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Abstract Selection

Epidemiological and genetic studies of congenital profound deafness in the general population of Sichuan, China. Liu, X., Xu, L., Zhang, S., Xu, Y. Department of Otolaryngology, West China University of Medical Sciences, Chengdu. *American Journal of Medical Genetics* (1994) November 1, Vol. 53 (2), pp. 192–5.
People with congenital profound deafness (CPD) were surveyed in the general population of Sichuan. The prevalence was 0.082 per cent (104/126, 876) of the general population, male 0.086 per cent, female 0.078 per cent. There was no significant difference in prevalence between urban and rural populations. However the population living in the mountains had a much higher prevalence than people from the foothills and plains ($P<0.05$). Amongst the nationalities investigated, there were significant differences in prevalence. Non-Chinese, except for Tibetans, presented a significantly higher prevalence among the inbred population (0.82 per cent) than among the non-bred population (0.72 per cent). An effect of parental age was demonstrated, but no effect of birth order was found. There was a significant seasonal variation in prevalence. Inherited cases could account for 71.2 per cent of all cases, of which 92 per cent were autosomal recessive (AR) and eight per cent autosomal dominant (AD). Heterogeneity in AR was found with at least eight different loci. The fitness was 60.26 per cent, the coefficient of selection was 0.3974, mutation rate was estimated to be 2.0×10^{-4}, and no heterozygote advantage was proven. Author.

Effect of topical anaesthesia on the motor performance of vocal cords as assessed by tussometry. Mahajan, R. P., Murty, G. E., Singh, P., Aitkenhead, A. R. University Department of Anaesthesia, Queen's Medical Centre, Nottingham. *Anaesthesia* (1994) December, Vol. 49 (12), pp. 1028–30.
Tussometry involves a continuous measurement of airflow produced by a cough manoeuvre displayed as an airflow-time wave. There is a rapid rise to its peak (cough peak flow rate) and the time taken to reach the peak (peak velocity time) is determined by the laryngeal opening at the onset of cough. Cough peak flow and peak velocity time were measured in 10 healthy volunteers before and after topical anaesthesia of the larynx with lignocaine 100 mg sprayed under indirect laryngoscopy. Adequacy of anaesthesia was established by touching the cords deliberately with a fibreoptic laryngoscope. All subjects had excellent anaesthesia of the larynx. However, cough peak flow rate and peak velocity time remained unchanged following topical anaesthesia. We conclude that topical anaesthesia of the larynx does not impair the motor performance of the vocal cords during a voluntary cough. Author.

Safety and efficacy of nebulized racemic epinephrine in conjunction with oral dexamethasone and mist in the outpatient treatment of croup. Ledwith, C. A., Shea, L. M., Mauro, R. D. Section of General and Emergency Pediatrics, Children's Hospital, Denver, CO. *Annals of Emergency Medicine* (1995) March, Vol. 25 (3), pp. 331–7.
STUDY OBJECTIVE: To identify patients with croup who after treatment with nebulized racemic epinephrine, oral dexamethasone, and mist may be safely discharged home after a period of observation. DESIGN: Prospective interventional. SETTING: Urban children's hospital emergency department. PARTICIPANTS: Children with croup who received racemic epinephrine for the treatment of stridor at rest. INTERVENTIONS: After treatment with 0.5 ml racemic epinephrine, 0.6 mg/kg dexamethasone PO, and mist, patients who were assessed as being safe for discharge after three hours of observation were discharged home and contacted for 48-hour follow-up. RESULTS: Fifty-five patients with croup were treated with racemic epinephrine. Thirty patients (55 per cent) had sustained responses and were discharged home after three hours of observation. No recurrence of respiratory distress and no return visits for medical care were reported (95 per cent confidence interval, 0 per cent to eight per cent). CONCLUSION: Patient with croup who are treated with racemic epinephrine, oral dexamethasone, and mist may be safely discharged home if the patient is assessed as ready for discharge after three hours of observation. Author.

Immunoactivity of pidotimod against episodes of recurrent tonsillitis in childhood. Motta, G., De Campora, E., De Vita, C., Esposito, S., Galletti, C., Incutti, V., Mallardi, V., Motta, S., Pucci, V., Salonna, F., *et al.* Institute of Otorhinolaryngology and Phoniatrics, Faculty of Medicine and Surgery II, Naples University, Italy. *Arzneimittelforschung* (1994) December, Vol. 44 (12A), pp. 1521–4.
The therapeutic efficacy of the synthetic immunostimulant pidotimod ((R)-3-((S)-(5-oxo-2-pyrrolidinyl) carbonyl)-thiazolidine-4-carboxylic acid, PGT/1A, CAS 121808-62-6) was evaluated in a double-blind placebo-controlled study in parallel groups in the management of recurrences in 235 children with recurrent tonsillitis. The ambulant study provided for 15 days of treatment with two oral vials of pidotimod 400 mg or placebo daily, in accordance with a randomization list, 60 days of treatment with one oral vial of pidotimod 400 mg or placebo daily, and a 90-day follow-up period. The total trial period was 165 days. In addition to evaluating the number of tonsillitis recurrences which occurred during the 75 days of treatment and the 90-day follow-up period, the number of days on which the principal symptoms of the illness were present and on which drugs such as antibiotics or anti-inflammatory agents were used concomitantly, as well as the number of days' absence from school, were analyzed. The findings showed that, taking the treatment phase and the three-month follow-up period together, pidotimod significantly reduces the incidence of inflammatory upper airways episodes. The very low incidence of adverse effects, which was the same as that in the placebo group, confirmed the excellent safety of the product. Author.

