

Abstract Selection

Correlation between presumed sinusitis-induced pain and paranasal sinus computed tomographic findings. Mudgil-Shikha, P., Wise, S. W., Hopper, K. D., Kasales, C. J., Mauger, D., Fornadley, J. A. Department of Radiology, Johns Hopkins University, Baltimore, Maryland, USA. spmudgil@hotmail.com. *Annals of Allergy, Asthma & Immunology* (2002), February, Vol. 88 (2), pp. 223–6.

BACKGROUND: The correlation between facial and/or head pain in patients clinically suspected of having sinusitis and actual localized findings on sinus computed tomographic (CT) imaging are poorly understood. **OBJECTIVE:** To prospectively evaluate the relationship of paranasal sinus pain symptoms with CT imaging. **METHODS:** Two hundred consecutive patients referred by otolaryngologists and internists for CT of the paranasal sinuses participated by completing a questionnaire immediately before undergoing CT. Three radiologists blinded to the patients' responses scored the degree of air/fluid level, mucosal thickening, bony reaction, and mucus retention cysts using a graded scale of severity (0 to 3 points). The osteomeatal complexes and nasolacrimal ducts were also evaluated for patency. Bivariate analysis was performed to evaluate the relationship between patients' localized symptoms and CT findings in the respective sinus. **RESULTS:** One hundred sixty-three patients (82 per cent) reported having some form of facial pain or headache. The right temple/forehead was the most frequently reported region of maximal pain. On CT imaging the maxillary sinus was the most frequently involved sinus. Bivariate analysis failed to show any relationship between patient symptoms and findings on CT. Patients with a normal CT reported a mean 5.88 sites of facial or head pain versus 5.45 sites for patients with an abnormal CT. **CONCLUSIONS:** Patient-based responses of sinonasal pain symptoms fail to correlate with findings in the respective sinuses. CT should therefore be reserved for delineating the anatomy and degree of sinus disease before surgical intervention.

Endoscopic stapling technique for the treatment of Zenker diverticulum vs standard open-neck technique: a direct comparison and charge analysis. Smith-Shane, R., Genden, E. M., Urken, M. L. Department of Otolaryngology, Mt Sinai Medical Center, One Gustave Levy Place, Box 1189, New York, NY 10029, USA. *Archives of Otolaryngology – Head & Neck Surgery* (2002) February, Vol. 128 (2), pp. 141–4.

BACKGROUND: Presently, the two most widely used methods for the treatment of Zenker diverticulum are endoscopic stapling of the common party wall between the diverticulum sac and the esophagus and the standard open-neck technique involving diverticulectomy and cricopharyngeal myotomy. **OBJECTIVE:** To perform an analysis of the hospital charges to determine the economic efficiency of each technique based on our experience at the Mt Sinai Medical Center, New York, NY. **METHODS:** A retrospective analysis of 16 patients diagnosed as having Zenker diverticulum was conducted. Eight randomly chosen patients underwent endoscopic stapling with an EndoGIA 35 mm endoscopic stapler (Ethicon Inc., Somerville, NJ), and eight randomly chosen patients underwent a standard open approach with diverticulectomy. Medical records were reviewed to determine operative time, length of hospital stay, time to oral intake, and postoperative complications. A charge analysis of the operative and postoperative fees was also performed. Statistical analysis between the two groups was conducted using analysis of variance and the paired t test. **RESULTS:** The mean \pm SD operative time for the endoscopic stapling technique was 25.5 ± 15.78 minutes, which was significantly less ($p < 0.001$) than that for the open procedure, 87.6 ± 35.10 minutes. The mean operative charges were roughly equivalent at US\$ 5178 for the endoscopic procedure and US\$ 5113 for the open procedure. The endoscopic procedure, while shorter in operative time, had the added expense of specialized equipment, specifically the Endo GIA endoscopic stapler. The mean \pm SD length of hospital stay for the endoscopic

procedure was significantly shorter ($p < 0.001$) at 1.3 ± 0.59 days vs 5.2 ± 1.03 days for the open procedure. The inpatient hospital charges for the endoscopic group was also significantly less ($p < 0.001$) at a mean of US\$ 3589 per stay vs US\$ 11 439 for the open group. The mean \pm SD time to oral intake was significantly shorter (0.001) at a mean of US\$ 3589 per stay vs US\$ 11 439 for the open group. The mean \pm SD time to oral intake was significantly shorter ($p < 0.001$) in the endoscopic group at 0.8 ± 0.26 days vs 5.1 ± 1.25 days for the open group. There were no major complications in either group, and all patients experienced resolution of preoperative symptoms. **CONCLUSIONS:** Compared with the standard open technique, the endoscopic stapling technique for the treatment of Zenker diverticulum results in a statistically significant shorter operative time, hospital stay, and time to resume oral feedings. While the charges of the operative procedures were roughly equivalent, the total hospital charges were significantly less for the patients treated endoscopically.

Computer-assisted voice analysis: establishing a pediatric database. Campisi, P., Tewfik, T. L., Manoukian, J. J., Schloss, M. D., Pelland, B. E., Sadeghi, N. Department of Otolaryngology, The Montreal Children's Hospital, McGill University Health Centre, 2300 Tupper Street, Suite B240, Montreal, Quebec, Canada H3H 1P3. *Archives of Otolaryngology – Head and Neck Surgery* (2002) February, Vol. 128 (2), pp. 156–60.

