cells (PBMCs) responding to peptide epitopes was determined using an ELISPOT assay in 50 healthy control blood donors and in 26 patients newly diagnosed with nasopharyngeal carcinoma. A total of seven LMP2, two LMP1, one EBNA3A, and one EBNA3B epitopes were used in a HLA-restricted manner. As reported previously for healthy virus carriers in western countries, it was found that in both groups the strongest responses were to epitopes in the EBNA proteins with weaker responses to the LMP epitopes. It was found that LMP2 epitopes were recognized in a greater percentage of both groups than previously reported, due most likely to the greater sensitivity of the ELISPOT method. However, patients with nasopharyngeal carcinoma demonstrated a weaker response than that displayed by healthy control subjects to several epitopes. The results demonstrate that LMP2 epitopes are recognized widely in an HLA-restricted manner in patients with nasopharyngeal carcinoma and that immunotherapy to boost preexisting immunity to these epitopes may offer a viable method to treat such patients or to protect against recurrence.

Selective peripheral denervation for spasmodic torticollis: 13-year experience with 155 patients. Braun, V., Richter, H. P. Department of Neurosurgery, University of Ulm, Guenzburg, Germany. veit.braun@medizin.uni-ulm.de. *Journal of Neurosurgery* (2002) September, Vol. 97 (2 Suppl), pp. 207–12.

OBJECT: Botulinum toxin injections are the best therapeutic option in patients with spasmodic torticollis. Although a small number of patients do not benefit from such therapy, the majority respond well but may develop antibodies to the toxin after repeated applications. In those termed primary nonresponders, no improvement related to botulinum toxin has been shown In patients in whom no response was shown and those in whom resistance to the therapy developed, selective peripheral denervation is a neurosurgical option. METHODS: Between June 1988 and August 2001, 155 patients underwent selective peripheral denervation. Surgery was performed at a mean of 8.5 years after the onset of symptoms (range 0.5–37 years). The mean age of the patients at the onset of dystonia was 39.7 years (range 17–77 years). For evaluation of results, patients' responses were assessed. Results were obtained in 140 patients in whom the follow-up period ranged from three to 124 months (mean 32.8 months): 18 reported complete relief of their symptoms, 50 significant relief, and 34 moderate relief, 19 noted only minor relief and the remaining 19 no improvement. The results differ substantially when compared with those previously demonstrated in patients who received botulinum toxin injections. Although 80 per cent of the secondary nonresponders considered the operation helpful. There were no major side effects. The recurrence rate was 11 per cent. CONCLUSIONS: The injection of botulinum toxin should be the first-choice treatment. If surgery is required, selective peripheral denervation provides the best results and has the fewest side effects compared with all surgical options.

Vestibular rehabilitation outcomes in patients with a history of migraine. Wrisley, D. M., Whitney, S. L., Furman, J. M. Department of Otolaryngology, School of Medicine, University of Pittsburgh, 6035 Forbes Tower, Pittsburgh, PA 15260, U.S.A. *Otology and Neurotology* (2002) July, Vol. 23 (4), pp. 483–7.

OBJECTIVES: The purpose of this study was to assess the efficacy of physical therapy for patients with vestibular disorders with and without a history of migraine headaches. STUDY DESIGN: Retrospective case series. SETTING: Outpatient physical therapy clinic. PATIENTS: Thirty patients with both a history of migraine and a diagnosis of vestibular/balance disorder considered unrelated to migraine were identified by retrospective chart review. Thirty patients without a history of migraine, matched retrospectively by diagnosis, vestibular function, and age (± five years), were used as a comparison group. INTERVENTIONS: Both groups were treated with a custom-designed physical therapy program for a mean of 4.1 visits over a mean of 3.3 months. MAIN OUTCOME MEASURES: Patients completed the Dizziness Handicap Inventory, the Activities-Specific Balance Confidence Scale, the Dynamic Gait Index, and the Timed Up Go Test and rated the severity of their dizziness on an

analog scale of 0 to 100. RESULTS: Significant differences were demonstrated within both groups between initial evaluation and discharge in each of the assessment measures used. Patients with a history of migraine demonstrated worse scores on all outcome measures than did the patients without a history of migraine. There were no statistically significant differences between the two groups' scores before and after therapy except for the total Dizziness Handicap Inventory score at discharge (p 0.05). CONCLUSIONS: Patients with vestibular disorders with or without a history of migraine demonstrated improvements in both subjective and objective measures of balance after physical therapy. Patients with a history of migraine perceived a greater handicap from dizziness than did patients without a history of migraine that was greater than the difference in physical function performance measures between groups.