A comparison of different imaging modalities and direct inspection after periosteal stripping in predicting the invasion of the mandible by oral squamous cells carcinoma. Brown, J. S., Griffith, J. F., Phelps, P. D., Browne, R. M. Maxillofacial Unit, Walton Hospital, Liverpool. *British Journal of Oral Maxillofacial Surgery* (1994) December, Vol. 32 (6), pp. 347–59.
OBJECTIVE: To compare the predictability of orthopantomograms (OPG), bone scans, computerized tomography (CT), magnetic resonance imaging (MRI) and periosteal stripping with direct inspection in predicting both the presence and extent of tumour invasion of the mandible. DESIGN: Prospective study. SETTING: Queen Elizabeth Hospital, Birmingham; Wordsley Hospital, Stourbridge; North Staffordshire Royal Infirmary, Stoke-on-Trent. SUBJECTS: Thirty-five consecutive patients requiring a mandibular resection as part of their treatment for oral squamous cell carcinoma. MAIN OUTCOME MEASURES: The prediction of the extent of bone invasion for each of the investigations and direct inspection after periosteal stripping. The actual extent of invasion of the mandible from a detailed histological assessment. RESULTS: The OPG underpredicted the width and depth of invasion by on average 13 mm and 2 mm. There were five false negative reports. Bone scans overpredicted the width and depth by 14 mm and 15 mm with one false negative. CT scans underpredicted the width of invasion by 5 mm and overpredicted depth by 3 mm, but seven false negatives were returned. MRI scans overpredicted width and depth of invasion by 19 mm and 10 mm with one false negative. Direct inspection after periosteal stripping underpredicted the width and depth of invasion by 5 mm and

3 mm with one false negative. CONCLUSION: OPG's and bone scans are useful for the initial assessment of all tumours in the region of the mandible. MRI is a more useful investigation than CT in the assessment of mandibular invasion by oral squamous cell carcinomas. Exploratory periosteal stripping at the time of resection can accurately predict the presence of tumour invading the mandible. Author.

Prognostic significance of clinically false positive cervical lymph nodes in patients with laryngeal carcinoma. Gallo, O., Boddi, V., Bottai, G. V., Franchi, A., Storchi, O. F. Institute of Otolaryngology Head and Neck Surgery, Florence, Italy. *Cancer* (1995) March 1, Vol. 75 (5), pp. 1077–83.
BACKGROUND: A significant proportion of clinically positive palpable cervical lymph nodes in patients with head and neck cancer are histologically benign. The biologic and prognostic significance of this reactive lymph node enlargement has not been fully clarified. METHODS: In this study, the incidence of clinically positive microscopically negative cervical lymph nodes in a series of 902 patients who had neck procedures as a part of their primary treatment for N0–2 laryngeal cancer was analyzed and survival rates of 342 patients with true negative lymph nodes (N1–2b-necks) were compared with those of 106 patients with clinically false positive lymph nodes (1–2b-necks). In 86 patients with false positive lymph nodes, a histopathologic analysis was performed to determine the histomorphologic pattern of the enlarged lymph nodes and to evaluate which parameters, if any, correlated with five-year patient survival. RESULTS: Overall actuarial survival did not differ significantly in the two groups. However, the actuarial survival curves in the false positive group were clearly better compared with those of the true negative group with more advanced laryngeal cancers, particularly T4 lesions ($P<0.05$). Interestingly, the analysis of pattern of recurrence showed a higher incidence of distant metastases in false positive patients with advanced stage laryngeal cancer than in true negative subjects. In addition, the histological examination of 375 enlarged hyperplastic cervical lymph nodes from 86 neck specimens showed the prevalence of sinus histiocytosis in the false positive group and its favourable prognostic significance. No statistically significant differences with regard to the number and size of enlarged lymph nodes were found. On the contrary, lymph node location seems to have a prognostic impact on survival and the reactive benign enlargement of a diagastric lymph node is a possible poor prognostic factor. CONCLUSIONS: Survival of patients with clinically false positive, histologically benign hyperplastic cervical lymph nodes who have more advanced laryngeal carcinoma is higher than clinically negative patients, suggesting that the presence of palpable benign nodes may be a sign of the host's immune activation, with favourable prognostic significance. Author.