OBJECTIVES: To establish and characterize the first pediatric normative database for the Multi-Dimensional Voice Program, a computerized voice analysis system, and to compare the normative data with the vocal profiles of patients with vocal fold nodules. **DESIGN:** A cross-sectional, observational design was used to establish the normative database. The comparative study was completed using a case-control design. **SETTING:** University-based outpatient pediatric otolaryngology clinic. **PARTICIPANTS:** One hundred control subjects (50 boys and 50 girls) aged four to 18 years contributed to the normative database. The voices of 26 patients (19 boys and seven girls) with bilateral vocal fold nodules were also analysed. **MAIN OUTCOME MEASURES:** Demographic data, including sex, age, height, weight, body mass index, and cigarette smoke exposure, were obtained. The Multi-Dimensional Voice Program extracted up to 33 acoustic variables from each voice analysis. **RESULTS:** The mean (SEM) values of each of the acoustic variables are presented. At age 12 years, boys experience a dramatic decrease in fundamental frequency measurements. The voices of patients with vocal fold nodules had significantly elevated frequency perturbation measurements compared with control subjects ($p < 0.001$). **CONCLUSIONS:** The vocal profile of children is uniform across all girls and prepubescent boys. Patients with vocal fold nodules demonstrated a consistent acoustic profile characterized by an elevation in frequency perturbation measurements. Normal acoustic reference ranges may be used to detect various vocal fold pathologic abnormalities and to monitor the effects of voice therapy.

The dilemma of treating hypopharyngeal carcinoma: more or less: Hayes Martin Lecture. Wei, W. I. Department of Surgery, University of Hong Kong Medical Centre, Queen Mary Hospital, Pokfulam Road, Hong Kong Special Administrative Region, China. hrmswwi@hkucc.hku.hk. *Archives of Otolaryngology – Head and Neck Surgery* (2002) March, Vol. 128 (3), pp. 229–32.

The optimal therapy for hypopharyngeal carcinoma depends on its staging. For early-stage disease, radiotherapy and surgery achieve similar results. Radical surgery followed by radiotherapy is applicable in the management of patients with advanced-stage disease. Chemoradiation aiming to preserve the larynx can only be performed for selected patients and in well-equipped institutions. Thorough understanding of pathological behaviour of hypopharyngeal carcinoma, its submucosal tumour extension, and its high

propensity to metastasize to cervical lymph nodes allows head and neck surgeons to choose optimal surgical treatment. Lymph node status determines the type of neck dissection required while location and size of the primary tumour determine the extent of resection and choice of reconstruction procedure. Adequate tumour extirpation with less extensive and invasive procedures preserving unaffected normal tissue contribute to more tumour control and less morbidity.

Eliciting views of patients with head and neck cancer and carers on professionally derived standards for care. Birchall, M., Richardson, A., Lee, L. Division of Surgery, University of Bristol, Bristol BS10 5NB. Martin Birchall@Bristol.ac.uk. *BMJ* (2002) March 2, Vol. 324 (7336), p. 516.

OBJECTIVES: To examine views of patients and carers on the process of care for people with head and neck cancer; to assess whether focus groups are useful in this setting; to compare priorities and standards identified with those published by healthcare professionals; and to incorporate the expressed views into existing national standards. **DESIGN:** Multicentre study of nine regional focus groups. **SETTING:** Area covered by two regional health authorities. **PARTICIPANTS:** 40 patients who had had head and neck cancer and 18 carers. **MAIN OUTCOME MEASURES:** Views of individuals and groups on standards. Applicability of the method for patients whose appearance and ability to communicate was altered and for recently bereaved carers. Ease of incorporation of views into national and regional standards. **RESULTS:** Patients and carers participated in discussions on all the principal questions. Opinions were expressed on waiting times, information available to patients, coordination of care, and crisis management. Professionally derived standards were substantially improved by the incorporation of the views of patients and carers. There were no technical problems in carrying out this study on patients with communication difficulties or altered appearance nor with recently bereaved carers. Occasionally, participants said that the meetings were therapeutic. **CONCLUSIONS:** Professionally facilitated and analysed focus groups are effective in assessing views of patients with cancer and carers on professionally derived standards for care and can be applied in settings traditionally viewed as difficult. Views expressed by patients and carers are powerful motivators for change in the delivery of cancer care.

A possible prognostic factor in head and neck cancer. Halfpenny, W., Hain, S. F., Biassoni, L., Maisiey, M. N., Sherman, J. A., McGurk, M. Department of Oral and Maxillofacial Surgery, Guy's and St Thomas's Hospitals, St Thomas's Street, London SE1 9RT, UK. *British Journal of Cancer* (2002) February 12, Vol. 86 (4), pp. 512–6.

Previous studies have shown that high uptake of (18)F-fluoro-2-deoxyglucose in head and neck cancer, as determined by the standardized uptake value on positron emission tomography scan, was associated with poor survival. The aim of this study was to confirm the association and to establish whether a high standardized uptake value had prognostic significance. Seventy-three consecutive patients with newly diagnosed squamous cell carcinoma of the head and neck underwent a positron emission tomography study before treatment. Age, gender, performance status, tumour grade, stage, maximal tumour diameter and standardized uptake value were analysed for their possible association with survival. The median standardized uptake value for all primary tumours was 7.16 (90 per cent range 2.30 to 18.60). In univariate survival analysis the cumulative survival was decreased as the stage, tumour diameter and standardized uptake value increased. An standardized uptake value of 10 was taken as a cut-off for high and low uptake tumours. When these two groups were compared, an standardized uptake value >10 predicted for significantly worse outcome ($p=0.003$). Multivariate analysis demonstrated that an standardized uptake value >10 provided prognostic information independent of the tumour stage and diameter ($p=0.002$). We conclude that high FDG uptake (standardized uptake value >10) on positron emission tomography is an important marker for poor outcome in primary squamous cell carcinoma of the head and neck. Standardized uptake value may be useful in distinguishing those tumours with a more aggressive biological nature and hence identifying patients that require intensive treatment protocols including hyperfractionated radiotherapy and/or chemotherapy.