Acoustic neuroma management: an evidence-based medicine approach. Nikolopoulos, T. P., O'Donoghue, G. M. Skull Base Unit, Department of Otorhinolaryngology, Queen's Medical Center, University Hospital, Nottingham NG7 2UH, UK. *Otology and Neurotology* (2002) July, Vol. 23 (4), pp. 534–41.
BACKGROUND: Partisan claims supporting the use of microsurgical resection, radiologic surveillance, and radiosurgery in acoustic neuroma management appear widely in the published literature. However, the strength of the evidence supporting these claims has not been assessed, and the management of acoustic tumors continues to be controversial. METHODS: The English-language medical literature for the past 23 years was searched for articles dealing with outcomes after acoustic neuroma management. The quality of evidence in each article was classified according to the categories of evidence as defined by a standard appraisal instrument for clinical guidelines. RESULTS: The search produced 111 articles reporting outcomes after acoustic neuroma management. From the 111 studies, 78 (70.3 per cent) concerned surgery, 20 (18 per cent) concerned radiosurgery, nine (8.1 per cent) concerned radiologic surveillance, and four (3.6 per cent) compared different methods of management. From these studies, 95 (85.6 per cent) represented Type III evidence, six (5.4 per cent) represented Type IV evidence, and in 10 (nine per cent) a clear-cut definition between Type III and Type IV could not be made. No study was supported the various methods of acoustic neuroma management is of low quality (Type III or Type IV evidence). Well-designed comparisons between treatment methods do not exist, and therefore claims by clinicians favouring a particular treatment are unfounded. Better quality of evidence from large, well-designed, randomized clinical trials should now be undertaken at the points of clinical equipoise to address the true merits of each modality of acoustic neuroma management.

Birth weight and hearing impairment in norwegians born from 1967 to 1993. Nafstad, P., Samuelsen, S. O., Irgens, L. M., Bjerkedal, T. Division of Epidemiology, Norwegian Institute of Public Health, Oslo, Norway. per.nafstad@fhi.no. *Pediatrics* (2002) September, Vol. 110 (3), pp. e30.
OBJECTIVES: To estimate the association between birth weight and hearing impairment among Norwegians born between 1967 and 1993, taking other pregnancy-related conditions into consideration. METHODS: A cohort study was conducted of all Norwegian live births from 1967 to 1993 (n = 1 548 429) linking information of the Medical Birth Registry of Norway and the register for the National Insurance Administration, which covers all Norwegians. The Medical Birth Registry of Norway has recorded information on birth weight and other pregnancy-related conditions as well as diseases of the mother before and during pregnancy. The register of the National Insurance Administration contains information on all Norwegians who have received cash benefits for a disease/disability, including hearing impairment. Data up to 1997 are included; thus, the follow-up period varies between 29 and three years. RESULTS: The occurrence of hearing impairment was 11 per 10 000, decreasing from 60 per 10 000 for birth weights 1500 g to six per 10 000 for birth weights >4499 g. Compared with birth weights between 3000 g and 3499 g, the adjusted rate ratio of hearing impairment was 7.55 (95 per cent confidence interval: 4.81–11.87) for birth weights 1500 g and 0.50 (95 per cent confidence interval: 0.34–0.73) for birth weights >4499 g. The association did not change substantially with adjustment for other pregnancy-related conditions. Restricting the analyses to term born, the association between hearing impairment and low birth weight became stronger. CONCLUSIONS: Birth weight was a strong predictor of hearing impairment in the Norwegian population. Children who were born at term with a low birth weight seemed to be a particularly vulnerable group.

Bilateral vocal cord dysfunction complicating short-term intubation and the utility of heliox. Christopher, K., Arbelaez, C., Yodice, P. C. The Miriam Hospital, Division of Critical Care Medicine, Providence, RI 02906, USA. *Respiration; International Review of Thoracic Diseases* (2002), Vol. 69 (4), pp. 366–8.
Bilateral vocal cord paralysis is an extremely rare complication of short-term endotracheal intubation. Its etiology following intubation is likely due to recurrent laryngeal nerve injury on intubation. The anterior ramus of the recurrent laryngeal nerve is especially susceptible to pressure injury in intubated patients. Heliox is reported as a successful means of decreasing the work of breathing in upper airway obstruction via decreases in airway resistance. Two cases of bilateral vocal cord dysfunction following short-term intubation are reported. The first case of bilateral vocal cord paresis treated with Heliox is described.