Oral pilocarpine for radiation-induced xerostomia: integrated efficacy and safety results from two prospective randomized clinical trials. Rieke, J. W., Hafermann, M. D., Johnson, J. T., LeVeque, F. G., Iwamoto, R., Steiger, B. W., Muscoplat, C., Gallagher, S. C. Division of Radiation Oncology, Virginia Mason Medical Centre, Seattle, WA 98111. *International Journal of Radiation Oncology, Biology and Physiology* (1995) February 1,Vol. 31 (3), pp. 661–9.
PURPOSE: Pilocarpine hydrochloride administered in either a fixed-dose or in a dose-titration protocol three times a day for 12 weeks was evaluated for its ability to relieve symptoms of postradiation xerostomia and to improve saliva production. The studies were randomized, double-blind, placebo-controlled, multicentre clinical trials. A total of 369 patients who had received at least 40 Gy of radiation to the head and neck with clinically significant xerostomia were enrolled in the two studies. In the dose-titration study, 162 patients were enrolled and they received a thrice daily regimen of 2.5 mg tablets for first four weeks, 5 mg tablets for the second four weeks, and 10 mg tablets for last four weeks of a 12-week study. Patients in the titration study were allowed to down titrate following at least one dose escalation to alleviate bothersome side effects, if any. In the fixed dose study, 207 patients received either placebo, 5 mg, or 10 mg tablets t.i.d. for 12 weeks. METHODS AND MATERIALS: Patients were evaluated for symptomatic relief by responding to questionnaires using visual analog scales and categorical questions; and, for saliva production by sialometry. Questionnaires measured relief of intraoral dryness, improvement in overall condition (global response), oral discomfort, difficulty in speaking, chewing and swallowing, denture wearing, and usage of artificial saliva. Evaluations were conducted at baseline, and weeks 4, 8 and 12. RESULTS: There were statistically significant improvements in salivary flow in pilocarpine treatment groups vs. placebo. There was a significant improvement in the overall 'global' condition of xerostomia associated with the use of pilocarpine in both studies. In the fixed-dose study, there were significant improvements in oral dryness, mouth comfort, ability to speak, and reduction in the use of oral comfort agents. The dose-titration study showed improvements in dryness that approached significance ($P = 0.057$) and a decreased use of oral comfort agents ($P = 0.045$). All pilocarpine dosages (2.5, 5 and 10 mg three times a day) were judged to be safe. Adverse experiences were those expected for a cholinergic agonist, with the most common being mild to moderate sweating. The incidence of these events increased by dose. CONCLUSION: It is concluded that in these studies pilocarpine produced clinically significant benefits with acceptable side effects and risks for the treatment of symptomatic postradiation xerostomia. The incidence of most adverse events increased with dose. Best results may require continuous treatment for more than eight weeks with doses greater than 2.5 mg three times a day. A 5 mg thrice daily regimen produced the best clinical results when both efficacy and side effects were taken into consideration. There may be some patients who would experience some additional benefit by increasing the dose to 10 mg thrice daily. Author.

Base of skull and cervical spine chordomas in children treated by high-dose irradiation. Benk, V., Liebsch, N. J., Munzenrider, J. E., Efird, J., McManus, P., Suit, H. Department of Radiation, Oncology, Massachusetts General Hospital, Boston 02114. *International Journal of Radiation, Oncology, Biology and Physiology* (1995) February 1, Vol. 31 (3), pp. 577–81.
PURPOSE: To evaluate the outcome of children with base of skull or cervical spine chordomas treated by high dose irradiation. METHODS AND MATERIALS: Eighteen children, four to 18 years of age, with base of skull or cervical spine chordomas, received fractionated high-dose postoperative radiation using mixed photon and 160 MeV proton beams. The median tumour dose was 69 Cobalt Gray-equivalent (CGE) with a 1.8 CGE daily fraction. RESULTS: The median follow-up was 72 months. The five-year actuarial survival was 68 per cent and the five-year disease-free survival (DFS) was 63 per cent. The only significant prognostic factor was the location: patients with cervical spine chordomas had a worse survival than those with base of skull lesions ($P = 0.008$). The incidence of treatment-related morbidity was acceptable: two patients developed a growth hormone deficit corrected by hormone replacement, one temporal lobe necrosis, and one fibrosis of the temporalis muscle, improved by surgery. CONCLUSION: Chordomas in children behave similarly to those in adults: children can receive the same high-dose irradiation as adults with acceptable morbidity. Author.

Effect of intranasal azelastine and beclomethasone dipropionate on nasal symptoms, nasal cytology, and bronchial responsiveness to methacholine in allergic rhinitis in response to grass pollens. Pelucchi, A., Chiapparino, A., Mastropasqua, B., Marazzini, L., Hernandez, A., Foresi, A. Servizio di Fisiotopatologia Respiratoria G. Campari, Ospedale Citta di Sesto San Giovanni, Italy. *Journal of Allergy in Clinical Immunology* (1995) February, Vol. 95 (2), pp. 515–23.
BACKGROUND: We compared the effect of nasal azelastine (0.56 mg/day), nasal beclomethasone dipropionate (BDP, 200 micrograms/day) and matched placebo on seasonal symptoms, nasal cytology, and the increase in bronchial responsiveness occurring during pollen season in a group of subjects with history of allergic rhinitis to grass pollens only. METHODS: The study was completed by nine subjects in the azelastine group, 13 subjects in the BDP group, and 13 subjects in the placebo group. Treatments were randomly administered for six weeks. Each subject recorded daily nasal, eye and chest symptoms and additional treatment requirement for the entire pollen season. Each subject performed nasal lavage four weeks into the pollen season. Bronchial responsiveness to methacholine was measured before and four weeks into the pollen season. Response was expressed as provocative dose causing a 20 per cent fall in forced expiratory volume in 1 second in micromoles. RESULTS:

Azelastine-treated subjects had significantly fewer nasal symptoms during week 4 ($P<0.05$), and BDP-treated subjects had fewer nasal symptoms during week 4 ($P<0.05$) and week 5 ($P<0.05$) compared with subjects given placebo. Both treatments significantly reduced the need for additional medications. BDP, but not azelastine, treatment significantly reduced the percent of eosinophils recovered in nasal lavage ($P<0.05$). Neither azelastine nor BDP protected against the increase in bronchial responsiveness to methacholine occurring during the pollen season. CONCLUSION: We demonstrated that both azelastine and BDP are effective treatments for nasal symptoms of seasonal allergic rhinitis after four weeks of therapy. However, we were not able to demonstrate an antiinflammatory activity of nasally administered azelastine. Nasal therapy with azelastine and BDP did not block the increase in bronchial responsiveness to methacholine caused by seasonal allergen exposure. Author.

Association between cigarette smoking and mutation of the p53 gene in squamous-cell carcinoma of the head and neck. J. A. Brennan, J. O. Boyle, W. M. Koch, S. N. Goodman, R. H. Hruban, Y. J. Eby, M. J. Couch, A. A. Forastiere, D. Sidransky. Department of Otolaryngology–Head and Neck Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21205-2196. *New England Journal of Medicine* (1995) March 16, Vol. 332 (11), pp. 712–7.