Screening for oesophageal neoplasia in patients with head and neck cancer. Scheruebl, H., von Lampe, B., Faiss, S., Daeubler, P., Bohlmann, P., Plath, T., Foss, H. D., Scherer, H., Strunz, A., Hoffmeister, B., Stein, H., Zeitz, M., Riecken, E. O. Medical Clinic I, University Hospital Benjamin Franklin, Free University of Berlin, Hindenburgdamm 30, 12200 Berlin, Germany. hscher@zedat.fu-berlin.de. *British Journal of Cancer* (2002) January 21, Vol. 86 (2), pp. 239–43.

Due to advanced disease at the time of diagnosis the prognosis of oesophageal cancer is generally poor. As mass screening for oesophageal cancer is neither feasible nor reasonable, high-risk groups should be identified and surveilled. The aim of this study was to define the risk of oesophageal cancer in patients with (previous) head and neck cancer were prospectively screened for oesophageal cancer by video-oesophagoscopy and random oesophageal biopsies. Even in a macroscopically normal looking oesophagus, four biopsy specimens were taken every 3 cm throughout the entire length of the squamous oesophagus. Low- or high-grade squamous cell dysplasia was detected histologically in 10 of the 148 patients (6.8 per cent). All but one dysplasias were diagnosed synchronously with the head and neck cancers. In addition, oesophageal squamous cell carcinoma was diagnosed in 11 of the 148 patients (7.4 per cent). Most invasive cancers (63.6 per cent) occurred metachronously. The risk of squamous cell neoplasia of the oesophagus is high in patients with (previous) head and neck cancer. Surveillance is recommended in this high-risk group.

National Cancer Data Base report on malignant paragangliomas of the head and neck. Lee, J. H., Barich, F., Karnell, L. H., Robinson, R. A., Zhen, W. K., Gantz, B. J., Hoffman, H. T. Department of Otolaryngology – Head and Neck Surgery, University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242, USA. *Cancer* (2002) February 1, Vol. 94 (3), pp. 730–7.

BACKGROUND: Malignant paragangliomas of the head and neck are rare, with previous reports limited to nine or fewer patients. The current review included 59 cases extracted from the National Cancer Data Base that were diagnosed between 1985–1996. **METHODS:** The primary criterion for inclusion in the current study was verified metastatic spread from a paraganglioma of the head and neck. Patterns of presentation and treatment as well as clinically relevant associations were demonstrated in contingency tables. Relative survival was used for analysis of outcome. **RESULTS:** The average patient age at presentation was 44 years, and gender distribution was equivalent. Metastases were confined to regional lymph nodes in the majority of cases (68.6 per cent), with carotid body tumours found to have an even higher rate of regional confinement (93.8 per cent). Surgery was the most common treatment (76.3 per cent). The use of adjuvant irradiation for regionally confined disease increased across time, from 27 per cent (1985–1990) to 46 per cent (1991–1996). The five-year relative survival rate was 59.5 per cent (76.8 per cent for regionally confined carcinoma and 11.8 per cent for distant metastasis). Among patients who were followed until death, those treated with adjuvant irradiation had a longer median survival (45 months) compared with those patients who were treated with surgery alone (12 months). **CONCLUSIONS:** Malignant paraganglioma represents metastatic spread of a tumour type that, when restricted to the site of origin, is considered benign. Metastases from malignant paragangliomas of the head and neck usually are regionally confined. The primary management of a recognized malignancy should be directed toward complete surgical removal of the primary tumour and regional lymph nodes. Postoperative irradiation may be beneficial in slowing the progression of residual disease.

Results of multimodality therapy for squamous cell carcinoma of maxillary sinus. Nibu, K., Sugawara, M., Asai, M., Ichimura, K., Mochiki, M., Terahara, A., Kawahara, N., Asato, H. Department of Otolaryngology – Head and Neck Surgery, Graduate School of Medicine, University of Tokyo, Tokyo, Japan. nibu@med.kobe-u.ac.jp. *Cancer* (2002) March 1, Vol. 94 (5), pp. 1476–82.

BACKGROUND: A wide variety of modalities, including surgery, radiation therapy and chemotherapy, alone or in combination, have been used for the treatment of squamous cell carcinoma (SCC) of the maxillary sinus to obtain better local control and maintain functions. However, there is still much controversy with regard to the optimum treatment. **METHODS:** From 1987 to

1999, 33 patients with SCC of maxillary sinus were treated at the Department of Otolaryngology – Head and Neck Surgery, University of Tokyo Hospital. The treatment consisted of 30–40 grays (Gy) of preoperative radiotherapy with concomitant intraarterial infusion of five-fluorouracil and cisplatin followed by surgery and 30–40 Gy of postoperative radiotherapy, for tumours without skull base invasion. For tumours invading the skull base, preoperative systemic chemotherapy with or without radiotherapy was performed, instead of intraarterial chemotherapy, then followed by skull base surgery. The surgical procedures varied according to the extent of tumour. Results were compared with those of the 108 patients treated in our hospital from 1976 to 1982. **RESULTS:** Partial maxillectomy was performed in two T2 patients and 12 T3 patients. Total maxillectomy was performed in one T2 patient, three T2 patients, and seven T4 patients. Skull base surgery was performed in eight T4 patients. Orbital content and hard palate were preserved in 22 patients and 18 patients, respectively. The overall five-year survival rates were 86 per cent in T3 patients and 67 per cent in T4 patients, respectively. **CONCLUSIONS:** Our multimodal treatment has provided favourable local control and survival outcome with good functional results.