Abscess tonsillectomy for acute peritonsillar abscess. Knipping, S., Passmann, M., Schrom, Th, Berghaus, A. Martin Luther University Halle Wittenberg, Department of Otorhinolaryngology, Head and Neck Surgery, Magdeburger Str. 12, D-06097 Halle/Saale, Germany. *Revue de laryngologie – otologie – rhinologie* (2002), Vol. 123 (1), pp. 13–6.
Peritonsillar abscess (PTA) is a common but potentially serious complication of acute exudative tonsillitis. Several treatment guidelines have been described including needle aspiration, incision and drainage or abscess tonsillectomy. From January 1996 to September 2000 145 patients (53 female and 92 male, age range three to 95 years) were treated for PTA at the Department of Otorhinolaryngology, Head and Neck Surgery of the MLU Halle-Wittenberg, Germany. The highest incidence of PTA was observed in the second and third decades of life. Immediate abscess tonsillectomy was performed in 105 cases. This procedure, considered as safe and easy, has a lot of advantages. Compared with other treatments, it removes the abscess with amelioration of the trismus and dysphagia. Needle aspiration as the initial and only treatment was performed in 13 patients. In 20 patients without clinical improvement after aspiration, abscess tonsillectomy was undertaken. We conclude that immediately performed abscess tonsillectomy is an effective and safe treatment for peritonsillar abscess.

Fiberoptic laryngeal surgery for vocal process granuloma. Hirano, S., Kojima, H., Tateya, I., Ito, J. Department of Otolaryngology--Head and Neck Surgery, Graduate School of Medicine, Kyoto University, Japan. *The Annals of Otology, Rhinology and Laryngology* (2002) September, Vol. 111 (9), pp. 789–93.
We developed a technique of fiberoptic laryngeal surgery for the treatment of vocal process granulomas. In this system, the granuloma can be removed relatively easily and repeatedly under topical anesthesia on an outpatient basis. We treated 27 patients for a total of four intubation granulomas and 23 contact granulomas. Ten of the 23 contact granulomas recurred after the initial surgery, but the intubation granulomas did not recur. Most of the recurrent lesions were resolved by fewer than three procedures, and all patients were finally cured. Although conservative therapies such as voice therapy and proton pump inhibitors have recently prevailed, surgical removal remains useful in treating vocal process granulomas. Fiberoptic laryngeal surgery facilitates repeated surgical procedures.

MRI of cochlear otosclerosis. Goh, J. P. N., Chan, L. L., Tan, T. Y. Department of Diagnostic Radiology, Tan Tock Seng Hospital, Department of Diagnostic Radiology, Singapore General Hospital and Department of Radiology, Changi General Hospital, Singapore. *The British Journal of Radiology* (2002) June, Vol. 75 (894), pp. 502–5.
Cochlear otosclerosis is an uncommon cause of mixed and sensorineural hearing loss. This has a characteristic appearance on CT, producing a distinctive pericochlear hypodense double ring. However, its appearance on MRI is not as readily appreciated, producing a ring of intermediate signal in the pericochlear and perilabyrinthine regions on T_1 weighted images,

demonstrating mild to moderate enhancement after gadolinium administration. Increased signal on T_2 weighted images may also be seen. Recognition of these MRI features is important as MRI may be the first modality of investigation, especially when patients present with symptoms indicative of sensorineural hearing loss. We review four patients who presented with sensorineural hearing loss, and who were imaged with MRI as the first line of investigation.

Electrosurgery for tonsillectomy. Maddern, B. R. Wolfson Children's Hospital and the University of Florida, Jacksonville, Florida 32207, USA. bmaddern@bellsouth.net. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 2), pp. 11–3.
OBJECTIVE: To describe the electrophysical principles, techniques, and morbidity associated with electrosurgical tonsillectomy. STUDY DESIGN: Review. METHODS: In electrosurgery, radiofrequency energy is applied directly to tissues to generate heat. Electrosurgery devices are radiofrequency generators coupled with application handpieces. The most common electrosurgery techniques are the monopolar blade, monopolar suction, bipolar, and microscopy-assisted procedures. Several studies have compared electrosurgery with other methods for performing tonsillectomy. RESULTS: Electrosurgery has been found to be equivalent to or better than other methods used for tonsillectomy with respect to perioperative and delayed bleeding, postoperative pain, operating time, and time to return to normal activity. CONCLUSION: Several safe and effective techniques are available for tonsillectomy, including electrosurgery. The choice of method depends on the surgeon's training, comfort with the technology, experience, and impressions concerning morbidity.

