

Abstract Selection

Stage IA non-Hodgkin's lymphoma of the Waldeyer's ring. Limited chemotherapy and radiation therapy versus radiation therapy alone. Uematsu, M., Kondo, M., Hiramatsu, H., Ikeda, Y., Mikata, S., Katayama, M., Ito, H., Kusano, S., Kubo, A. Department of Radiology, Keio University School of Medicine, Tokyo, Japan. *Acta Oncologica* (1993), Vol. 32 (6), pp. 675–8. Seventeen patients with stage IA non-Hodgkin's lymphoma of the Waldeyer's were treated with radiation therapy with or without chemotherapy. All lesions were judged as having intermediate grade malignancy in the Working Formulation. Eight patients received combined treatment with three cycles of cyclophosphamide, doxorubicin, vincristine and prednisone (CHOP) and radiation therapy with 30 to 40 Gy. Another nine patients were treated with radiation therapy 40 to 60 Gy alone. After a median follow-up of 69 months, all eight patients treated with combined modality were alive and relapse-free, whereas four of the nine treated with irradiation alone had relapsed. All relapses occurred trans-diaphragmatically. Two of the four relapsing patients were saved, but the other two died of the disease. The five-year relapse-free and cause-specific survival rates were 100 per cent and 100 per cent in the combined modality group, and 56 per cent and 76 per cent in the radiation therapy alone group (relapse-free: $P = 0.04$, cause-specific: $P = 0.16$). There were no serious complications related to the treatment, although most patients complained of mouth dryness and most patients given CHOP had paresthesia. Our opinion was that the total impact of these two side-effects on quality of life was less pronounced after combined modality than after radiation therapy alone. Limited chemotherapy and radiation therapy seemed to be more beneficial than radiation therapy alone not only in relapse-free survival but also in quality of life after treatment. Author.

Longitudinal shape changes of the nasal dorsum. Buschang, P. H., De La Cruz, R., Viazis, A. D., Demirjian, A. Baylor College of Dentistry, Department of Orthodontics, Dallas, Texas. *American Journal of Orthodontics and Dento-Facial Orthopedics* (1993) December, Vol. 104(6), pp. 539–43. This investigation quantifies childhood and adolescent growth changes of the upper and lower nasal dorsum and evaluates various aspects of the persons' morphology that relate to shape changes of the dorsum. A longitudinal sample of 37 French-Canadian girls, each having cephalograms at 6, 10, and 14 years of age, was evaluated. The six- to 10-year interval was chosen to represent childhood growth; the 10- to 14-year interval represented adolescent growth. The upper dorsum rotates upward and forward (counterclockwise) approximately 10° between six to 14 years of age. The lower dorsum shows both downward and backward (clockwise) and upward and forward (counterclockwise) rotation average childhood and adolescent changes in angulation were not significant. The results clearly indicate that changes in the nasal dorsum are most closely related to angulation changes of the lower dorsum, particularly during adolescence. The lower dorsum rotates downward and backward in persons who show greater vertical and less horizontal growth changes. Rotational changes of the lower dorsum are most closely related with vertical changes at pronasale. Author.

Reflex activation of nasal secretion by unilateral inhalation of cold dry air. Philip, G., Jankowski, R., Baroody, F. M., Naclerio, R. M., Togias, A. G. Department of Medicine, Johns Hopkins Asthma and Allergy Centre, Baltimore MD21224–6801. *American Review of Respiratory Diseases* (1993) December, Vol. 148 (6 Pt 1), pp. 1616–22. Exposure to cold dry air induces rhinorrhea and other nasal symptoms in many persons. To evaluate whether this response involves a neurogenic component, we delivered a unilateral cold dry air (UniCDA) nasal challenge to volunteers with previously documented

