

Abstract Selection

Three-step reconstruction of complex saddle nose deformities. Riechelmann Herbert, Rettinger Gerhard. Department of Otorhinolaryngology, University of Ulm Medical School, Ulm, Germany. herbert.riechelmann@medizin.uni-ulm.de. *Archives of Otolaryngology–Head & Neck Surgery* (2004) Mar, Vol. 130 (3), pp. 334–8, ISSN: 0886-4470.

OBJECTIVE: To evaluate a reproducible surgical technique for augmentation rhinoplasty of complex saddle nose deformities, which are characterized by substantial loss of nasal structural support and result in multiple nasal abnormalities. **DESIGN:** Case series and surgical outcome study. **SETTING:** Tertiary referral centre. **PATIENTS:** A total of 43 patients (32 female and 11 male, mean \pm SD age, 36 \pm 12 years) with complex saddle nose deformities and extensive loss of nasal volume, shape and support who underwent reconstructive surgery between 1997 and 1999. **INTERVENTION:** A standardized three-step surgical procedure using autogenous costal cartilage. **MAIN OUTCOME MEASURES:** Assessment of additional nasal abnormalities, graft recipient site conditions, post-operative complications, post-operative analgesic consumption, and subjective outcome assessed with a standardized telephone interview two years following surgery. **RESULTS:** Besides nasal abnormalities characteristic of complex saddle nose deformities, several additional nasal abnormalities were frequently encountered. Forty of the 43 patients had undergone previous septorhinoplasty, 26 of whom through multiple procedures. One transplant extrusion was recorded, which required revision surgery. In eight patients, minor surgical corrections were performed. Nasal airflow was judged satisfactory or good by 30 of the 37 patients who were contacted by telephone and aesthetic appearance was considered good by 17, satisfactory by 10 and unsatisfactory by 10. **CONCLUSIONS:** Three-step nasal reconstruction with costal cartilage is indicated in severe saddle nose deformities. It is a comparatively reliable surgical procedure yielding satisfying results even in patients with severe deformities and unfavourable recipient site conditions.

Adenoidectomy versus chemoprophylaxis and placebo for recurrent acute otitis media in children aged under 2 years: randomised controlled trial. Koivunen Petri, Uhari Matti, Luotonen Jukka, Kristo Aila, Raski Risto, Pokka Tytti, Alho Olli Pekka. University of Oulu, PO Box 5000, FIN-90014, Finland. petri.koivunen@ppshp.fi. *BMJ* (2004) Feb 28 (epub: 2004 Feb 09), Vol. 328 (7438), pp. 487, ISSN: 1468-5833.

OBJECTIVE: To evaluate the efficacy of adenoidectomy compared with long term chemoprophylaxis and placebo in the prevention of recurrent acute otitis media in children aged between 10 months and two years. **DESIGN:** Randomized, double blind, controlled trial. **SETTING:** Oulu University Hospital, a tertiary centre in Finland. **PARTICIPANTS:** 180 children aged 10 months to two years with recurrent acute otitis media. **INTERVENTION:** Adenoidectomy, sulfafurazole (sulphisoxazole) 50 mg/kg body weight, given once a day for six months or placebo. Follow up lasted for two years, during which time all symptoms and episodes of acute otitis media were recorded. **MAIN OUTCOME MEASURES:** Intervention failure (two episodes in two months or three in six months or persistent effusion) during follow up, number of episodes of acute otitis media, number of visits to a doctor because of any infection, and antibiotic prescriptions, number of prescriptions, and days with symptoms of respiratory infection. **RESULTS:** Compared with placebo, interventions failed during both the first six months and the rest of the follow-up period of 24 months similarly in the adenoidectomy and chemoprophylaxis groups (at six months the differences in risk were 10 per cent (95 per cent confidence interval –9 per cent to 29 per cent) and 18 per cent (–2 per cent to 38 per cent), respectively). No significant differences were

observed between the groups in the numbers of episodes of acute otitis media, visits to a doctor, antibiotic prescriptions and days with symptoms of respiratory infection. **CONCLUSIONS:** Adenoidectomy, as the first surgical treatment of children aged 10 to 24 months with recurrent acute otitis media, is not effective in preventing further episodes. It cannot be recommended as the primary method of prophylaxis.

Comparison of plasma Epstein-Barr virus (EBV) DNA levels and serum EBV immunoglobulin A/virus capsid antigen antibody titres in patients with nasopharyngeal carcinoma. Shao Jian Yong, Li Yu Hong, Gao Hong Yi, Wu Qiu Liang, Cui Nian Ji, Zhang Li, Cheng Gang, Hu Li Fu, Ernberg Ingemar, Zeng Yi Xin. Cancer Center, Sun Yat-Sen University, Guangzhou, People's Republic of China. *Cancer* (2004) Mar 15, Vol. 100 (6), pp. 1162–70, ISSN: 0008-543X.