Severe upper airway obstruction from cricoarytenoiditis as the sole presenting manifestation of a systemic lupus erythematosus flare. Karim, A., Ahmed, S., Siddiqui, R., Marder, G. S., Mattana, J. Long Island Jewish Medical Center, New Hyde Park, NY 11040, USA. *Chest* (2002) March, Vol. 121 (3), pp. 990–3.

Upper airway obstruction due to laryngeal involvement is a known complication of systemic lupus erythematosus (SLE). Laryngeal involvement typically accompanies inflammatory activity involving other sites and varies from mild mucosal inflammation to bilateral vocal cord immobility. Cricoarytenoid arthropathy is a rare cause of severe airway obstruction in patients with SLE and almost always occurs in the presence of other associated symptoms. Furthermore, in contrast to patients with rheumatoid arthritis, in whom chronic involvement of cricoarytenoid joints occurs more commonly and often requires surgical intervention, patients with SLE typically present with acute arthritis of cricoarytenoid joints and respond to corticosteroid therapy alone. We describe a patient with known SLE who presented with severe acute upper airway obstruction as the sole manifestation of active SLE after several years of quiescence. The laryngeal involvement progressed from mucosal inflammation to acute cricoarytenoiditis, despite the administration of high-dose corticosteroid therapy, necessitating emergent intubation and tracheostomy. This case illustrates the importance of considering SLE in the differential diagnosis of patients presenting with acute upper airway obstruction.

A report of 50 patients with carcinoma of the hypopharynx treated by total pharyngolaryngo-oesophagectomy repaired by gastric transposition. Jones, A. S., Webb, C. J., Fenton, J. E., Hughes, J. P., Husband, D. J., Winstanley, J. H. Department of Otolaryngology – Head and Neck Surgery, University of Liverpool, Liverpool, UK. orl@liv.ac.uk. *Clinical Otolaryngology and Allied Sciences* (2001) December, Vol. 26 (6), pp. 447–51.

Extensive carcinoma of the hypopharynx requires aggressive surgery, which can lead to loss of function and a high morbidity and mortality. This paper reports 50 patients with carcinoma of the hypopharynx treated with total pharyngolaryngo-oesophagectomy and gastric transposition. Thirty-two patients had primary surgery and 18 had salvage surgery for recurrence following radiotherapy. Two technical modifications to the standard procedure that have evolved during this period are the use of a diverticuloscope for dissection of the middle third of the oesophagus and the routine insertion of chest drains preoperatively. Complications were relatively unusual in the primary surgery group, but were a problem in those patients undergoing salvage surgery. Stenosis did not tend to occur with gastric transposition repair, but three patients had delayed gastric emptying with prolonged hospital stays. The tumour-specific actuarial survival at four years was 39 per cent and the observed survival was 25 per cent. Pharyngolaryngo-oesophagectomy and gastric transposition is becoming safer owing to increased multidisciplinary experience in this form of surgery. Survival is improved with the use of postoperative radiotherapy in patients undergoing primary surgery.

How well do parents recognize the difference between tonsillitis and other sore throats? Capper, R., Canter, R. J. Department of Otolaryngology – Head and Neck Surgery, University Hospital, Queen's Medical Centre, Nottingham, UK. ruth.capper@virgin-net. *Clinical Otolaryngology and Allied Sciences* (2001) December, Vol. 26 (6), pp. 458–64.

Little evidence exists from randomized controlled trials to support the role of tonsillectomy in children with recurrent tonsillitis. Despite this, parents report a great change for the better in their children following the operation. Previous trials vary in their inclusion criteria, both in terms of the definition of tonsillitis and in the frequency of sore throats required before entry into the study is permitted. The aims of this study are to define tonsillitis from the perspective of parents whose children are awaiting tonsillectomy for recurrent sore throats, and to determine whether such parents have a better understanding of the difference between tonsillitis and other sore throats than parents of children from a normal population control group. These aims demonstrate whether parents who request tonsillectomy for their children do so on the basis of a recognized clinical problem. We report that parents can clearly identify a sore throat illness that they call tonsillitis and which is differentiated from other sore throats by different symptom complexes. The parental history is important in the assessment of a child prior to tonsillectomy. The views of parents whose children have recurrent tonsillitis must be further investigated if the difference between randomized controlled trial results and parents' opinions regarding the benefit of tonsillectomy is to be understood.

Is the incidence of tonsillectomy influenced by the family medical or social history? Capper, R., Canter, R. J. Department of Otolaryngology – Head and Neck Surgery, University Hospital, Queen's Medical Centre, Nottingham, UK. ruth.capper@virgin-net. *Clinical Otolaryngology and Allied Sciences* (2001) December, Vol. 26 (6), pp. 484–7.

Previous reports have suggested that the incidence of tonsillectomy, and/or tonsillitis in children, is influenced by factors such as parental smoking, maternal health and previous parental tonsillectomy. The reports have considered single factors and have not considered the possible confounding effect of the factors upon one another. Previous studies have not investigated the influence of social class. This paper uses the background of a large case-control trial of children awaiting tonsillectomy for recurrent tonsillitis, and a normal control group to study the influence of parental smoking, parental surgical history, parental tonsillectomy, family atopy and social class upon the reported incidence of sore throats and tonsillitis. A multivariate analysis is used. The paper shows that parental smoking, previous parental surgery and social class have no effect upon the number of sore throat episodes. A history of parental tonsillectomy and a family history of atopy are both significant predictive factors for the number of reported sore throats and episodes of tonsillitis in children.

Matrix metalloproteinases 2 and 9 in otitis media with effusion. Jennings, C. R., Guo, L., Collins, H. M., Birchall, J. P. Department of Otorhinolaryngology and Head and Neck Surgery, Queen's Medical Centre, University Hospital, Nottingham, UK. *Clinical Otolaryngology and Allied Sciences* (2001) December, Vol. 26 (6), pp. 491–4.