reactivity to cold dry air. We measured their nasal secretory responses bilaterally using small filter paper discs to absorb secretions from the nasal mucosa. UniCDA increased nasal secretion both ipsilateral ($P < 0.001$) and contralateral ($P < 0.001$) to the challenge when compared with control challenge. Topical atropine (0.225 mg), a muscarinic antagonist, inhibited ipsilateral secretion ($P < 0.002$) when given ipsilateral to UniCDA. When atropine was given contralateral to UniCDA, there was a trend toward reduction of contralateral secretion but no effect on ipsilateral secretion. Topical anesthesia with lidocaine given ipsilateral to UniCDA inhibited ipsilateral ($P < 0.02$) and contralateral ($P < 0.05$) secretion immediately after challenge. Topical anesthesia did not inhibit methacholine-induced nasal secretion. Thus, UniCDA stimulates reflex secretion both ipsilateral and contralateral to challenge which is inhibitable by interrupting either the efferent or the afferent arm of the reflex arc. This human in vivo model supports the importance of neural mechanisms in airway responsiveness to an environmental stimulus. Author.

Humoral response to subcutaneous, oral, and nasal immunotherapy for allergic rhinitis due to *Dermatophagoides pteronyssinus*. Piazza, I., Bizzaro, N. Department of Internal Medicine, Hospital of San Dona di Piave (Venice), Italy. *Annals of Allergy* (1993) November, Vol. 71 (5), pp.461–9. We investigated variations in total IgE, and specific IgE, IgG, and IgG4 for *Dermatophagoides pteronyssinus* in 57 patients with perennial rhinitis due to house dust mite allergy in an open controlled study: 43 subjects received immunotherapy (17 subcutaneous, 14 sublingual, and 12 local immunotherapy) and 14 were controls. The results were compared with the clinical course to determine possible associations between serum and clinical changes. Subcutaneous, but not sublingual and nasal, immunotherapy induced a significant clinical benefit ($P < 0.001$). Specific antibody behaviour in patients receiving subcutaneous immunotherapy was similar to literature reports. Specific IgE levels fell starting from the sixth month of therapy, and specific IgG and Ig G4 levels rose significantly, but there was no correlation with the clinical course. The other two forms of immunotherapy did not induce significant specific antibody modifications. We conclude that the specific IgG4 rise induced by subcutaneous immunotherapy was the most important variation observed. This change, however, was not correlated with the clinical outcome. Author.

Effects of hypobaric hypoxia on the middle-latency and steady-state auditory evoked potentials. Lucertini, M., Ciniglio-Appiani, G., Antonini, R., Urbani, L. Italian Air Force, DASRS Aerospace Medicine Department, Pratica di Mare AFB, Rome. *Audiology* (1993) November–December, Vol. 32 (6), pp. 356–62. The aim of the present paper was the investigation of middle-latency responses (MLRs) and steady-state responses (SSRs) during and after a 30 minute exposure to hypobaric hypoxia (5182 m above sea level). The test was performed in a hypobaric chamber on eight male audiologically normal volunteers. The auditory stimulus (500-Hz tone burst), delivered at rates of 10 and 40/s for MLRs and SSRs, respectively, was recalibrated in the hypobaric condition because of the reduced air density. Absolute latencies of waves Na and Pa and their interpeak amplitude were the MLR parameters investigated; for the SSRs, the first positive wave (P1) absolute latency and the interpeak amplitude between P1 and the first negative wave (N1) were considered. The results showed an absence of statistically significant modification of the MLRs. On the contrary, the SSRs showed a significant ($P < 0.025$) latency increase during hypoxia, with an immediate recovery upon return to ground level. No significant changes of SSR amplitudes were observed. One possible data interpretation is related to the higher stimulation rate adopted for the

SSRs; a second possibility could be a different electrogenesis between MLRs and SSRs. Author.

Compressive plastic splint for postoperative management of the ear. Yotsuyanagi, T. Department of Plastic and Reconstructive Surgery, Hiroasaki University School of Medicine, Japan. *British Journal of Plastic Surgery* (1993) October, Vol. 46 (7), pp. 622–3. A new splint for use after ear reconstruction is described. This splint adjusts suitably to the complicated contours of the ear without requiring any impressions before fabrication. The splint controls expansion and contractile forces and consequently prevents some of the complications following ear surgery. Author.