BACKGROUND: Serologic measurement of antibodies to Epstein-Barr virus (EBV) immunoglobulin A/viral capsid antigen (IgA/VCA) and early antigen (IgA/EA) has been used widely to screen for nasopharyngeal carcinoma (NPC) in China. Recently, it was found that plasma EBV DNA concentration is an indicator for the staging and prognosis of patients with NPC. To determine whether there is a correlation between plasma EBV DNA levels and serum levels of IgA/VCA, the authors measured both in patients with NPC and in a control group. **METHODS:** Real-time polymerase chain reaction was used for quantitative analysis of plasma EBV DNA concentration, and enzyme-linked immunosorbent assay was used to measure EBV VCA/IgA in patients with primary NPC (n = 120 patients), locally recurrent NPC (n = 8 patients) and distant metastatic NPC (n = 21 patients) among 76 patients with NPC after the completion of radiotherapy, in 60 patients with NPC in clinical remission, in 38 patients with non-NPC tumours and in 47 control individuals. **RESULTS:** The median plasma EBV DNA levels were 6200 copies/ml, 9200 copies/ml, and 2050 copies/ml in patients with primary, locally recurrent, and distant metastatic NPC, respectively, but declined to 0 copies/ml in patients with clinically remissive NPC, in patients who completed radiotherapy, in patients with non-NPC tumours and in the control group. In contrast, EBV VCA /IgA titres and detection rates remained high in all NPC groups. Plasma EBV DNA levels were significantly higher in patients who had serum VCA/IgA titres \geq 1:640 (median, 83 450 copies/ml) compared with the levels in patients who had titres $<$ or = 1:320 (median, 17 200 copies/ml). Patients with NPC who had advanced TNM stage (Stages III and IV; median, 8530 copies/ml) and T classification (T3 and T4 tumours; median, 8530 copies/ml) had significantly higher plasma EBV DNA levels compared with patients who had early TNM stage (Stages I and II; median, 930 copies/ml) and T classification (T1 and T2 tumours; median, 3700 copies/ml). Patients who had advanced TNM stage NPC had significantly higher mean VCA/IgA titres (1:424) compared with patients who had early TNM stage NPC (1:246), but there was no correlation between IgA/VCA titre and T or N classification of NPC. **CONCLUSIONS:** The results suggest that plasma EBV DNA detection is a more sensitive and specific marker than the serum IgA/VCA titre for the diagnosis and monitoring of patients with NPC. These findings provide convincing evidence for the use of plasma EBV DNA measurements for the early diagnosis and staging of NPC as well as for monitoring recurrence and metastasis of this tumour. Copyright 2004 American Cancer Society.

Modified surgical excision for the treatment of chondrodermatitis nodularis. Ormond Patrick, Collins Paul. St Vincent's University Hospital and The City of Dublin Skin and Cancer Hospital, Hume Street, Dublin, Ireland. *Dermatologic Surgery* (2004) Feb, Vol. 30 (2 Pt 1), pp. 208–10, ISSN: 1076-0512.

BACKGROUND: Chondrodermatitis nodularis (CN) is a

common inflammatory condition of the ear that produces a painful papule or nodule on the helix or antihelix. Excision of the cartilage alone has been demonstrated to be therapeutically and cosmetically effective. **OBJECTIVE:** To simplify the surgical procedure. **METHOD:** We used two steps to refine the classic technique. We excised a narrow ellipse of skin over the nodule and replaced cold steel dissection by injecting normal saline into the plane of cleavage between the skin and cartilage. **RESULTS:** These two refinements resulted in maintaining the clinical and cosmetic efficacy and simplified the surgical technique. **CONCLUSION:** The addition of an elliptical excision over the nodule and the use of hydrodissection in the surgical treatment of chondrodermatitis nodularis were of benefit to both the patient and the surgeon.

Postcricoid hemangioma: an overlooked cause of dysphagia in infants? – a case report. Desuter Gauthier R. R., El Makhoulfi Kamal, Francois Genevieve J., Godding Veronique M., Saint Martin Christine, Buts Jean Paul, Hamoir M. F. A. ENT Head & Neck Surgery Department, Cliniques Universitaires Saint-Luc, Université Catholique de Louvain, Brussels, Belgium. gauthier.desuter@clin.ucl.ac.be. *Dysphagia* (2004) Winter, Vol. 19 (1), pp. 48–51, ISSN: 0179-051X.