A qualitative and quantitative study of the presence of matrix metalloproteinase two (MMP 2) and matrix metalloproteinase nine (MMP 9), in the effusions of otitis media with effusion (OME), was performed. The activity of the above enzymes was compared in thick and thin effusions, and concentrations compared in samples from children with one, two, three and four sets of ventilation tubes. The activity of both MMP 2 and MMP 9 was higher in thick than thin effusions, $p=0.07$ and $p=0.04$, respectively. The concentrations of MMP 9 did not vary with the number of tube insertions but those of MMP 2 did (ANOVA $p<0.05$). MMPs may be involved in tympanic membrane damage and prognosis of OME.

Helicobacter pylori and tonsillectomy. Skinner, L. J., Winter, D. C., Curran, A. J., Barnes, C., Kennedy, S., Maguire, A. J., Charles, D. A., Timon, C. I., Burns, H. P. Department of Otolaryngology, Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin 2, Ireland. skinnerljs@yahoo.com. *Clinical Otolaryngology and Allied Sciences* (2001) December, Vol. 26 (6), pp. 505–9.

Tonsillar tissue is a component of mucosa-associated lymphoid tissue (MALT), which has evolved to protect vulnerable mucosal surfaces. Helicobacter pylori, implicated as an aetiological factor in duodenal ulcers and gastritis, induces the appearance of lymphoid aggregates (MALT) in the stomach. This organism is cytotoxic via a nitric oxide synthase cascade. The possibility that tonsillar tissue processes Helicobacter pylori or that Helicobacter pylori can colonize the palatine tonsils is explored. The study design was that of a prospective study. We determined if Helicobacter pylori (i) forms part of the normal microenvironment of the tonsil, (ii) plays a role in the pathogenesis of tonsillitis and (iii) is associated with increased expression of inducible nitric oxide synthase (iNOS) in macrophages of the tonsil. Serology for Helicobacter pylori was performed on 50 patients undergoing tonsillectomy. Tonsillar specimens were monitored for urease activity by CLO test (a sealed plastic slide holding an agar gel, which contains urea and detects the urease enzyme of Helicobacter pylori), and immunocytochemically probed for Helicobacter pylori and iNOS expression. The mean age of this patient group was 17.2 years (three to 36 years). Fourteen (28 per cent) were sero-positive for Helicobacter pylori but no evidence of this pathogen was found in any tonsillar specimen. The number of macrophages staining for iNOS, per field, under a magnification of $\times 40$, was increased in sero-positive patients (13.3 ± 1.3 versus 9.9 ± 0.7 ; $p = 0.01$). Helicobacter pylori does not appear to colonize the tonsil. We believe that Helicobacter pylori primes the tonsils by inducing macrophage iNOS expression. The higher expression in seropositive patients is a reflection of a pro-inflammatory reaction to Helicobacter pylori that is both local and systemic.

CT of the paranasal sinuses: a review of the correlation with clinical, surgical and histopathological findings. Jones, N. S. Department of Otorhinolaryngology – Head and Neck Surgery, University Hospital, Nottingham NG7 2UH, UK. nick.jones@nottingham.ac.uk. *Clinical Otolaryngology and Allied Sciences* (2002) February, Vol. 27 (1), pp. 11–7.

Computerized tomography (CT) of the paranasal sinuses provides valuable information but this should be interpreted in the context of the history and examination as the prevalence of incidental mucosal changes in an asymptomatic population is approximately 30 per cent. A review of the presence or extent of the various anatomical variations that are found in the paranasal sinuses does not differ between a symptomatic and an asymptomatic population. This makes it unlikely that these are very important in either initiating or sustaining paranasal sinus disease. CT provides an excellent map to help the sinus surgeon operate. CT provides information about the extent of mucosal disease but this correlates poorly with symptoms, surgical findings and histopathology. CT does provide invaluable information to help in the diagnosis of atypical sinus infections, malignancy and in the management of the complications of rhinosinusitis. A normal CT in a patient with facial pain should make the doctor consider another diagnosis. In essence, CT helps to support a clinical diagnosis but it should not be interpreted out of context, and it is therefore vital that doctors communicate the clinical picture to their radiological colleagues, and that they learn to interpret the radiographs.

An evaluation of the best head position for instillation of steroid nose drops. Kayarkar, R., Clifton, N. J., Woolford, T. J. Department of Otorhinolaryngology, Royal Hallamshire Hospital, Sheffield, UK. ratan_kayarkar@yahoo.co.uk. *Clinical Otolaryngology and Allied Sciences* (2002) February, Vol. 27 (1), pp. 18–21. Steroid nose drops are used frequently to treat rhinosinusitis and nasal polyposis. The middle meatal area is of key importance in the pathophysiology of these conditions. This study assesses which of three head positions commonly used to instil nose drops resulted in the highest coverage of this area. Discomfort levels were also studied using a visual analogue scale for each position. Five volunteers were studied in: (i) head back (HB); (ii) head forward and down (HFD); and (iii) lying head back (LHB) positions. Betamethasone nose drops, dyed with fluorescein, were instilled into each nostril and the distribution was studied endoscopically. The middle meatus area distribution was highest in the LHB position (55.51 per cent), followed by HFD (31.55 per cent) and HB (6.87 per cent) positions. Comparison of distribution between HB and LHB ($p = 0.002$) and between HB and HFD ($p = 0.045$) was statistically significant. The HFD position was most

uncomfortable (mean discomfort score 8.8) whereas the HB (2.4) and LHB (2.6) were similar. The LHB would, therefore, appear to be the most suitable position for instillation of steroid nose drops.