BACKGROUND: Although epidemiologic studies have long associated tobacco and alcohol use with the development of squamous-cell carcinoma of the head and neck, the molecular targets of these carcinogens have yet to be identified. We performed a molecular analysis to determine the pattern of mutations in the p53 gene in neoplasms from patients with squamous-cell carcinoma of the head and neck and a history of tobacco or alcohol use. METHODS: Sequence analysis of the conserved regions of the p53 gene was performed in tumour samples from 129 patients with primary squamous-cell carcinoma of the head and neck. We then used statistical analysis to identify any patient characteristics associated with mutation of the p53 gene. RESULTS: We found p53 mutations in 42 per cent of the patients (54 of 129). Fifty-eight per cent of the patients who smoked cigarettes and used alcohol (37 of 64; 95 per cent confidence interval, 45 to 70 per cent), 33 per cent of the patients who smoked but abstained from alcohol (13 of 39; 95 per cent confidence interval, 19 to 50 per cent), and 17 per cent of the patients who neither smoked nor drank alcohol (four of 24, 95 per cent confidence interval, five to 37 per cent) had p53 mutations ($P= 0.001$). (Two patients used alcohol but did not smoke, and neither had a p53 mutation). Furthermore, 100 per cent of the mutations in the patients who neither drank nor smoked occurred at sites containing cytidine phosphate guanosine dinucleotides (potentially representing endogenous mutations) within the p53 gene (five of five mutations; 95 per cent confidence interval, 48 to 100 per cent), whereas only 23 per cent of those in cigarette smokers consisted of such changes (12 of 53 mutations; 95 per cent confidence interval, 12 to 36 per cent; $P = 0.001$). CONCLUSIONS: In our study, a history of tobacco and alcohol use was associated with a high frequency of p53 mutations in patients with squamous-cell carcinoma of the head and neck. Preliminary evidence linked cigarette smoking to p53 mutations at nonendogenous mutation sites. Our findings suggest a role for tobacco in the molecular progression of squamous-cell carcinoma of the head and neck and support the epidemiologic evidence that abstinence from smoking is important to prevent head and neck cancer. Author.

The surprisingly high acceptability of low-efficiency vaccines for otitis media: a survey of parents using hypothetical scenarios. Wischnack, L.L., Jacobson, R. M., Poland, G. A., Jacobsen, S. J., Harrison, J. M., Murtaugh, P.A. Mayo Vaccine Research Group, Mayo Clinic, Rochester, MN 55905. *Pediatrics* (1995) March, Vol. 95 (3), pp. 350–4.

OBJECTIVE: To determine parental thresholds for accepting vaccines for otitis media prevention given tradeoffs of efficacy, adverse effects, and administration mode. METHOD: We interviewed 601 randomly selected parents with children 0 through six years of age presenting to our community pediatric clinic. For each of five hypothetical vaccines, which varied administration mode from nasal spray to two injections and adverse effects from mild to severe, parents indicated the lowest number of otitis media episodes that the vaccine had to prevent in the next six months for them to accept the vaccine. RESULTS: About half the parents would accept any one of the vaccines if it would prevent three or more infections in the next 6 months. When the vaccine would prevent one episode of otitis media over the next six months, 33 per cent of parents would accept the medial vaccine (one injection in the thigh, with some children getting a red, sore injection site and a few having a fever of <0r = 102° F for one day). Seventeen per cent accepted a vaccine requiring two injections (influenza vaccine-like) or having increased adverse effects (pneumococcal vaccine-like) despite the vaccine only preventing one episode of otitis media over the next six months. No substantial differences in these proportions were found when compared among groups by reason-for-visit, recent occurrence of otitis media, or a history of recurrent otitis media in a sibling. CONCLUSION: Many parents will accept low efficacy vaccines for otitis media prevention. Parental acceptance does not vary with the child's otitis media experience but does vary with severity of adverse effects and administration mode of the vaccine. Author.

Pediatric adenoidal hypertrophy and nasal airway obstruction: reduction with aqueous nasal beclomethasone. Demain, J. G., Goetz, D. W. Allergy Immunology Department, Wilford Hall Medical Centre, Lackland Air Force Base, TX 78236-5300. *Pediatrics* (1995) March, Vol. 95 (3), pp. 355–64.

OBJECTIVE: Pediatric adenoidal obstruction of the nasal airway is associated with significant morbidity and is a frequent indication for surgery. Because efficacious medical alternatives to adenoidectomy are lacking, we assessed the potency of standard-dose topical nasal beclomethasone in reduction of adenoidal obstruction of the nasal airway. METHODS: Seventeen children, five to 11 years of age, exhibiting chronic obstructive nasal symptoms and a group mean (± SE) adenoid/choana ratio of 91 ± 1 per cent on rhinoscopic examination, completed an eight-week, double-blind, placebo-controlled crossover study of standard-dose aqueous nasal beclomethasone (total 336 micrograms/day) in the treatment of adenoidal hypertrophy. In a 16-week, open-label, follow-on study, subjects received beclomethasone one spray in each nostril twice daily (168 micrograms/day). RESULTS: Over the initial four weeks, improvements in the mean adenoidal obstruction of the choanae were significantly greater in the group receiving beclomethasone than in the group receiving placebo (right, -14 per cent vs. +0.4 per cent, $P = 0.0002$) (left, -15 per cent vs. -2 per cent, $P = 0.0006$). In the subsequent crossover four weeks, a significant beclomethasone carryover effect resulted in further adenoid size reduction in both treatment groups. All patients demonstrated a decrease in adenoid size with beclomethasone treatment, compared with a mixed response to placebo. Over the full eight-week crossover study, the mean (± SE) obstructive symptom score after beclomethasone treatment (20.5 ± 3) was significantly improved compared to patients' initial (43.1 ± 2.9) and placebo scores (31.1 ± 4.2, $P<$ or = 0.05), despite the active drug carryover effect into the placebo treatment period. Significant improvements in adenoidal obstruction and symptom scores over the eight-week crossover study were enhanced in the subsequent 16-week open-label period (P = 0.0001). By 24 weeks, an 82 per cent reduction in group mean nasal obstruction symptom score accompanied a 29 per cent mean reduction in adenoid/choana ratio. No clinical or demographic characteristic predicted a patient's degree of response to treatment. CONCLUSIONS: Properly administered aqueous nasal beclomethasone in standard doses can significantly reduce adenoidal hypertrophy and nasal airway obstructive symptoms in children. Author.