Feeding and swallowing disorders in children remain a major challenge owing to a wide differential diagnosis. Haemangioma of the upper aerodigestive tract represents one of the numerous non-neoplastic causes of dysphagia. We report two cases of postcricoid haemangioma causing inhalation and recurrent respiratory infections, treated in each of 50 children. The children all had pre- or peri-lingual onset of severe to profound sensorineural hearing loss and received their implants at ages ranging from 12 months to 17 years. All children received Nucleus cochlear implant devices. All children were in therapy and in school programmes that emphasized listening and required the children to wear their implants consistently. **RESULTS:** Initial stimulation from the cochlear implant evoked clear responses from the auditory nerve and auditory brain stem in most children. There was no correlation between minimum latency, maximum amplitude or slope of amplitude growth of initial responses with age at implantation for ECAP eN1, EABR eIII and eV components ($p > 0.05$). During the first year of implant use, minimum latency of these waves significantly decreased ($p < 0.01$, $p < 0.0001$, $p < 0.0001$, respectively). Neural conduction time, measured using the interwave latency of ECAP eN1 -EABR eIII for lower brain stem and EABR eIII-eV for upper brain stem, decreased during the period of six to 12 months of cochlear implant use ($p < 0.01$ (lower), $p < 0.0001$ (upper)). The ECAP wave eN1 and the EABR wave eV showed significant increases in amplitude during time of implant use ($p < 0.05$ and $p < 0.01$, respectively). There were no correlations between the rate of interwave latency decrease and the rate of amplitude increases and the age at which children underwent implantation ($p < 0.05$). **CONCLUSIONS:** Activity in the auditory pathways to the level of the midbrain can be evoked by acute stimulation from a cochlear implant. EABR measures are not influenced by any period of auditory deprivation. Auditory development proceeds once the implant is activated and involves improvements in neural conduction velocity and neural synchrony. Underlying mechanisms likely include improvements in synaptic efficacy and possibly increased myelination. The developmental plasticity that we have shown in the human auditory brain stem does not appear from EABR data to be limited by a critical period during childhood.

Risk factors for tinnitus in a population of older adults: the blue mountains hearing study. Sindhusake Doungkamol, Golding Maryanne, Newall Philip, Rubin George, Jakobsen Kirsten, Mitchell Paul. Departments for Public Health and Community Medicine, University of Sydney, New South Wales 2145, Australia. *Ear and Hearing* (2003) Dec, Vol. 24 (6), pp. 501–7, ISSN: 0196-0202.

OBJECTIVE: To identify potential and modifiable risk factors for tinnitus in a population of older adults. **STUDY DESIGN:** Cross-sectional study. Detailed questionnaires were interviewer-administered in a representative sample of 2015 persons aged 55+ yr, living in an area west of Sydney, Australia. Air- and bone-conduction audiometric thresholds were measured from 250 to 8000 Hz and from 500 to 4000 Hz, respectively. TEOAE and SOAE were measured for both ears. **RESULTS:** After adjusting for multiple variables in a Cox proportional hazards model, factors

that significantly increased the risk of tinnitus were poorer hearing and cochlear function, self-reported work-related noise exposure, and history of middle ear or sinus infections, severe neck injury or migraine. **CONCLUSION:** Interventions aimed at reducing age-related hearing loss, particularly by reducing excessive work-related noise exposure and the effective, timely treatment of ear-related infections, may all decrease the risk of tinnitus.

Odontogenic keratocysts in nevoid basal cell carcinoma (Gorlin's syndrome): CT and MRI evaluation. Palacios Enrique, Serou Michael, Restrepo Santiago, Rojas Rafael. Department of Radiology, Louisiana State University Health Sciences Center, New Orleans, LA 70131, USA. drpalacios@aol.com. *Ear, Nose, & Throat Journal* (2004) Jan, Vol. 83 (1), pp. 40–2, ISSN: 0145-5613. We describe the imaging findings in a 13-year-old boy with nevoid basal cell carcinoma syndrome (NBCCS). The initial imaging work-up included plain radiographs and computed tomography (CT) of the facial area and mandible. CT detected large expansile cystic changes on both sides of the body and angle of the mandible. When the patient's condition worsened, magnetic resonance imaging (MRI) was performed to further characterize the nature of the lesions and to rule out intracranial anomalies. We agree with others who have published previous reports that although CT is valuable in elucidating osseous craniofacial anomalies associated with NBCCS, MRI is superior in demonstrating the internal composition and structure of the odontogenic keratocysts that are commonly seen in this syndrome

Outpatient treatment suite: a safe and cost-effective venue to perform myringotomy and tubes placement in children. Compliment James M., Gendelman Marla S., Allera Jacalyn F., Matisz Martin, Horvath Janet, Hores Kathleen M., Sperring Kim, Herbert Cheryl, Smith Jamie M., Kurpakus Bonnie Jean, Borgman Karl M., Post J. Christopher. Allegheny General Hospital, 320 East North Ave, Pittsburgh, PA 15212, USA. jcomplim@wpahs.org. *International Journal of Pediatric Otorhinolaryngology* (2003) Nov, Vol. 67(11), pp. 1159–68, ISSN 0165-5876.