Hearing loss in early infancy affects maturation of the auditory pathway. Tibussek, D., Meister, H., Walger, M., Foerst, A., von-Wedel, H. Leverkusen Children's Hospital, University of Cologne, Leverkusen, Germany. daniel.tibussek@uni-koeln.de. *Developmental Medicine and Child Neurology* (2002) February, Vol. 44 (2), pp. 123–9.

The influence of early cochlear hearing loss on maturation of the auditory pathway was studied by measuring auditory brainstem responses (ABR). In a retrospective study, 85 children with normal hearing (46 males, 39 females; age range two months to 14 years) and 165 children with binaural cochlear hearing impairment (89 males, 76 females, age range one month to 16 years) were examined. A significant positive correlation ($p = 0.001$) between the degree of hearing loss and interpeak latencies I-V (IPL(I-V)) of the ABR was observed. No significant correlation ($p = 0.85$) was found between hearing loss and interpeak latencies I-III (IPL(I-III)). These findings can be interpreted as indicating a marked delay in maturation of higher brainstem structures due to reduced auditory input during infancy. The correlation differs notably from results of comparable studies of adults published in recent literature. This leads to the assumption that the developing human brain is particularly sensitive to auditory deprivation. Thus, our results indicate the importance of a normal acoustic environment during sensitive periods in early childhood to ensure normal hearing and speech development.

Facial palsy from metastatic nasopharyngeal carcinoma at various sites: three reports. Low, W. K. Department of Otolaryngology, Singapore General Hospital, Singapore 169608, Republic of Singapore. gollwk@sgh.com.sg. *Ear, Nose & Throat Journal* (2002) February, Vol. 81 (2), pp. 99–101.

Nasopharyngeal carcinoma that causes clinically evident facial palsy is uncommon. This article describes and discusses a series of cases that illustrate how nasopharyngeal carcinoma caused facial palsy as a result of facial nerve involvement at three sites: the cerebellopontine angle, the middle ear, and the parotid. The maxim, 'All that palsies is not Bell's,' is particularly relevant with respect to patients who have previously been treated for advanced nasopharyngeal carcinoma. In these patients, recurrent or persistent nasopharyngeal carcinoma involving the cerebellopontine angle, temporal bone, or parotid should be excluded.

Prophylactic use of amifostine to prevent radiochemotherapy-induced mucositis and xerostomia in head-and-neck cancer. Antonadou, D., Pepelassi, M., Synodinou, M., Puglisi, M., Throuvalas, N. Radiation Oncology Department, Metaxa's Cancer Hospital, Piraeus, Greece. d_antona@hol.gr. *International Journal of Radiation Oncology, Biology, Physics* (2002) March 1, Vol. 52 (3), pp. 739–47.

PURPOSE: To determine the prophylactic properties of amifostine against acute and late toxicities from radiochemotherapy in patients with head-and-neck cancer. **METHODS AND MATERIALS:** Fifty patients were randomized to receive conventional radiotherapy (RT) (2-Gy fractions, five days weekly, to a total of 60–74 Gy, depending on the tumour localization and TNM classification) and carboplatin (90 mg/m² infusion once per week before RT). Amifostine (300 mg/m²) was administered in the study group only 15–30 min before RT for 6–7.5 weeks. The primary study end point was the grading of acute and late nonhematologic toxicities (mucositis, dysphagia, xerostomia) induced by radiochemotherapy. Secondary end points included treatment duration, hematologic toxicity, and clinical outcome. **RESULTS:** The treatment duration was significantly shorter in the amifostine-treated group ($p = 0.013$), because treatment interruptions were more frequent in the control group. Acute toxicities (mucositis and dysphagia) were less severe in the amifostine-treated group. By Week 3, all in the control group experienced Grade 2 mucositis compared with only nine per cent in the amifostine-treated group ($p = 0.0001$). By Week 5, 52.2 per cent of the patients in the control group experienced Grade 4 mucositis compared with 4.5 per cent in the amifostine-treated group ($p = 0.0006$). Similar results were obtained for dysphagia. At three months of follow-up, only 27 per cent of patients in the study group experienced Grade 2 xerostomia compared with 73.9 per cent in the control group

($p = 0.0001$). Eighteen months after cessation of therapy, the proportion of patients with Grade 2 xerostomia was 4.5 per cent vs. 30.4 per cent for each respective treatment group ($p = 0.047$). Cytoprotection with amifostine did not affect treatment outcome, with 90.9 per cent complete responses in the amifostine-treated group compared with 78.3 per cent in the control group ($p = 0.414$). **CONCLUSION:** Amifostine was effective in reducing mucositis and dysphagia resulting from radiochemotherapy in patients with head-and-neck cancer. Furthermore, amifostine reduced the severity of late xerostomia, a side effect of RT with long-lasting consequences. Amifostine treatment did not affect the clinical outcome.

Torn earlobe repair. Watson, D. Division of Otolaryngology – Head and Neck Surgery, University of California San Diego School of Medicine, San Diego, California 92161, USA. *Otolaryngologic Clinics of North America* (2002) February, Vol. 35 (1), pp. 187–205, vii–viii.

A variety of techniques have been described in the literature to repair torn earlobes. Some of these methods incorporate the reconstruction of the earring hole during earlobe repair, but many authors still recommend repiercing the earlobe at a later time. The present article is a comprehensive review of the published techniques for earlobe repair. Illustrations are provided to facilitate the description of the different methods and helpful recommendations are listed for a surgical approach to torn earlobes.

Phase III clinical trial results with the Vibrant Soundbridge implantable middle ear hearing device: a prospective controlled multicenter study. Leutje, C. M., Brackman, D., Balkany, T. J., Maw, J., Baker, R. S., Kelsall, D., Backous, D., Miyamoto, R., Parisier, S., Arts, A. Otologic Center, Inc, Kansas City, MO 64111, USA. Pam@nov8.net. *Otolaryngology – Head and Neck Surgery* (2002) February, Vol. 126 (2), pp. 97–107.