Identification of nasal morphologic features that indicate susceptibility to nasal tip deflection with the LeFort I osteotomy. McFarlane, R. B., Frydman, W. L., McCabe, S. B., Mamandras, A. M. University of Western Ontario, London, Canada. *American Journal of Orthondontics Dentofacial-Orthopedics* (1995) March, Vol. 107 (3), pp. 259-67.

The goal of this investigation was to identify and quantify nasal morphologic features which predispose to the nasal tip deflection associated with the LeFort I osteotomy. Fifty patients who had undergone LeFort I osteotomies were studied retrospectively from presurgical and postsurgical cephalograms and facial photographs. The magnitude of hard tissue change was measured in the vertical and horizontal planes, and soft tissue nasal change was measured

in the vertical plane at two points on the outline of the soft tissue nose. Additional parameters were tested as potential predictors of nasal tip deflection, including the Deflection Resistance Index (DRI), which is a quantitative measure of nasal morphologic features. Data were subjected to a hierarchical multiple regression analysis allowing for multivariate prediction capability. At the supra nasal tip (SNt), magnitude of advancement, magnitude of impaction, and the DRI were all significant predictors (multiple R = 0.86). At the anterior nasal tip (ANt), magnitude of advancement, preoperative columellar angle, magnitude of impaction, the DRI, the interactions of advancement and DRI, and columellar angle and DRI were the significant predictors (multiple R = 0.89). It is concluded that the vertical deflection of the nasal tip resulting from the LeFort I osteotomy is influenced not only by the hard tissue movements but also by nasal structure. The DRI is a quantitative measure that can be used clinically to improve the predictability of vertical nasal tip deflection. Author.

Free vascularized iliac osteomusculocutaneous flaps based on the lateral circumflex femoral system for repair of large mandibular defects. Koshima, I., Hosoda, M., Ohta, S., Moriguchi, T., Soeda, S., Nakayama, Y., Kusakari, J. Department of Plastic and Reconstructive Surgery, Kawasaki Medical School, Okayama, Japan. *Annals of Plastic Surgery* (1994) December, Vol. 33 (6), pp. 581–8.
A free vascularized iliac osteocutaneous flap based on the ascending and transverse branches of the lateral circumflex femoral system was studied by cadaveric investigation. These composite flaps were successfully used in two patients with both large mandibular and soft-tissue defects. The advantages of this flap are that (1) the distal portion of the flap is relatively thin, (2) the pedicle vessels are long and large, (3) the skin territory is extremely wide, (4) repositioning of the patient during the operation is unnecessary, (5) the flap can be elevated while the recipient mandibular region is resected by two teams because the donor site is far from the head and neck regions, (6) the donor scar is in an unexposed area and its location permits easy concealment, and (7) subtotal loss of the mandible can be reconstructed with the use of split crests from either side of the ilium because the external and the internal cortices are fed independently by the lateral circumflex femoral and the deep circumflex iliac systems. This appears to be a new concept for reconstruction of total mandibular loss. Author.

Ethanol injection sclerotherapy for Baker's cyst, thyroglossal duct cyst, and branchial cleft cyst. Fukumoto, K., Kojima, T., Tomonari, H., Kontani, K., Murai, S., Tsujimoto, F. Department of Plastic and Reconstruction Surgery, Jikei University School of Medicine, Tokyo, Japan. *Annals of Plastic Surgery* (1994) December, Vol. 33 (6), pp. 615–9.
Six patients with Baker's cysts, three with branchial cleft cysts, and two with thyroglossal duct cysts were treated with percutaneous aspiration and absolute ethanol sclerotherapy using a seven-French pigtail catheter. Cystography was performed before ethanol injection to confirm that there was no extravasation and that it was a monocystic lesion. One recurrence of a Baker's cyst was revealed in follow-up examinations,which ranged from 11 months to 36 months (mean, 25 months). The major complication of hypoesthesia of the popliteal region was observed in one patient treated for Baker's cyst. The results of this series suggest that ethanol sclerotherapy is the treatment of choice for Baker's cyst, branchial cleft cyst, and thyroglossal duct cyst. Author.

The cleft earlobe: a review of methods of treatment. Blanco-Davila, F., Vasconez, H.C. Division of Plastic and Reconstructive Surgery, Hospital Universitario, Universidad Autonoma de Nuevo Leon, Monterrey, NL, Mexico. *Annals of Plastic Surgery* (1994) December, Vol. 33 (6), pp. 677–80.
The plastic surgeon must frequently deal with the aesthetic repair of cleft earlobe deformities. Many techniques have been described, each claiming to achieve the best results. In this review of the literature, we discuss the various operations for the treatment of this condition. A classification of the traumatic earlobe clefts is proposed, and some basic principles for surgical treatment are suggested. Author.