CONTEXT Otitis media (OM) is the most common reason that a child undergoes a general anaesthetic, with the total costs of treating this disease exceeding five billion dollars annually. Concerns regarding the development of antibiotic-resistant organisms in response to medical treatment for OM have fuelled the demand for surgical intervention. However, reimbursements are decreasing. Non-traditional settings for children requiring bilateral myringotomy and tube (BMT) placement for ear disease have the potential to offer the same degree of patient safety and improved efficiency but at lower cost. **OBJECTIVE:** To develop a non-traditional setting for BMT surgery that is safe, cost effective, and well received by patients, families and staff. **DESIGN:** Prospective design of an out-patient treatment suite (OTS) for BMT placement; prospective evaluation of safety and family satisfaction; analysis of costs. **SETTING:** A 778 bed US urban area level one trauma centre and teaching hospital, with a 2160 ft² electro-convulsive therapy suite that was underutilized and non-revenue-generating on Tuesdays and Thursdays. **PARTICIPANTS:** A design task force of health care providers, administrators and operations personnel; 794 healthy children between the ages of six months to 16 years requiring BMT surgery; 100 families of patients. **MAIN OUTCOME MEASURES:** Financial comparison was made between the traditional operating room (OR) setting, the outpatient surgery centre (SC) and the OTS comparing overhead and indirect costs to run each site. A prospective survey was conducted of 100 consecutive patients undergoing surgery between November 2000 and June 2001. The survey was conducted at the two weeks post-operative check and was composed of 18 questions divided into five sections, with a five-point rating scheme, with one being very poor, and five being very good. **RESULTS:** Designing a new treatment venue was successful because of teamwork and a willingness to think creatively. The OTS was found to be far more cost-effective than both the main OR and SC for BMTs. The contribution to margin for the SC was US\$ 280 per case and for the main OR was US\$ 2130 per case. By operating on 794 patients in OTS, the hospital was able to generate additional contribution to margin of US\$ 197 100 when compared to the cost of performing these cases in the SC and US\$ 1 499 500 when compared to performing all cases in the main OR. No adverse consequences were noted. Patient/family satisfaction was also rated very high, with an overall rating of 4.85 and markedly reduced time

in hospital. **CONCLUSION:** Operating rooms (ORs) today are busier than in years past, but revenues barely meet or in some cases fall below expenses due to insurers' decreased reimbursement. This innovative approach to BMT placement has been shown to be safe and results in excellent family satisfaction, with a substantial contribution to margin. As over one million BMT cases are performed annually in the US, adoption of this approach nationally has the potential to markedly reduce the treatment costs of this common disease.

The epidemiology of acute bullous myringitis and its relationship to recurrent acute otitis media in children less than 2 years of age.

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OBJECTIVE: To evaluate the epidemiological characteristics of acute bullous myringitis (BM), i.e. inflammation of the tympanic membrane with blister(s) in children <two years and study the relationship between bullous myringitis and recurrent acute otitis media. **METHODS:** 2028 children aged seven to 24 months in a prospective longitudinal cohort study in the Finnish Otitis Media vaccine trial. The main outcome measures were the incidence of bullous myringitis and the incidence of acute otitis media (AOM) before and after the event of bullous myringitis. **RESULTS:** Eighty-two children had a total of 86 events of acute bullous myringitis. The incidence of bullous myringitis was 5.7 per 100 person years (95 per cent CI, 4.6–7.1 per 100 person years). The number of events with bullous myringitis was 4.6 per cent of the number of all AOM events diagnosed during the follow-up. Recurrent AOM (> or = six AOM events) occurred in 33 per cent of children with bullous myringitis in comparison with 23 per cent of control children with at least one event of AOM (RR 1.7; 95 per cent CI, 1.01–2.7). The incidence of AOM in children with bullous myringitis was 1.8 per person year (95 per cent CI, 1.4–2.2 per person year) before the event of bullous myringitis and 2.9 per person year (95 per cent CI, 2.3–3.5 per person year) after the event of bullous myringitis. The higher incidence rate of AOM lasted for two months after the office visit for bullous myringitis. **CONCLUSIONS:** Acute bullous myringitis is not a rare disease; it was diagnosed in 5.7 per cent of children <two years in a one-year follow-up. It was present in almost one of every 20 AOM events. Acute bullous myringitis increases the subsequent risk of recurrent AOM.

Endoscopic surgery in treatment of juvenile nasopharyngeal angiofibroma. Onerci T. Metin, Yucel O. Taskin, Ogretmenoglu Oguz. Hacettepe University Medical Faculty, ENT Department, Ankara, Turkey. tyucel@tr.net. *International Journal of Pediatric Otorhinolaryngology* (2003) Nov, Vol. 67 (11), pp. 1219–25, ISSN: 0165-5876.