OBJECTIVES: The goal of the study was to evaluate the performance of a semi-implantable middle ear hearing device (Vibrant Soundbridge System (VSB); Symphonix Devices, Inc). **STUDY DESIGN:** A prospective, single-subject, repeated-measures multicenter study was conducted to determine the safety and efficacy of the VSB using analog and digital external processors. Measures included residual hearing, functional gain, speech recognition, acoustic feedback, occlusion, and patient self-assessment to determine satisfaction, perceived performance, and device preference compared with an appropriately fit acoustic hearing aid. Fifty-three adult subjects with moderate to severe sensorineural hearing loss were evaluated at four or more intervals after implantation. **RESULTS:** Improvements in satisfaction, performance, and preference were statistically significant with the VSB, as was functional gain across all test frequencies ($p < 0.001$). Occlusion and feedback were virtually eliminated. Aided speech recognition was comparable between VSB and the hearing aid. Residual hearing was unchanged. **CONCLUSION:** The VSB is a safe and effective treatment option for adults with moderate to severe sensorineural hearing loss.

Hearing impairment among adults – extent of the problem and scientific evidence on the outcome of hearing aid rehabilitation. Maeki-Torkko, E. M., Brorsson, B., Davis, A., Mair, L. W. S., Myhre, K. L., Roine, R. P., Rosenhall, U., Sorri, M. J., Stilven, S. University Hospital of Lund, Department of Otorhinolaryngology, Sweden. elina.maki-torkko@skane.se. *Scandinavian Audiology* (2001) (54), pp. 8–15.

Scientific surveys on current and estimated prevalence of hearing impairment (HI) in adult populations ($> \text{ or } = 18$ years of age) in Denmark, Finland, Norway, Sweden and the United Kingdom, and scientific reports on the outcome of hearing aid (HA) rehabilitation worldwide were reviewed. Only a few of the studies meet strict scientific criteria, and many locally clinically relevant studies cannot be generalized to larger populations. Population-based studies indicate an increase in prevalence of HI with age, but because of differences in study populations and available national population statistics, the studies do not allow reliable comparisons between countries or estimation of future prevalence of HI. Studies on HA prescription or outcomes do not provide uniform data in favour of non-linear amplification, but they do show some subject preference for the newer technology. No conclusions can be drawn regarding the degree of HI and the

effects of amplification. The literature review alone gives only limited information regarding the extent of the problem of HI in adult populations in the target countries. Similarly, only a few studies on HA outcome meet strict scientific criteria and even fewer studies correlate rehabilitation outcome with the degree of HI, disability or handicap.

Complications of intranasal prescription narcotic abuse. Yewell, J., Haydon, R., Archer, S., Manaligod, J. M. Division of Otolaryngology – Head and Neck Surgery, University of Kentucky Medical Center, Lexington, USA. *The Annals of Otolaryngology and Laryngology* (2002) February, Vol. 111 (2), pp. 174–7.

The abuse of drugs via an intranasal route is an increasingly prevalent pattern of behaviour. In the past year, a number of patients received care at our institution for complications resulting from the previously unreported phenomenon of intranasal prescription narcotic abuse. This report describes the clinical manifestations of this form of drug abuse in five patients. Their symptoms consisted of nasal and/or facial pain, nasal obstruction, and chronic foul-smelling drainage. Common physical findings were nasal septal perforation; erosion of the lateral nasal walls, nasopharynx, and soft palate; and mucopurulent exudate on affected nasal surfaces. In addition, two of the five patients had invasive fungal rhinosinusitis, which appears to be a complication unique to intranasal narcotic abuse.

Topical estrogens combined with argon plasma coagulation in the management of epistaxis in hereditary hemorrhagic telangiectasia. Bergler, W., Sadick, H., Gotte, K., Riedel, F., Hoermann, K. From the Department of Otolaryngology – Head and Neck Surgery, University Hospital Mannheim, Mannheim, Germany. *The Annals of Otolaryngology, Rhinology and Laryngology* (2002) March, Vol. 111 (3 Pt 1), pp. 22–8.

The aim of this study was to assess the value of topically applied estrogens in patients with hereditary hemorrhagic telangiectasia. Twenty-six patients with this disorder were treated with argon plasma coagulation and randomized into two groups: group A, which had postoperative application of estriol ointment ($n = 14$), and group B, which had postoperative application of dexpantenol ointment ($n = 12$). Over a period of 12 months, the frequency and intensity of bleeding, the patient's satisfaction, and the success of the treatment were evaluated with a questionnaire. Before the operation, more than 90 per cent of the patients in both groups complained of daily episodes of epistaxis. Twelve months after treatment, the frequency and intensity of bleeding had significantly decreased in group A as compared to group B. Of the patients in group A, 93 per cent were satisfied with the treatment. Of the patients in group B, only 42 per cent were satisfied with the treatment. In both groups, more than 90 per cent of the patients were willing to undergo the same treatment again. The combined treatment approach with argon plasma coagulation and topical estriol enables us to significantly prolong the hemorrhage-free interval.

Vascular occlusion in the endolymphatic sac in Meniere's disease. Friberg, U., Rask, A. H. Department of Otorhinolaryngology – Head and Neck Surgery, Uppsala University Hospital, Sweden. *The Annals of Otolaryngology, Rhinology and Laryngology* (2002) March, Vol. 111 (3 Pt 1), pp. 237–45.