Opening plugged tympanostomy tubes. Westine, J. G., Giannoni, C. M., Gajewski, B., Antonelli, P. J. Department of Otolaryngology, University of Florida, Gainesville, Florida 32610, USA. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1342–5.
OBJECTIVE: To determine the most effective solvents for dissolving plugged tympanostomy tubes. STUDY DESIGN: In vitro laboratory study. METHODS: Twelve solvents (including ototopical antibiotics and water) were applied to fluoroplastic tympanostomy tubes (n = 260) plugged with dried mucoid middle ear effusion in an ear canal-tympanic membrane model. Time to clearance of the tympanostomy tubes was both visually and tympanometrically determined. RESULTS: Vinegar ($p = 0.0030$) and hyaluronidase solutions ($p = 0.0030$) were significantly better solvents than water. CONCLUSION: Vinegar and hyaluronidase solutions are more likely to clear plugged tympanostomy tubes than water and ototopical antibiotics, but vinegar is the preferred solution because of its known relative safety for use in the ear.

Sinonasal papillomas: clinicopathologic review of 40 patients with inverted and oncocytic schneiderian papillomas. Kaufman, M. R., Brandwein, M. S., Lawson, W. Departments of Otolaryngology, Mount Sinai School of Medicine, New York, New York 10029, USA. Kaufmanmatthew@hotmail.com. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1372–7.
OBJECTIVE: To evaluate the pathological features and variations of sinonasal inverted and oncocytic papillomas and correlate the microscopic findings with the clinical behaviour. STUDY DESIGN: A retrospective review and pathological assessment. METHODS: A retrospective review and pathological assessment were performed on 40 patients with a diagnosis of inverted papilloma treated by the senior author (w.l.) between 1994 and 2001. RESULTS: Forty cases were identified and reviewed. Seven patients developed recurrences (18 per cent), and four underwent malignant transformations (10 per cent). Pathological assessment revealed 34 (85 per cent) inverted papillomas and six (15 per cent) oncocytic schneiderian papillomas. Dysplasia was present in 26 cases (65 per cent), including nine cases (22 per cent) of high-grade dysplasia (moderate to severe). Metaplasia of the sinonasal mucosa adjacent to inverted papillomas and oncocytic schneiderian papillomas was seen in 18 (45 per cent) cases. Recurrence developed in two patients with oncocytic schneiderian papillomas (33 per cent) and five patients with inverted papillomas (15 per cent). Four cases (10 per cent) of carcinoma ex papilloma were seen; one arose from oncocytic schneiderian papilloma (17 per cent) and three arose from inverted papilloma (nine per cent). Oncocytic schneiderian papilloma was more often mixed with typical inverted papilloma, rather than presenting in its pure form. CONCLUSIONS: Although oncocytic schneiderian papilloma is uncommon relative to inverted papilloma, the results suggest that they have higher rates of both recurrence and malignant transformation. The common admixture of oncocytic schneiderian papilloma with inverted papilloma speaks for a common etiological factor of these two lesions. A larger number of cases for analysis would be necessary to confirm the trend noted in our data. Nonetheless, pathological findings consistent with oncocytic schneiderian papilloma should be explicit in any classification system and justify aggressive treatment and careful postoperative surveillance.