Microsurgical neck dissection for occultly metastasizing medullary thyroid carcinoma. Three-year results. Buhr, H. J., Kallinowski, F., Raue, F., Frank-Raue, K., Herfarth, C. Chirurgische Universitätsklinik, Heidelberg, Germany. *Cancer* (1993) December 15, Vol. 72 (12), pp. 3685–93.

BACKGROUND. Medullary thyroid carcinoma (MTC) metastasizes early into the regional lymph nodes, but distant metastases occur late. Modified radical neck dissection might improve the treatment results for occultly metastasizing MTC. **METHODS.** The authors report 23 patients after a minimal follow-up of two years (median, 36 months). There were 11 female and 12 male patients. The mean age was 43 years (± 13 years). The surgical technique included the meticulous dissection of all compartments of the neck, resulting in a unilateral or bilateral modified radical neck dissection with the complete removal of the lymphatic and fatty tissue between important anatomical structures. The surgical boundaries extended cranially to the mastoid, caudally to the brachiocephalic vein involving a transcervical mediastinal dissection, and laterally to the edge of the trapezoid muscle. Ten patients were treated bilaterally and 13 patients unilaterally. **RESULTS.** The basal calcitonin values of 18 of the 23 patients were postoperatively normalized with four patients having normal basal and pentagastrin-stimulated calcitonin levels. Five patients with persistently elevated basal serum calcitonin values had a marked reduction of the postoperative calcitonin levels compared with their preoperative concentrations. However, in these five patients histologic abnormalities precluded a surgical cure. The permanent complication rates were tolerable (four of 33 neck dissections). **CONCLUSIONS.** The microsurgically extended neck dissection can reduce basal and pentagastrin-stimulated serum calcitonin values to normal levels even after long intervals following primary thyroidectomy. Author.

Electrochemotherapy, a new antitumour treatment. First clinical phase I–II trial. Belehradec, M., Domenge, C., Lubinski, B., Orłowski, S., Belehradec, J. Jr., Mir, L. M. Department of Head and Neck Oncology, Institut Gustave-Roussy, Villejuif, France. *Cancer* (1993) December 15, Vol. 72 (12), pp. 3694–700.

BACKGROUND. Electrochemotherapy is a new antitumour treatment consisting of electrical pulses administered to the tumour several minutes after intravenous injection of bleomycin. In mice, important antitumour effects were observed on subcutaneously transplanted tumours and on spontaneously occurring mammary carcinomas. Cures were obtained after one single treatment combining bleomycin and electric pulses. In humans, permeation nodules seemed an adequate oncologic situation to assay this new procedure. The authors report the first Phase I–II trial of electrochemotherapy. **METHODS.** Eight patients with 40 permeation nodules of head and neck squamous cell carcinomas were treated with 10 mg/m² bleomycin intravenous bolus, followed by four or eight short (100 microseconds) and intense (1300 V/cm) pulses administered through two external electrodes located on each side of the treated nodule. **RESULTS.** An instantaneous painless contraction of the underlying muscles was regularly observed. Neither local nor general side effects were observed, and electrochemotherapy was well tolerated. In addition, a clear local antitumour efficacy was found: 23 (57 per cent) nodules were in clinical complete response within a few days. **CONCLUSION.** The absence of toxicity, the good tolerance by the patients, and the net antitumour effects observed are encouraging for additional electrochemotherapy developments in clinical oncology. Author.

Image processing of videofluoroscopy of patients with velopharyngeal insufficiency and hypernasal speech. Coffey, J. P., Hamil-

ton, D., Fitzsimons, M., Freyne, P. J. Department of Diagnostic Imaging, St James's Hospital, Dublin. *Clinical Radiology* (1993) October, Vol. 48 (4), pp. 260–3.

Eleven patients with hypernasal speech and velopharyngeal insufficiency (VPI), together with five normals, were evaluated by videofluoroscopy to assess velopharyngeal movement, velar lift and lateral pharyngeal wall movement. Computer processing of the images obtained was used to compensate for initial poor quality images by contrast and edge enhancement techniques and to provide objective measurement of the movements involved. It was demonstrated that objective computer aided analysis of videofluoroscopic images is feasible and may provide additional subtle diagnostic information when nasendoscopy is unavailable. In addition, results obtained showed an increased degree of velar lift and lateral pharyngeal wall movement for the more severely affected patients. These suggest a compensatory mechanism in operation for the more severe cases of VPI. Author.