In two patients with severe Meniere's disease (MD), there was histologic evidence of occlusion of the vein of the vestibular aqueduct (VVA). This finding coincided with total or partial occlusion of numerous small vessels around the endolymphatic sac (ES), flattening of epithelium, extensive perisaccular fibrosis, and signs of new bone formation. Ultrastructural analysis of the occluding material showed foci with dense connective tissue, calcification, lipid deposits, and layers of basement membrane, sometimes concentrically arranged. The exact nature of the occluding material was unknown. In another two MD patients, the VVA was not visualized, and the ES vessels showed no signs of occlusion. Seven controls with acoustic schwannoma or meningioma had normal vasculature. The presence of vascular impairment in the ES in MD patients indicated that altered hemodynamics may contribute to the pathogenesis of endolymphatic hydrops and MD.

Downregulation of otospiralin, a novel inner ear protein, causes hair cell degeneration and deafness. Delprat, B., Boulanger, A., Wang, J., Beaudoin, V., Guitton, M. J., Venteo, S., Dechesne, C. J., Pujol, R., Lavigne, R. M., Puel, J. L., Hamel, C. P. Institut National de la Sante et de la Recherche Medicale U. 254, Laboratoire de Neurobiologie de l'Audition, 34090 Montpellier, France. *The Journal of Neuroscience* (2002) March 1, Vol. 22 (5), pp. 1718–25. Mesenchymal nonsensory regions of the inner ear are important structures surrounding the neurosensory epithelium that are believed to participate in the ionic homeostasis of the cochlea and vestibule. We report here the discovery of otospiralin, an inner ear-specific protein that is produced by fibrocytes from these regions, including the spiral ligament and spiral limbus in the cochlea and the maculae and semicircular canals in the vestibule. Otospiralin is a novel 6.4 kDa protein of unknown function that shares a protein motif with the gag p30 core shell nucleocapsid protein of type C retroviruses. To evaluate its functional importance, we downregulated otospiralin by cochlear perfusion of antisense oligonucleotides in guinea pigs. This led to a rapid threshold elevation of the compound action potentials and irreversible deafness. Cochlear examination of transmission electron microscopy revealed hair cell loss and degeneration of the organ of Corti. This demonstrates that otospiralin is essential for the survival of the neurosensory epithelium.

Acoustic neuroma: postoperative quality of life. Magliulo, G., Zardo, F., Damico, R., Varacalli, S., Forino, M. University La Sapienza, Rome, Italy. *The Journal of Otolaryngology* (2000) December, Vol. 29 (6), pp. 344–7.

OBJECTIVE: Evaluating patients who have had surgical management of acoustic neuroma has relied heavily on the surgeon's viewpoint for determining success. However, the perspective of the surgeon may be different from that of the patient. Thus, a recent increased interest in term of quality of life has been documented by the literature on this specific topic essentially through the use of a questionnaire. The objective of this paper was to review this topic in our series of patients operated on for acoustic neuroma to ascertain the personal and social impact that surgery has had on their lifestyle. **DESIGN:** This retrospective study was devoted to increasing statistics to provide more detailed and valid information during the counselling phase. **METHODS:** This study was carried out on 82 patients who underwent surgery for acoustic neuroma between 1988 and 1997. Each patient was recalled and assessed for his/her postoperative quality of life. Detailed information was requested on the initial postoperative facial, vestibular, and hearing functions; their evolution; and their

social consequence. Finally, at the end of the interview, each patient was invited to give a final comment on his/her opinion regarding the outcomes of surgery and preoperative information. **RESULTS:** Facial function showed a grade I-III in 85.4 per cent of cases, with postoperative neurovegetative dysfunction (taste and lacrimation) in 43 per cent. Audiologic abnormalities (worsening hearing and tinnitus) were complained of in 90 per cent and 57 per cent of the cases, respectively. Twenty-three per cent of the patients had various degrees of gait instability; six per cent reported postoperative headache at one year follow-up. Social consequence (reduced work ability, vocational change, new education, state pension, etc.) was not influenced by surgery in 80 per cent. **CONCLUSIONS:** Our experience is in general agreement with previously reported statistics. It is interesting to note that our patients exhibited more disturbances linked to the sensory component of facial nerve. In contrast, dysequilibrium had a less negative influence. These outcomes suggest the importance of thorough preoperative counselling in candidates for surgery for acoustic neuroma in order to motivate them and, at the same time, to reduce their psychological discomfort.

Effect of the external nasal dilator on nasal minimal cross-sectional area in orientals as assessed by acoustic rhinometry. Ho, W. K., Wei, W. I., Yuen, A. P., Hui, Y. Department of Surgery, The University of Hong Kong, Hong Kong, People's Republic of China. *The Journal of Otolaryngology* (2000) December, Vol. 29 (6), pp. 367–70.

OBJECTIVE: This study aimed to evaluate the effect of the external nasal dilator on the dimension of the nasal valve in Orientals. **DESIGN:** A cohort study of normal subjects. **SETTING:** Academic institution. **METHODS:** The nasal fossae of normal subjects were assessed by acoustic rhinometry before and after application of the external nasal dilator. **MAIN OUTCOME MEASURES:** The minimal cross-sectional area of the nasal fossae and the total cross-sectional area of the nose. **RESULTS:** Nasal fossae of 25 normal subjects were evaluated. There was a significant increase of 0.10 cm² (SD=0.16) or a 17 per cent increase in the minimal cross-sectional area of the 50 nasal cavities after application of the external nasal dilator (Wilcoxon's matched-pairs signed rank test, $p=0.0001$). A significant increase in the total minimal cross-sectional area for the whole nose after application was also present (0.19 cm², SD=0.27, or 16 per cent; Wilcoxon's matched-pairs signed rank test, $p=0.0032$). **CONCLUSIONS:** The external nasal dilator results in an increase in the minimal cross-sectional area of the nasal airway in Orientals.