A method to repair auricular defects after perichondrial cutaneous grafting. Stucker, F. J., Sanders, K. W. Department of Otolaryngology–Head and Neck Surgery, Louisiana State University, Shreveport, Louisiana 71130, USA. fstuck@lsuhsc.edu. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1384–6.
OBJECTIVE: To describe and illustrate the technique for closing the auricular bowl defect after perichondrial cutaneous grafting. The postauricular flip-flop flap is used for this purpose. STUDY DESIGN: A retrospective clinical study of 354 patients using the perichondrial cutaneous graft for various reconstructions of the face and then performing the postauricular flip-flop flap procedure. METHODS: The perichondrial cutaneous graft is a reliable, versatile graft that possesses unique properties for reconstructive surgery of the face. The postauricular flip-flop flap is our particular technique for closure of the donor site wound after using the perichondrial cutaneous graft. It is a relatively simple procedure that has predictable results. We used this technique in patients ranging in age from seven days to 92 years and noted excellent cosmetic results and rare complications. RESULTS: Two patients had failure of the perichondrial cutaneous graft. Two patients had partial necrosis of the postauricular flip-flop flap. Two patients had dehiscence of the postauricular closure. CONCLUSION: The postauricular flip-flop flap is a reliable method to repair the donor site after perichondrial cutaneous grafting.

Perspectives in laryngopharyngeal reflux: an international survey. Book, D. T., Rhee, J. S., Toohill, R. J., Smith, T. L. Department of Otolaryngology and Communication Sciences, Medical College of Wisconsin, Milwaukee, Wisconsin 53226, USA. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1399–406.
OBJECTIVES: Although data exists to support the relationship between laryngopharyngeal reflux (LPR) and laryngitis, there is variability among otolaryngologists regarding the methods and criteria used to make the diagnosis. This study was undertaken to discern the current attitudes and practices of a select cohort of otolaryngologists in regards to LPR. METHODS: Four hundred fifteen surveys were mailed to members of the American Broncho-Esophagological Association. Survey recipients were asked to rate patient symptomatology and physical examination findings in terms of their relationship to LPR and their preferred laryngeal visualization procedure in terms of clinical use and diagnostic accuracy. The role and validity of adjunctive diagnostic tests were also surveyed. RESULTS: Survey response rate was 38 per cent. Symptoms felt to be most related to reflux were: throat clearing (98.3 per cent), persistent cough (96.6 per cent), heartburn/dyspepsia (95.7 per cent), globus sensation (94.9 per cent), and voice quality change (94.9 per cent). The physical examination findings felt to be most related to reflux included: arytenoid erythema (97.5 per cent), vocal cord erythema (95.7 per cent) and edema (95.7 per cent), posterior commissure hypertrophy (94.9 per cent) and arytenoid edema (94.0 per cent). Fiberoptic laryngoscopy was the most commonly performed diagnostic visualization procedure (75.7 per cent) and was also considered to be most sensitive and specific (45.0 per cent). The most commonly ordered adjunctive test was a double pH probe (37.2 per cent), which was also felt to be the most sensitive and specific adjunctive test (75.9 per cent). CONCLUSION: A polling of a select group of otolaryngologists demonstrated agreement in the criteria used to diagnose reflux laryngitis, although some variability exists. The development of objective guidelines for the diagnosis of LPR is a critical initial step toward evaluating the manifestations and therapeutic interventions for this disease process.

Laryngeal collagen injection as an adjunct to medialization laryngoplasty. Hoffman, H., McCabe, D., McCulloch, T., Jin Sung, M., Karnell, M. Department of Otolaryngology–Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242, USA. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1407–13.
OBJECTIVES/HYPOTHESIS: Dysphonia associated with laryngeal paralysis may be identified in the short term postoperatively or may develop years after successful medialization laryngoplasty. In selected cases, laryngeal collagen injection permits further medialization of one or both vocal folds by small increments to improve phonation after medialization thyroplasty. The study seeks to determine whether collagen injections result in measurable improvements in voice quality and vocal function when offered to select patients who have received medialization thyroplasty. STUDY DESIGN: Retrospective review of patients charts and voice database. METHODS: Seven patients were treated with Zyderm II collagen using indirect mirror laryngoscopy and a curved injection apparatus. Changes in voice quality and function were assessed by comparing measures obtained before treatment (mean period, 5.6 d), shortly after treatment (mean period, 38.1 d), and in the long term after treatment (mean period, 226 d). RESULTS: Mean self-ratings of the patient, clinician's ratings, and objective measures demonstrated measurable improvement in vocal function after collagen injection. CONCLUSIONS: The office-based procedure offers a simple, efficient adjunct to open techniques of medialization laryngoplasty. Techniques of anesthesia, injection, and patient selection are discussed.