Prognostic and clinical relevance of pupillary responses, intracranial pressure monitoring, and brainstem auditory evoked potentials in comatose patients with acute supratentorial mass lesions. Krieger, D., Adams, H. P., Schwarz, S., Rieke, K., Aschoff, A., Hacke, W. Department of Neurology, University of Heidelberg, FRG. *Critical Care Medicine* (1993) December, Vol. 21 (12), pp. 1944–50.

OBJECTIVE: To test the hypothesis that the clinical condition and outcome in patients with acute supratentorial mass lesions can be assessed by determination of pupillary abnormalities, measurement of intracranial pressure, and results of brainstem auditory evoked potentials. **DESIGN:** Prospective case series of 55 patients presenting with supratentorial mass lesions. **SETTING:** Neurologic and neurosurgical intensive care unit of a tertiary care centre. **PATIENTS:** Fifty-five comatose patients (26 female/29 male; 9 to 70 years of age (mean 44)). **INTERVENTIONS:** Pupillary abnormalities were rated 'normal', 'unilaterally enlarged', 'unilaterally fixed', and 'bilaterally abnormal'. The outcome was rated using the Glasgow Outcome Scale. Intracranial pressure values were graded into five categories. Brainstem auditory evoked potentials were rated 'bilaterally normal', 'unilaterally abnormal', or 'bilaterally abnormal', according to normative data. Statistical evaluation was performed by frequency analysis (Fisher's exact test, two-tailed) and calculation of contingency coefficients. **MEASUREMENTS AND MAIN RESULTS:** Outcome was poor in 24 patients, good in eight patients, and 23 patients were severely disabled. Statistical analysis showed prognostic significance of both pupillary abnormalities ($P = 0.000542$; contingency coefficient = 0.589) and increased intracranial pressure ($P = 0.0084$; contingency coefficient = 0.352). Brainstem auditory evoked potential categories correlated significantly with pupillary abnormalities ($P = 0.000276$; contingency coefficient = 0.505) and increased intracranial pressure ($P = 0.0301$; contingency coefficient = 0.502) but did not predict outcome ($P = 0.645$; contingency coefficient = 0.321). **CONCLUSIONS:** Pupillary abnormalities may serve as a reliable parameter, which may even be superior to brainstem auditory evoked potential testing and intracranial pressure monitoring for prediction of outcome in comatose individuals with supratentorial mass lesions. Brainstem auditory evoked potentials can be used to support the clinical relevance of abnormal pupillary status and increased intracranial pressure but are of no prognostic value. Increased intracranial pressure is associated with abnormalities in pupillary status and brainstem auditory evoked potentials. Examination for pupillary abnormalities in combination with intracranial pressure monitoring and brainstem auditory evoked potential testing seems to be a useful strategy in managing patients with supratentorial mass lesions in critical care units. Author.

Spatio-temporal source modeling of evoked potentials to acoustic and cochlear implant stimulation. Ponton, C. W., Don, M., Waring, M. D., Eggermont, J. J., Masuda, A. Electrophysiology Laboratory, House Ear Institute, Los Angeles, CA 90057. *Electroencephalography Clinical Neurophysiology* (1993) November–December, Vol. 88 (6), pp. 478–93.

Spatio-temporal source modeling (STSM) of event-related potentials was used to estimate the loci and characteristics of cortical activity evoked by acoustic stimulation in normal hearing subjects and by electrical stimulation in cochlear implant (CI) subjects. In both groups of subjects, source solutions obtained for the N1/P2 complex were located in the superior half of the temporal lobe in the

head model. Results indicate that it may be possible to determine whether stimulation of different implant channels activates different regions of cochleotopically organized auditory cortex. Auditory system activation can be assessed further by examining the characteristics of the source wave forms. For example, subjects whose cochlear implants provided auditory sensations and normal hearing subjects had similar source activity. In contrast, a subject in whom implant activation evoked eyelid movements exhibited different source wave forms. STSM analysis may provide an electrophysiological technique for guiding rehabilitation programs based on the capabilities of the individual implant user and for disentangling the complex response patterns to electrical stimulation of the brain. Author.