OBJECTIVES: Juvenile nasopharyngeal angiofibroma (JNA) is a highly vascular and locally invasive tumour with a high incidence of persistence and recurrence. The classical treatment of this tumour is surgery and/or radiotherapy. Use of endoscopic techniques seems to be on the rise in treatment of these lesions. We tried to explore the roles and limits of endoscopic surgery alone or with classical surgery techniques in treatment of these tumours. **METHODS:** Retrospective case review was conducted at a tertiary referral centre. Twelve patients were treated for nasopharyngeal angiofibroma using endoscopic approach between 1998–2002. The staging, average blood loss during surgery, residual and/or recurrent tumour were evaluated. **RESULTS:** Eight of these patients (eight out of 12) were up to stage IIC according to Radkowski staging. This group of patients has an average blood loss of 1000 ml and were followed for at least six months. We did not encounter any residual or recurrent tumour in this group. Four patients (four out of 12) had minimal intracranial extension, were staged IIIA and had an average blood loss of 1500 ml during surgery. Two of these patients had minimal residual tumour around the cavernous sinus, but showed no progression of disease over a follow-up of two years with MRI. Two patients had no residual or recurrent tumour over a follow-up of six months. **CONCLUSION:** This data suggests that endoscopic surgery can be used in the treatment of JNA even with minimal intracranial extension with minimal morbidity and low recurrence rate.

Fourth branchial complex anomalies: a case series. Shrimel Mark, Kacker Ashutosh, Bent John, Ward Robert F. Department of Otolaryngology, Head and Neck Surgery, New York Presbyterian Hospital, 520 E 70th Street, Starr 541, New York, NY 10021, USA. *International Journal of Pediatric Otorhinolaryngology* (2003) Nov, Vol. 67 (11), pp. 1227–33, Refs: 27, ISSN: 0165-5876.

OBJECTIVE: Anomalies of the fourth branchial arch complex are exceedingly rare, with approximately 40 cases reported in the literature since 1972. The authors report experience with six fourth arch anomalies. **METHODS:** Retrospective chart review of six consecutive patients presenting to the paediatric otolaryngology service at a tertiary care centre with anomalies referable to the fourth branchial arch. **RESULTS:** All six patients presented within the first or second decade of life. All six had left-sided disease. Four patients presented with recurrent neck infection, one with asymptomatic cervical masses, and one with a neck mass and respiratory compromise. One patient who had had prior surgery presented with a recurrence. Diagnosis of fourth arch anomalies was suggested or confirmed by computed tomography (CT) and flexible laryngoscopy. Treatment was surgical in five patients; one patient is awaiting surgery. Surgical procedures included resection of the mass and endoscopic cauterization of the inner opening of the cyst. **CONCLUSIONS:** The presentation of a cervical mass, especially with recurrent infections and especially on the left side, in a child in the first or second decade of life heightens suspicion of an anomaly of the fourth branchial arch. Diagnosis can be difficult, but is aided by the use of flexible laryngoscopy, CT scanning and ultrasonography. Surgical resection of the cyst and cauterization of its pyriform sinus opening should be undertaken to minimize recurrence.

Severe sensory hearing loss in del(6q)-syndrome. Schuster Maria, Lohscheller Joerg, Kummer Peter, Eysholdt Ulrich, Rosanowski Frank. Department of Phoniatrics and Pedaudiology, Erlangen, University Hospital, Bohlenplatz 21, D-91054 Erlangen, Germany. *International Journal of Pediatric Otorhinolaryngology* (2003) Nov, Vol. 67 (11), pp. 1263–6, ISSN: 0165-5876.

6q-Syndrome is a rare disorder characterized by a combination of anatomic anomalies, and mental and motor retardation due to a monosomy or trisomy 6q. So far only 12 suspected cases of monosomies 6q have been reported. Hearing loss does not seem to be characteristic for this syndrome. We present the case of a girl with partial monosomy 6q. A bilateral severe sensory hearing loss was confirmed by subjective and objective audiometry at the age of 12 years. The girl was successfully equipped with hearing aids. Other features of the syndrome, i.e. mental retardation, microcephaly, asymmetric face, broad nasal bridge, hypertelorism, epicanthus, strabism, high arched palate, ventricular septum defect and seizures were seen. Additionally, a tetraplegy and diaphragmal hernia had been diagnosed. The girl was equipped with a gastrostomy tube because of nutritional disorders. In the literature, the possibility of hearing disorders in monosomy 6q is rarely mentioned, although limited verbal speech skills have been reported. A syndromic character of hearing disorders in 6q-syndrome cannot be excluded. We advise detailed and early audiological testing of children with monosomy 6q.