Psychological distress in head and neck cancer patients 7–11 years after curative treatment. Bjordal, K., Kaasa, S. Department of Medical Oncology and Radiotherapy, Norwegian Radium Hospital, Oslo. *British Journal of Cancer* (1995) March, Vol. 71 (3), pp. 592–7.
Long-term survivors of head and neck cancer may suffer from psychological distress and reduced quality of life because of late side-effects of the treatment. In a follow-up study of patients randomized to two different radiation fractionating regimens, 204 patients filled in a mailed questionnaire 7–11 years after treatment. The questionnaire consisted of the General Health Questionnaire, 20-item version (GHQ-20), and the EORTC Core Quality of Life Questionnaire (EORTC QLQ-C30). There were no differences in psychological distress between patients receiving conventional radiotherapy and those receiving a slightly hypofractionated regimen. A high prevalence of psychological distress was found in both treatment groups (30 per cent of 'cases' according to the GHQ-20), especially in patients with impaired cognitive or social function, or with pain. Clinicians need to be aware of this morbidity, and their ability to detect patients with psychological problems needs to be improved. The GHQ-20 can facilitate the communication process in a clinical setting. With an increased awareness of these problems and by using valid instruments for identification of patients at risk, the clinicians may intervene and help the patients to reduce their psychological distress. Author.

Non-Hodgkin's lymphoma of the sinonasal tract. A clinicopathologic and immunophenotypic study of 120 cases. Abbondanzo, S. L., Wenig, B. M. Department of Hematologic Pathology, Armed Forces Institute of Pathology, Washington, DC 20306-6000. *Cancer* (1995) March 15, Vol. 75 (6), pp. 1281–91.
BACKGROUND. Non-Hodgkin's lymphomas (NHLs) of the sinonasal tract are uncommon neoplasms that can be morphologically difficult to distinguish from destructive nonneoplastic processes or other malignant neoplasms in this site. METHODS. From the files of the Otolaryngic Tumour Registry-Armed Forces Institute of Pathology from 1965 to 1992, 120 cases of NHL involving the sinonasal tract were selected for which clinical records and paraffin-embedded tissue blocks were available. The histological features and immunophenotypic findings of each patient were examined, and follow-up data were obtained for 66 (55 per cent). RESULTS. The ratio of males to females was 1.35:1, and the ages ranged from three to 94 years (median, 59 years). Sixty per cent of the cases of NHL occurred in the patients' sixth to eighth decades of life. Clinical presentations varied according to histologic type. The low grade lymphomas presented with a nasal cavity or paranasal sinus mass associated with obstructive symptoms. The high grade lymphomas were more likely to present with aggressive signs and symptoms including nonhealing ulcer, cranial nerve manifestations, facial swelling, epistaxis, or pain. Of note, the high grade B-cell lymphomas tended to present with soft tissue or osseous destruction, particularly of the orbit with associated proptosis, whereas the T-cell lymphomas were associated with nasal septal perforation and/or destruction. Sites of disease included the nasal cavity, one or more paranasal sinuses, or multiple regions within the sinonasal tract. Of patients who received adequate follow-up, nodal and extranodal dissemination were identified in a limited number (n = 11). Nodal dissemination occurred in cervical and axillary lymph nodes. Extranodal sites of involvement included the larynx, skin, liver, uvula, kidney, breast, lacrimal gland, testis, and prostate gland. There was a wide spectrum of morphologic types of lymphoma, classified according to the Working Formulation. Immunophenotypic analysis on paraffin embedded tissue sections of all patients demonstrated a B-cell to T-cell ratio of 1.18:1. Treatment primarily included radiotherapy and chemotherapy. Follow-up information was available for 66 (55 per cent) patients ranging from one to 16 years (median, three years). Of these 66 patients, 24 (36.4 per cent) died of disease, 17 (25.7 per cent) are alive without disease, 13 (19.7 per cent) are alive with disease, and 12 (18.2 per cent) are dead of unrelated or unknown causes. CONCLUSIONS. Non-Hodgkin's lymphomas of the sinonasal tract are heterogeneous diseases that can be clinically aggressive. The frequency of these lymphomas in the United States cannot be estimated accurately because all of our cases were of histologic slides submitted for consultations. There appears, however, to be a slight B-cell predominance in this population that previously has been observed, unlike in South America and Asia where the majority of cases have a T-cell phenotype. Author.