Intermittent pressure therapy of intractable Meniere's disease using the Meniett device: a preliminary report. Gates, G. A., Green, J. D. Jr. Department of Otolaryngology–Head and Neck Surgery, University of Washington School of Medicine, Seattle, Washington 98195-7923, USA. ggates@u.washington.edu. *The Laryngoscope* (2002) August, Vol. 112 (8 Pt 1), pp. 1489–93.
HYPOTHESIS: Treatment with the Meniett device, which applies intermittent micropressure pulses to the inner ear through a tympanostomy tube, is effective in controlling vertigo in people with intractable Meniere's disease. STUDY DESIGN: Short-term, preliminary descriptive report. METHODS: Ten patients with intractable vertigo despite adequate medical therapy elected to use the Meniett device. After placement of a standard tympanostomy tube, the patient self-administers the Meniett device three times daily. RESULTS: The follow-up ranged from three to 11 months with an average of eight months. All 10 patients responded to the therapy with vertigo control in nine of 10 and a 50 per cent reduction in the 10th case. There was a mean hearing gain of 6 dB, which was statistically significant. There were no major complications. Two subjects required tube reinsertion during the eight months of follow-up. CONCLUSIONS: Use of the Meniett device is an effective and safe option for people with intractable vertigo from Meniere's disease.

Impact of the endoscopic sinus surgical simulator on operating room performance. Edmond, C. V. Jr. Madigan Army Medical Center, Department of Surgery, University of Washington, Seattle, Washington, U.S.A. cedmond@sprynet.com. *The Laryngoscope* (2002) July, Vol. 112 (7 Pt 1), pp. 1148–58.
OBJECTIVES/HYPOTHESIS: The aim of this study is to evaluate an endoscopic sinus surgical simulator (ESS) as a training device and to introduce a methodology to assess its impact on actual operating room performance. STUDY DESIGN: Prospective evaluation of the endoscopic sinus surgical simulator as a trainer. METHODS: Ten junior and senior ear, nose and throat residents served as subjects, some of whom had prior training with the simulator. The evaluation team collected several measures, which were analysed for a statistical correlation, including simulator scores, operating room performance rating, ratings of videotaped operating room procedures, and surgical competency rating. RESULTS: These findings suggest the ESS simulator positively affects initial operating room performance across all measures as judged by senior surgeons rating anonymous videotapes of those procedures. The two simulation-trained residents were rated consistently better than the other two residents across all measures. These differences approached statistical significance for two items: anterior ethmoidectomy ($p = 0.06$; $p = 0.05$) and surgical confidence ($p = 0.09$; p 0.05). In addition, the three subjects with the highest overall scores on the competency evaluation also had three of the four highest cumulative simulation times. CONCLUSIONS: The endoscopic sinus surgical simulator is a valid training device and appears to positively impact operating room performance among junior otolaryngology residents.

Long-term follow-up of fat injection laryngoplasty for unilateral vocal cord paralysis. McCulloch, T. M., Andrews, B. T., Hoffman, H. T., Graham, S. M., Karnell, M. P., Minnick, C. Department of Otolaryngology–Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242-1078, U.S.A. Timothy_McCulloch@uiowa.edu. *The Laryngoscope* (2002) July, Vol. 112 (7 Pt 1), pp. 1235–8.
OBJECTIVE: The objective of the study was to evaluate the results of autologous fat injection laryngoplasty in the long-term management of unilateral vocal cord paralysis. STUDY DESIGN: A retrospective chart review and clinical voice re-evaluation of patients treated for unilateral vocal cord paralysis with autologous fat injection at the University of Iowa Hospitals and Clinics (Iowa City, IA) between May 1992 and September 1999. METHODS: The data analysed included patient demographics, early and long-term vocal outcomes, additional surgical treatments, and patient survival. RESULTS: Fifty patients were treated with fat injection laryngoplasty, which included 44 treated for unilateral vocal cord paralysis. Thirty-one of the patients had fat injection as their primary procedure for permanent voice restoration. Eight patients treated had preoperative and postoperative voice data available. Using the GRBAS subjective voice assessment scale (0, normal; three, severely abnormal), mean grade improved from 2.1 to 1.3 and breathiness improved from 1.4 to 0.5, at a mean period of 52 days. Thirteen of the 31 patients (41 per cent) required additional procedures to achieve acceptable vocal outcomes. The median time to failure for these patients was 163 days. The initial treatment failure rate at two years was 30 per cent, and the rate reached 45 per cent by four years. CONCLUSION: Although fat injection laryngoplasty reliably improves the voice over the short term, the long-term voice outcome is unpredictable. Additional surgeries to deal with subsequent vocal deterioration are common. The role of autologous fat injection laryngoplasty in the modern era is limited.