Fatal gas embolism as a complication of Nd-YAG laser surgery during treatment of bilateral choanal stenosis. Yuan, H. B., Poon, K. S., Chan, K. H., Lee, T. Y., Lin, C. Y. Department of Anesthesiology, Veterans General Hospital-Taipei, National Yang-Ming Medical College, Taiwan, Republic of China. *International Journal of Pediatric Otorhinolaryngology* (1993) August, Vol. 27 (2), pp. 193–9.

A 40-day-old infant boy underwent Nd-YAG laser surgery because of congenital bilateral choanal stenosis. Cyanosis and cardiovascular collapse occurred during the operation. Resuscitation was initiated, but in vain; the patient died. The evolution of clinical events was consistent with a diagnosis of gas embolism. In the investigation of causes, the use of a sapphire tip with the Nd-YAG laser and the cooling of the tip with N₂ gas were thought to have contributed to the fatal outcome. The authors warn of the potential risk of gas embolism with the Nd-YAG laser and a coaxial gas cooling system, and they emphasize the importance of monitoring for gas embolism in high-risk patients. Author.

Exposure to environmental tobacco smoke as a risk factor for recurrent acute otitis media in children under the age of five years. Stenstrom, R., Bernard, P. A., Ben-Simhon, H. Department of Otolaryngology, Children's Hospital of Eastern Ontario, Canada. *International Journal of Pediatric Otorhinolaryngology* (1993) August, Vol. 27 (2), pp. 127–36.

Exposure to environmental tobacco smoke (ETS) has remained a controversial risk factor for otitis media in children. This study evaluates the association between exposure to ETS and recurrent acute otitis media (RAOM) in 85 cases and 85 age and gender matched controls under the age of five years. Cases and controls were obtained from outpatient otolaryngology and ophthalmology clinics, respectively, at the Children's Hospital of Eastern Ontario. Cases were defined as having four or more physician documented AOM episodes in the preceding 12 months and controls were otitis free in the prior 12 months. Exposure status was assessed via parental questionnaire. Controlling for other risk factors (via conditional logistic regression), such as daycare attendance, socioeconomic status, prematurity and family history of otitis media, a significant association between ETS and RAOM was evident (odds ratio = 2.68, 95 per cent CI = 1.27–5.65). When categorized, a significant exposure response relationship between increasing level of exposure to ETS and increased risk of RAOM was evident. The population etiologic fraction indicated that up to 34 per cent of RAOM cases may be accounted for by ETS exposure. We conclude that exposure to ETS is an important and modifiable risk factor for RAOM in children under the age of five years. Author.

Detection of Haemophilus influenzae in middle ear of otitis media with effusion by polymerase chain reaction. Hotomi, M., Tabata, T., Kakiuchi, H., Kunimoto, M. Department of Otorhinolaryngology, Wakayama Medical College, Japan. *International Journal of Pediatric Otorhinolaryngology* (1993) August, Vol. 27 (2), pp. 119–26.

Otitis media with effusion (OME) is one of the major causes of hearing loss in childhood. The pathogenesis still remains unclear, though it is closely related to acute otitis media with bacterial infections. It is known that Haemophilus influenzae is one of the most common bacteria isolated from middle ear effusions (MEEs). Recently, in vitro DNA amplification by polymerase chain reaction (PCR) is a new technology that has considerable implication for diagnosis of viral and bacterial infections because of its potentially precise specificity and sensitivity. In the present experiment polymerase chain reaction (PCR) was applied to the detection of DNA genome of H. influenzae

contained in middle ear effusions. By Southern blot hybridization, two characteristic bands for H. influenzae DNA were detected at 273 b.p. and 550 b.p. position in 15 of 27 MEEs. However, no organism was cultured by conventional methods. Our results indicate the PCR technique is more specific and sensitive in detection of bacteria in middle ear effusion of OME, compared with conventional methods. It strongly suggests more involvement of the bacteria, especially H. influenzae, in OME onset. Author.