Noticeable differences in bacterial defence on tonsillar surfaces between bacteria-induced and virus-induced acute tonsillitis. Stenfor Lars Eric, Bye Helga Marie, Raesaenen Simo. Department of Otolaryngology, Institute of Clinical Medicine, University of Tromsø, N-9037 Tromsø, Norway. larseric@fagmed.uit.no. *International Journal of Pediatric Otorhinolaryngology* (2003) Oct, Vol. 67(10), pp. 1075–82, ISSN 0165-5876.

OBJECTIVE: Oral and pharyngeal cavities harbour a commensal bacterial flora which is kept in check by several innate and acquired agents. In this study, we focused on the proportions in which some antibacterial moderators (lysozyme, lactoferrin, IgG and S-IgA) coat the tonsillar surface bacteria in healthy individuals, in patients with acute tonsillitis (AT) culture-positive for *Streptococcus pyogenes* and in patients with infectious mononucleosis (IM) caused by Epstein-Barr virus (EBV). **METHODS:** Bacterial samples were collected for aerobic culturing and immunocytochemical evaluation from the tonsillar surfaces of eight healthy individuals (four males, four females; age range 16–22 years), eight patients with current AT (two males, six females; age range 16–29 years) and seven patients with IM (four

males, three females; age range 15–21 years). The immunocytochemical assay was based on gold-labelled antiserum to human lysozyme, lactoferrin, IgG and S-IgA followed by gold particle tracing in the transmission electron microscope. **RESULTS:** During AT, a significant increase in lysozyme coating ($p < 0.05$) and lactoferrin coating ($p < 0.0005$) of the bacteria was noted, whereas the S-IgA coating was significantly reduced ($p < 0.0005$). During IM infection, a significant increase in lactoferrin coating was noted ($p < 0.0005$) whereas immunoglobulin coating was significantly reduced (IgG $p < 0.025$, S-IgA $p < 0.0005$) compared with healthy controls. During IM, all antibacterial moderators evaluated were significantly reduced compared with the situation during AT. **CONCLUSIONS:** Noticeable changes in the local innate and acquired bacterial defence system were observed during tonsillar infections, particularly during IM.

Diagnosis and initial management of laryngotracheal injuries associated with facial fractures. Kuttnerberger J. J., Johannes J., Hardt Nicolas, Schlegel Christoph. Department of Oral and Maxillofacial Surgery, Kantonsspital Luzern, Switzerland. johannes.kuttnerberger@ksl.ch. *Journal of Cranio-maxillo-facial Surgery* (2004) Apr, Vol. 32 (2), pp. 80–4, ISSN: 1010-5182.

INTRODUCTION: Laryngotracheal injuries are uncommon with an estimated incidence of one per thousand (one to six patients per 15 000–42 500 trauma victims). They may be associated with fractures of the facial skeleton. Their symptoms are variable ranging from obvious airway obstruction to minor or almost missed symptoms. Early diagnosis and proper initial management may sometimes be difficult or delayed. **PATIENTS:** Three patients with maxillofacial fractures and concomitant laryngotracheal injuries are presented. The diagnostic procedures used and the management of these injuries are reported. **DISCUSSION AND CONCLUSION:** Due to their low incidence and their hidden nature laryngotracheal injuries may pose diagnostic problems, especially in polytraumatized or intubated patients. Subcutaneous emphysema is the chief clinical sign. Fibre-optic endoscopy is the most important and informative diagnostic examination. Radiographic evaluation by CT scan provides additional information about the extent of the injury and the indication for surgery. A coordinated team approach is necessary for proper management of these injuries.

Removal of large acoustic neurinomas (vestibular schwannomas) by the retrosigmoid approach with no mortality and minimal morbidity. Yamakami I., Uchino Y., Kobayashi E., Yamaura A., Oka N. Department of Neurosurgery, Chiba University School of Medicine, Chiba, Japan. yamakami@faculty.chiba-u.ac.jp. *Journal of Neurology, Neurosurgery, and Psychiatry* (2004) Mar, Vol. 75 (3), pp. 453–8, ISSN: 0022-3050.

OBJECTIVE: To evaluate the safety and efficacy of removing large acoustic neurinomas ($>$ or $=$ 3 cm) by the retrosigmoid approach. **METHODS:** Large acoustic neurinomas (mean (SD), 4.1 (0.6) cm) were removed from 50 consecutive patients by the retrosigmoid suboccipital approach while monitoring the facial nerve using a facial stimulator-monitor. Excision began with the large extrameatal portion of the tumour, followed by removal of the intrameatal tumour, and then removal of the residual tumour in the extrameatal region just outside the porus acusticus. The last pieces of tumour were removed by sharp dissection from the facial nerve bidirectionally, and resected cautiously in a piecemeal fashion. **RESULTS:** There were no post-operative deaths. The tumour was removed completely in 43 of 50 patients (86 per cent). The facial nerve was anatomically preserved in 92 per cent of the patients and 84 per cent had excellent facial nerve function (House-Brackmann grade 1/2). One patient recovered useful hearing after tumour removal. Cerebrospinal fluid leak occurred in four per cent but there were no cases of meningitis. All but two patients (96 per cent) had a good functional outcome. **CONCLUSIONS:** The method resulted in a high rate of functional facial nerve preservation, a low incidence of complications and good functional outcomes, with no mortality and minimal morbidity. Very favourable results can be obtained using the retrosigmoid approach for the removal of large acoustic neurinomas.