Risk factors for hearing loss in neonates: a prospective study. Kountakis, S. E., Skoulas, I., Phillips, D., Chang, C. Y. J. Department of Otolaryngology–Head and Neck Surgery, University of Virginia Medical School, Charlottesville, VA 22908-0713, USA. *American Journal of Otolaryngology* (2002) May to June, Vol. 23 (3), pp. 133–7.
OBJECTIVES: To identify potential risk factors for neonatal hearing loss that are not included in the current variables recognized by the Joint Committee on Infant Hearing (JCIH). METHODS: A series of consecutively born neonates with risk factors for hearing loss based on the 1994 JCIH registry were screened prospectively. There were 110 subjects with hearing loss and 636 subjects without hearing loss. Data collected as potential risk factors for infant hearing loss included not only those on the JCIH list but also others that we believed to be possibly significant. The infant hearing screening was performed on each subject using auditory brain stem testing. Statistical analysis of data was performed using the chi-square test. RESULTS: In addition to the variables listed by the JCIH, we identified 11 additional risk factors that were associated with hearing loss in our neonatal population. These are: length of stay in the intensive care unit, respiratory distress syndrome, retrolental fibroplasia, asphyxia, meconium aspiration, neurodegenerative disorders, chromosomal abnormalities, drug and alcohol abuse by the mother, maternal diabetes, multiple births, and lack of prenatal care. CONCLUSION: This study identifies 11 risk factors in addition to those currently on the high-risk registry published by the JCIH for neonatal hearing loss. The inclusion of these additional risk factors in neonatal screening programs may improve the detection rate of neonates with hearing loss. Further study will be needed to determine whether inclusion of these additional risk factors in a hearing screening program can provide an efficacious alternative to the use of universal infant screening.

The use of otic powder in the treatment of acute external otitis. Goldenberg, D., Golz, A., Netzer, A., Jochims, H. Z. Department of Otolaryngology–Head and Neck Surgery, Rambam Medical Center, and Technion Faculty of Medicine, Haifa, Israel. g.david@tx.technion.ac.il. *Journal of Otolaryngology* (2002) May–June, Vol. 23 (3), pp. 142–7.
BACKGROUND: Acute external otitis (AEO) is a painful condition that results as a secondary infection of macerated skin and subcutaneous tissues of the external auditory canal. The most commonly causative microorganisms are Pseudomonas aeruginosa and Staphylococcus aureus. Classic management strategies include moisture prevention, cleansing of the canal and administration of topical antimicrobial agents in drop form, such as aminoglycosides and quinolones, at times in combination with steroid solutions. The objective of this study was to evaluate and compare the efficacy of topical otic powder, tobramycin drops and ciprofloxacin drops in patients suffering from AEO. MATERIALS AND MEASURES: A randomized prospective trial was performed to determine the efficacy of Auricularum powder (dexamethasone 10 mg, oxytetracycline HCl 90,000 U, polymyxin B Sulfate 100,000 U, nystatin 1,000,000 U; Trima, Serolam Laboratories, Germany) compared with ciprofloxacin (Ciloxan, Alcon Laboratories, Fort Worth, TX) and tobramycin (Tobrex, Alcon Laboratories) drops for the treatment of AEO. One hundred twenty patients who presented with signs and symptoms of AEO were enrolled. Inclusion criteria were: AEO diagnosed by an otolaryngologist, patient age 18 years, no prior treatment with other drugs or systemic antibiotics, no sensitivity to any of the drugs used or their contents, and no perforation of the tympanic membrane. All patients were instructed to avoid moisture and wetness of the ear during the course of their treatment. After we received informed consent, a swab culture was taken, and the patient was randomly assigned topical treatment for 14 days. RESULTS: Eighty-six per cent of those treated with Auricularum powder were cured at day three to four after initial treatment. Seventy-seven per cent of those treated with ciprofloxacin drops, and fifty-six per cent of those treated with tobramycin were cured at that time. All 120 patients were cured by day 14. CONCLUSION: The results show that topical treatment with Auricularum powder is an effective and rapid method for the treatment of AEO. Ciloxan also was effective in the treatment of AEO and relieved symptoms quickly and efficiently in a short period of time. Tobrex was effective in treating AEO, but our results show that relief of symptoms was slower than with the other drugs.