Multiple genetic lesions in laryngeal squamous cell carcinomas. Fracchiolla, N. S., Pignataro, L., Capaccio, P., Trecca, D., Boletini, A., Ottaviani, A., Polli, E., Maiolo, A. T., Neri, A. Laboratorio di Ematologia Sperimentale e Genetica Molecolare, Universita di Milano, Ospedale, Maggiore, Milan, Italy. *Cancer* (1995) March 15, Vol. 75 (6), pp. 1292–301.
BACKGROUND. To understand the molecular pathogenesis of laryngeal squamous cell carcinomas (LSCCs), this study investigated the involvement of various protooncogene loci (bcl-1, int-2, c-erbB-1, c-myc, ras) and the p53 tumour suppressor gene in 18 patients with LSCC (15 at clinical presentation, three in clinical relapse). METHODS. For all patients, the mutations affecting the p53 and the H-, K-, and N-ras genes were evaluated by polymerase chain reaction (PCR), single-strand conformation polymorphism, and the direct sequencing of PCR-amplified fragments. The bcl-1, int-2, c-erbB-1, and c-myc loci of 15 patients were investigated using Southern blot analysis. RESULTS. A mutation of the p53 gene was detected in 5/18 patients (approximately 28 per cent), bcl-1 locus amplification in 4/15 (approximately 26 per cent), c-erbB-1 locus amplification in 2/15 (approximately 13%), and c-myc locus amplification in 1/15 (approximately six per cent). The simultaneous presence of more than one genetic lesion was observed in four patients; two showed int-2/bcl-1 coamplification, and two int-2/c-erbB-1 coamplification, one of whom also showed a p53 gene mutation. A novel p53 mutation involving the splice acceptor site of exon 6 was detected in one patient. Two of the five patients positive for p53 mutations had clinical relapses of primary tumours. bcl-1 locus amplification only was observed in patients with lymph node metastases (4/6). All but one of patients with molecular genetic lesions showed a peculiar infiltrating pattern. CONCLUSIONS. Overall, these results show that alterations of known protooncogenes and the p53 tumour suppressor gene are involved in a large proportion of LSCCs (11/18; approximately 60 per cent) and may suggest that distinct molecular pathways occur in the pathogenesis of these tumours. Author.

Second primary tumours in patients with head and neck squamous cell carcinoma. Jones, A. S., Morar, P., Phillips, D. E., Field, J. K., Husband, D., Helliwell, T. R. Department of Otolaryngology, University of Liverpool, United Kingdom. *Cancer* (1995) March 15, Vol. 75 (6), pp. 1343–53.
BACKGROUND. The concept that a patient could develop cancer twice was first put foward by Billroth. Second primary neoplasms are a particular feature of head and neck cancer. METHODS. This study examines the records of 3436 patients with squamous cell carcinoma of the head and neck, of whom 274 subsequently developed a second neoplasm. RESULTS. The actuarial second primary rate was 9.1 per cent at 372 months, and median time to presentation for the second tumour was 36 months. Second tumours were more likely to occur in male patients younger than 60 years at the time of their index tumour, and who had laryngeal and oral cavity index tumours. Patients whose index tumour was small at diagnosis had a greater chance of developing a second tumour as did those with no cervical lymph node metastases to the neck. Radiotherapy to the index tumour was not associated with an increased risk of developing a second tumour. The commonest sites for second tumours were the head and neck (50 per cent) and the lung (34 per cent), and 86 per cent were squamous cell carcinomas. The tumour-specific mortality for those who developed a second primary tumour was 20 per cent after 15 years compared with 44 per cent for patients who did not develop a second primary tumour. The five-year survival for patients who developed a secondary tumour from the time of its diagnosis was 26 per cent. CONCLUSIONS. Second primary tumours in the head and neck of patients with cancer are not uncommon. If the second tumour occurs in the head and neck region, the prognosis is reasonably good. Author.

Human nasal absorption of 51Cr-EDTA in smokers and control subjects. L. Greiff, P. Wollmer, M. Andersson, C. G. Persson. Department of Otorhinolaryngology, University Hospital, Lund, Sweden. *Clinical and Experimental Allergy* (1994) November, Vol. 24 (11), pp. 1036–40.
Passive exposure to cigarette smoke has emerged as a significant risk factor in the development of asthma and allergic airways disease. The pathogenetic mechanisms are not known, but increased absorption across the airway epithelial lining has been suggested as one possible mechanism of this effect of cigarette smoke. This study examines the absorption-permeability of the nasal epithelial lining in cigarette smokers and non-smokers. For comparison, the effect of a detergent, dioctylsodium sulfosuccinate (DS), is also examined. A solution containing 51Cr-EDTA (51-chromium-labelled ethylene diamine tetraacetic acid) (mol.wt. 372 Da) was instilled and maintained in the nasal cavity in six smokers and 12 non-smokers for 15 min. Urine was collected for 24 h after the instillation. The accumulated amount of excreted 51Cr-EDTA was measured and expressed as millilitre nasal instillate. In six non-smokers the procedure was repeated when DS has been added to the instillate. The median recovered amount of 51Cr-EDTA in smokers 0.07 ml (range 0.04–0.32) was not significantly different from that in non-smokers 0.16 ml (0.01–1.22). The recovered amount of 51Cr-EDTA increased from a median of 0.18 ml (0.01–1.22) to 1.13 ml (0.53–1.80) after addition of the detergent (P = 0.028). We conclude that the nasal airway absorption-permeability is not increased in smokers. Hence, passive exposure to cigarette smoke may not produce an impairment of airway barrier functions. Author.

Force threshold for hearing by direct bone conduction. Carlsson, P., Hakansson, B., Ringdahl, A. Department of Applied Electronics, Chalmers University of Technology, Goteborg, Sweden. *Journal of the Acoustical Society of America* (1995) February, Vol. 97 (2), pp. 1124–9.
The bone-anchored hearing aid is connected, by means of a skin-penetrating bayonet coupling, to an implanted titanium fixture. Hence, direct bone conduction (dbc) excitation is used. Since no international standard of audiometric zero for dbc force threshold exists, it is of general interest to determine the dbc force threshold for normal hearing subjects. Two different methods have previously been applied to estimate the relation between bone conduction (bc) and dbc thresholds. One preliminary problem was to make a measurement of the output-force level of dbc transducers, which is equivalent to the situation in situ. A skull simulator, TU-1000, has been designed for measuring the output-force level of dbc transducers. The skull simulator does, in an adequate way, reflect the mechanical point impedance of the human skull. This opportunity to determine equivalent dbc force thresholds has motivated the present study in which a linear relation between the dbc force threshold and the bc force threshold was estimated. The estimate found in the present study conforms fairly well with the two previously found estimates. It is suggested that the estimate found in the present study be used as the reference equivalent threshold force level for dbc. Author.