Functional anatomy of the human cochlear nerve and its role in microvascular decompressions for tinnitus. De Ridder Dirk, Ryu Hiroshi, Moeller Aage R., Nowe Vicky, Van de Heyning Paul,

Verlooy Jan. Department of Neurosurgery and Otorhinolaryngology, University Hospital Antwerp, Wilrijkstraat 10, 2650 Edegem, Antwerp, Belgium. dirk.de.ridder@uza.be. *Neurosurgery* (2004) Feb, Vol. 54 (2), pp. 381–8; discussion 388–90, ISSN: 0148-396X.

OBJECTIVE: The functional anatomy (i.e., tonotopy) of the human cochlear nerve is unknown. A better understanding of the tonotopy of the central nervous system segment of the cochlear nerve and of the pathophysiology of tinnitus might help to ameliorate the disappointing results obtained with microvascular decompressions in patients with tinnitus. **METHODS:** We assume that vascular compression of the cochlear nerve can induce a frequency-specific form of hearing loss and that when the nerve is successfully decompressed this hearing loss can recuperate. Thirty-one patients underwent a microvascular decompression of the vestibulocochlear nerve for vertigo or tinnitus. Pre-operative audiograms were subtracted from post-operative audiograms, regardless of the surgical result with regard to the tinnitus and vertigo, because the hearing improvement could be the only sign of the vascular compression. The frequency of maximal improvement was then correlated to the site of vascular compression. A tonotopy of the cochlear nerve was thus obtained. **RESULTS:** A total of 18 correlations can be made between the site of compression and post-operative maximal hearing improvement frequency when five-dB hearing improvement is used as threshold, 13 when 10-dB improvement is used as threshold. A clear distribution can be seen, with clustering of low frequencies at the posterior and inferior side of the cochlear nerve, close to the brainstem, and close to the root exit zone of the facial nerve. High frequencies are distributed closer to the internal acoustic meatus and more superiorly along the posterior aspect of the cochlear nerve. **CONCLUSION:** The tonotopic organization of the cisternal segment of the cochlear nerve has an oblique rotatory structure as a result of the rotatory course of the cochlear nerve in the posterior fossa. Knowledge of this tonotopic organization of the auditory nerve in its cisternal course might benefit surgeons who perform microvascular decompression operations for the vestibulocochlear compression syndrome, especially in the treatment of unilateral severe tinnitus.

Autologous fat injection laryngohypopharyngoplasty for aspiration after vocal fold paralysis. Sato Kiminori, Umeno Hirohito, Nakashima Tadashi. Department of Otolaryngology-Head and Neck Surgery, Kurume University School of Medicine, Kurume, Japan. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Feb, Vol. 113 (2), pp. 87–92, ISSN: 0003-4894.

Injection laryngoplasty is one of the procedures for treating unilateral vocal fold paralysis. This is a preliminary report on modified injection laryngoplasty, i.e. injection of liposuctioned autologous fat into the larynx and hypopharynx of patients who have aspiration and voice disorders after vocal fold paralysis. Lipoinjection was performed in three patients with these complaints with the endolaryngeal microsurgical technique under general anaesthesia. The locations of fat injection were the vocal fold, the false vocal fold, the aryepiglottic fold of the larynx and the medial wall of the pyriform sinus of the hypopharynx. Lipoinjection into the vocal fold, false vocal fold and aryepiglottic fold strengthened laryngeal closure. Lipoinjection, performed into the thyroarytenoid muscle lateral to the oblong fovea of the arytenoid cartilage, made arytenoid cartilage rotation possible, and consequently strengthened laryngeal closure. Lipoinjection into the medial wall of the pyriform sinus of the hypopharynx reduced its capacity; consequently, the amount of residual food retained in it was reduced and pharyngeal clearance on the affected side was improved. The longest follow-up among the three patients has been 24 months. Their aspiration and glottal incompetence have been improved by this operation. We conclude that modified injection laryngoplasty (laryngohypopharyngoplasty) is one of the surgical options for preventing aspiration after vocal fold paralysis.

Herpes zoster laryngis with prelaryngeal skin erythema. Wu Chin Lung, Linne Oan Che, Chiang Ching Wen. Dept of Otorhinolaryngology-Head and Neck Surgery, Lo-Tung Poh-Ai Hospital, 83 Nan Chang St, Lo-Tung 265, I-Lan, Taiwan. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Feb, Vol. 113 (2), pp. 113–4, ISSN: 0003-4894.