Otalgia as the sole presenting manifestation of subdural hematoma. Zaidat, O. O., Ubogu, E. E. Department of Neurology, Case Western Reserve University School of Medicine, University Hospitals of Cleveland, and Louis Stokes Veterans Affairs Medical Center, Cleveland, OH 44106-5000, USA. ooz@po.cwru.edu. *American Journal of Otolaryngology* (2002) May–June, Vol. 23 (3), pp. 177–80.
A case is reported of a 57-year-old man with sudden development of nontraumatic left-sided otalgia without any localizing features on otolaryngologic or neurologic examinations. The condition persisted despite empirical antibiotic therapy and simple analgesics. A subsequent computed tomography of the head revealed a subacute left frontoparietal subdural hematoma that was confirmed on magnetic resonance imaging. Neurosurgical drainage was performed with complete symptom resolution. This case report illustrates a possible rare sole presenting manifestation of subdural hematoma. This condition should be considered early in cases of otalgia if no causes are deduced after extensive otolaryngologic evaluation.

Surgical management of gastroesophageal reflux and outcome after laryngectomy in patients using tracheoesophageal speech. Jobe, B. A., Rosenthal, E., Wiesberg, T. T., Cohen, J. I., Domreis, J. S., Deveney, C. W., Sheppard, B. Department of Surgery, Oregon Health Sciences University, Portland, OR, USA. Blair.Jobe@med.va.gov. *American Journal of Surgery* (2002) May, Vol. 183 (5), pp. 539–43.
BACKGROUND: Gastroesophageal reflux disease (GERD) is common in patients with head and neck carcinoma. The impact of laparoscopic fundoplication on laryngectomy patients with tracheoesophageal prostheses for voice restoration is unknown. METHODS: Nine laryngectomy patients who use tracheoesophageal speech underwent laparoscopic fundoplication for documented reflux. Preoperative and postoperative symptoms were recorded. Quality of speech was documented before and after fundoplication. RESULTS: Although 88 per cent of patients had resolution of GERD symptoms, all developed bloating and hyperflatulence. There was no difference in quality of esophageal speech after laparoscopic fundoplication. CONCLUSIONS: Fundoplication in laryngectomy patients that use tracheoesophageal speech eliminates symptoms of gastroesophageal reflux and resolves regurgitation associated prosthesis erosion. Although nearly all patients are satisfied with outcome, there is a high incidence of postfundoplication bloating and hyperflatulence that may be life limiting. Poor quality tracheoesophageal speech should not be used as an indication for antireflux surgery.

The Chinese herbal formulation biminne in management of perennial allergic rhinitis: a randomized, double-blind, placebo-controlled, 12-week clinical trial. Hu, G., Walls, R. S., Bass, D., Ramon, B., Grayson, D., Jones, M., Gebski, V. Department of Medicine, University of Sydney, Australia. *Annals of Allergy, Asthma & Immunology* (2002) May, Vol. 88 (5), pp. 478–87.
BACKGROUND: Herbal therapies have been widely used in allergic rhinitis (AR), but none have been shown to be effective in controlled scientific clinical trials. OBJECTIVE: The aim of this study was to test the effects of the Chinese herbal formulation Biminne in patients with moderate to severe perennial AR. METHODS: In a randomized, double-blind, placebo-controlled clinical trial, 58 patients were randomized to receive either Biminne capsules (n = 26) or placebo (n = 32) in doses of five capsules twice a day for 12 weeks. Main outcomes were measured by changes in symptom diaries, quality of life scores, patients' evaluations of improvement on visual analog scores and physicians' overall evaluation. Total serum immunoglobulin E was measured in all patients without knowledge of which group they were in. After one year we performed a randomized, double-blind, dose-response study in 22 patients who had previously received placebo. RESULTS: The trial outcomes evaluated by four instruments showed a statistically significant improvement in some of the symptoms of AR, whereas others exhibited a positive trend that did not reach statistical significance. Followup one year after completion of the trial suggested that benefit of the treatment persisted. A pilot dose-response study showed both half and full strengths were effective. Total serum immunoglobulin E was reduced after the herbal treatment. CONCLUSIONS: Our results suggest the Biminne formulation is effective in treatment of perennial AR. Its mode of action is unknown.