Gender differences in a longitudinal study of age-associated hearing loss. Pearson, J. D., Morrell, C. H., Gordon-Salant, S., Brant, L. J., Metter, E. J., Klein, L. L., Fozard, J. L. Longitudinal Studies Branch, National Institute on Aging, Baltimore, Maryland 21224. *Journal of the Acoustical Society of America* (1995) February, Vol. 97 (2), pp. 1196–205.
Current studies are inconclusive regarding specific patterns of gender differences in age-associated hearing loss. This paper presents results from the largest and longest longitudinal study reported to date of changes in pure-tone hearing thresholds in men and women screened for otological disorders and noise-induced hearing loss. Since 1965, the Baltimore Longitudinal Study of Aging has collected hearing thresholds from 500 to 8000 Hz using a pulsed-tone tracking procedure. Mixed-effects regression models were used to estimate longitudinal patterns of change in hearing thresholds in 681 men and 416 women with no evidence of otological disease, unilateral hearing loss, or noise-induced hearing loss. The results show (1) hearing sensitivity declines more than twice as fast in men as in women at most ages and frequencies, (2) longitudinal declines in hearing sensitivity are detectable at all frequencies among men by age 30, but the age of onset of decline is later in women at most frequencies and varies by frequency in women, (3) women have more sensitive hearing than men at frequencies above 1000 Hz but men have more sensitive hearing than women at lower frequencies, (4) learning effects bias cross-sectional and short-term longitudinal studies, and (5) hearing levels and longitudinal patterns of change are highly variable, even in this highly selected group. These longitudinal findings document gender differences in hearing levels and show that age-associated hearing loss occurs even in a group with relatively low-noise occupations and with no evidence of noise-induced hearing loss. Author.

Voice stimulation with a body-cover model of the vocal folds. Story, B. H., Titze, I. R. Department of Speech Pathology and Audiology, University of Iowa, Iowa City 52242. *Journal of the Acoustical Society of America* (1995) February, Vol. 97 (2), pp. 1249–60.
A simple, low-dimensional model of the body-cover vocal-fold structure is proposed as a research tool to study both normal and pathological vocal-fold vibration. It maintains the simplicity of a two-mass model but allows for physiologically relevant adjustments and separate vibration of the body and the cover. The classic two-mass mode of the vocal folds (K. Ishizaka and J. L. Flanagan, Bell Syst. Tech. J. 51, 1233–1268 (1972)) has been extended to a three-mass model in order to more realistically represent the body-cover vocal-fold structure (M. Hirano, Folia Phoniar, 26, 89–94 (1974)). The model consists of two 'cover' masses coupled laterally to a 'body' mass by nonlinear springs and viscous damping elements. The body mass, which represents muscle tissue, is further coupled laterally to a rigid wall (assumed to represent the thyroid cartilage) by a nonlinear spring and a damping element. The two cover springs are intended to represent the elastic properties of the epithelium and the lamina propria while the body spring simulates the tension produced by contraction of the thyroarytenoid muscle. Thus contractions of the cricothyroid and thyroarytenoid muscles are incorporated in the values used for the stiffness parameters of the body and cover springs. Additionally, the two cover masses are coupled to each other through a linear spring which can represent vertical mucosal wave propagation. Simulations show reasonable similarity to observed vocal-fold motion, measured vertical phase difference, and mucosal wave velocity, as well as experimentally obtained intraglottal pressure. Author.

Pneumococci in nasopharyngeal samples from Filipino children with acute respiratory infections. Lankinen, K.S., Leinonen, M., Tupasi, T. E., Haikala, R., Ruutu, P. Department of Bacterial Respiratory Infections, National Public Health Institute, Helsinki, Finland. *Journal of Clinical Microbiology* (1994) December, Vol. 32 (12), pp. 2948–52.
The presence of Streptococcus pneumoniae in the upper respiratory tract was studied in 318 Filipino children less than five years old with an acute lower respiratory tract infection. Nasopharyngeal samples were obtained from 292 children. With both quantitative bacterial culture and detection of capsular polysaccharide antigens by coagglutination, counterimmunoelectrophoresis, and latex agglutination, pneumococci were found in 160 (70 per cent) of the 227 samples eligible for analysis. Culture was positive in 115 samples and antigen was positive in 140 samples. The culture isolation rate was significantly lower if the patient had received antimicrobial agents in the 48 h prior to the sampling. The seven most common types or groups of pneumococci were 6, 14, 19, 23, 15, 7 and 11, which together accounted for 64 per cent of all pneumococcal findings. Author.

The effect of pre-fitting counselling on the outcome of hearing aid fittings. Norman, M., George, C. R., McCarthy, D. MRC Institute of Hearing Research, Southampton, England. *Scandinavian Audiology* (1994), Vol. 23 (4), pp. 257–63.
The effect of pre-fitting counselling on the outcome of fittings of NHS behind-the-ear hearing aids to adult first-time users was investigated. Questionnaires and diaries were sent both before and after fitting to 48 subjects who were given pre-fitting counselling and 47 control subjects, all of whom were fitted with standard NHS hearing aids in Southampton or Bath between September 1989 and July 1991. The test and control groups had similar distributions of age, sex and hearing loss. Analysis of the data showed that the counselling had no significant effect on levels of satisfaction, aid usage or benefit; these outcome measures also showed no significant correlation with any of the personal characteristics or attitude factors which were studied. Author.