A 74-year-old man came to our hospital with complete left vocal

fold paralysis and erythema of the prelaryngeal skin. The patient also had mucosal swelling and erosions in the left arytenoid cartilage, aryepiglottic fold and pyriform sinus. Herpetic vesicles developed over the prelaryngeal erythema four days after admission. An increase in the varicella-zoster immunoglobulin G level to 3294 IU/ml confirmed varicella-zoster virus infection of the larynx and prelaryngeal skin. The patient was treated with acyclovir without marked effect. Nevertheless, in cases of unilateral vocal fold paralysis and erythema of the ipsilateral prelaryngeal skin, we advise that herpes zoster laryngis must be considered and treatment with early intravenous acyclovir started.

Sinus tissue concentration of moxifloxacin after a single oral dose.

Dinis Paulo Borges, Monteiro Maria Conceicao, Martins Maria Luz, Silva Nuno, Morais Jose Guimaraes. Department of Otorhinolaryngology, Hospital de Pulido Valente, Lisbon, Portugal. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Feb, Vol. 113 (2), pp. 142–6, ISSN: 0003-4894.

Moxifloxacin is a new fluoroquinolone antimicrobial approved for the treatment of acute bacterial rhinosinusitis. In order to assess its distribution pattern into the paranasal sinuses, and specifically to evaluate how the histopathologic changes associated with chronic inflammation affect its tissue penetration, we conducted the present investigation, a randomized, open-label, single dose, sinus-tissue pharmacokinetic study with oral moxifloxacin. Twenty adult subjects, selected for surgery because of recalcitrant chronic rhinosinusitis, were pre-operatively randomly allocated to receive a tablet of 400 mg moxifloxacin three or four hours before the procedure. During the operation, tissue samples were collected at specific sinonasal sites, and the concentration levels of the antimicrobial in the different parts of the paranasal sinuses were assayed. Simultaneously, the degree of inflammation at each site was evaluated. We found that moxifloxacin was distributed extensively throughout the sinuses, in both inflamed and non-inflamed mucosae, but tended to be concentrated in maxillary sinus cysts. The tissue-to-blood ratios exceeded 4:1 at most sites, with mucosal concentration levels well above the MIC₉₀ values of the drug against a wide range of microorganisms. We concluded that the oral moxifloxacin tissue kinetics provides an extremely potent antimicrobial activity in all parts of the sinuses, regardless of the inflammatory status of the mucosa.

Hearing preservation after modified translabyrinthine approach performed to remove a vestibular schwannoma. Tringali Stephane, Bertholon Pierre, Chelikh Larbi, Jacquet Claude, Prades Jean Michel, Martin Christian. Department of Otorhinolaryngology-Head and Neck Surgery, Centre Hospitalo-Universitaire de Saint-Etienne, Saint-Etienne, France. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Feb, Vol. 113 (2), pp. 152–5, ISSN: 0003-4894.

Hearing preservation after surgical removal of a vestibular schwannoma by a modified translabyrinthine approach was initially reported by McElveen *et al.* in 1991. We report the case of a 46-year-old man from whom a vestibular schwannoma (grade I) was removed by this approach. The patient's hearing was preserved and was stable after 21 months. To the best of our knowledge, this is the first case with satisfactory and long-standing hearing preservation. However, further experimental studies are needed to determine the mechanisms of hearing preservation in order to develop a reliable technique for this approach before using it as an alternative in the management of vestibular schwannoma.

Hearing preservation surgery in vestibular schwannoma: the hidden truth. Sanna Mario, Khrais Tarek, Russo Alessandra, Piccirillo Enrico, Augurio Angela. Gruppo Otologico Piacenza-Rome, Via Emmanuelli 42, 29100 Piacenza, Italy. *The Annals of Otolaryngology, Rhinology, and Laryngology* (2004) Feb, Vol. 113 (2), pp. 156–63, ISSN: 0003-4894.

To compare the results of hearing preservation surgeries using different approaches – the enlarged middle cranial fossa approach and the retrosigmoid approach – and different classification systems, stressing the importance of preserving 'normal hearing', we performed a retrospective case review in a tertiary care medical centre. The charts of 107 patients with vestibular schwannoma who underwent tumour resection were reviewed. Hearing preservation was reported according to two different classification systems: the modified Sanna classification and the classification of the American Academy of Otolaryngology-Head and Neck Surgery. The facial nerve results were graded according to the House-Brackmann scale. The hearing preservation rates differed markedly depending on the classification used. We conclude that hearing preservation in acoustic neuroma is a more difficult proposition than most surgeons appreciate, especially in terms of serviceable hearing.