The effect of local hyperthermia on allergen-induced nasal congestion and mediator release. Johnston, S. L., Price, J. N., Lau, L. C., Walls, A. F., Walters, C., Feather, I. H., Holgate, S. T., Howarth, P. H. University Medicine, Southampton General Hospital, England. *Journal of Allergy and Clinical Immunology* (1993) December, Vol. 92 (6), pp. 850–6.

BACKGROUND: Local hyperthermia reduces mast cell degranulation, the severity of acute lung injury, and exercise-induced asthma and decreases symptoms of rhinitis. We have investigated the effect of local hyperthermia on mast cell degranulation and symptom generation in allergic rhinitis to assess its effect and mechanism of action within the nose. **METHODS:** In a randomized, double-blind, placebo-controlled, crossover study, 10 subjects with rhinitis were treated for 30 minutes with local hyperthermia or placebo, which was followed 30 minutes later by nasal allergen challenge. During the first two visits nasal lavages were performed to assess vascular leakage and mediator release. During the last two visits nasal airway resistance, the number of sneezes, and mucus secretion were monitored. **RESULTS:** Local hyperthermia significantly reduced both nasal airway resistance ($P < 0.05$) and vascular leakage ($P < 0.02$) but had no significant effect on the number of sneezes, on mucus secretion, or on tryptase release. **CONCLUSION:** Local hyperthermia reduces allergen-provoked nasal blockage and vascular leakage but has no effect on sneezing, rhinorrhea, or tryptase release. Nasal blockage occurs predominantly via newly formed lipid mediators and kinins, whereas sneezing and rhinorrhea occur predominantly via preformed mediators. We propose that local hyperthermia inhibits newly formed mediator production or release or reduces the sensitivity of the vasculature to inflammatory mediators in general. Further investigation into the mechanisms and potential uses of local hyperthermia is warranted. Author.

Intranasal flunisolide spray as an adjunct to oral antibiotic therapy for sinusitis. Meltzer, E. O., Orgel, H. A., Backhaus, J. W., Busse, W. W., Druce, H. M., Metzger, W. J., Mitchell, D. Q., Selner, J. C., Shapiro, G. G., Van Bavel, J. H. *et al.* Allergy and Asthma Medical Group and Research Centre, A. P. C., San Diego, CA 92123. *Journal of Allergy and Clinical Immunology* (1993) December, Vol. 92 (6), pp. 812–23.

BACKGROUND: The diagnosis of sinusitis is difficult and there are few controlled studies of customary therapies. In particular, the possible role of topical intranasal steroid as an adjunct to antibiotic treatment has not been evaluated. **METHODS:** The study was a multicentre, double-blind, randomized, parallel trial in which patients aged 14 years or older were recruited from allergy practices. All patients had maxillary sinusitis documented by radiographs. Treatment consisted of amoxicillin/clavulanate potassium 500 mg combined with nasal spray of either 100 micrograms flunisolide or placebo to each nostril three times a day for three weeks (phase I) followed by administration of flunisolide or placebo nasal spray alone three times a day for four weeks (phase II). **RESULTS:** Clinical symptoms and signs decreased significantly in both treatment groups during phase I ($P < 0.01$). There was a trend to greater improvement in the patients treated with flunisolide, but only the decrease in turbinate swelling/obstruction was statistically significant at the end of phase I when compared with placebo ($P = 0.041$). Patients' global assessment of overall effectiveness of treatment was higher for flunisolide than placebo after phase I ($P = 0.007$) and after phase II ($P = 0.08$). Maxillary sinus radiographs showed improvement in both treatment groups during phase I ($P < 0.004$) with somewhat greater regression of abnormal findings in patients treated with flunisolide after phase II ($P = 0.066$). However, 80 per cent of radiographs were still abnormal at the end of phase I. All types of inflammatory cells were significantly decreased in nasal cytograms in patients treated with flunisolide in comparison with those treated with placebo. Flare-up of sinusitis during phase II occurred in 26 per cent of patients treated with flunisolide and 35 per cent of those treated with placebo and tended to be more severe in the latter, although these differences were not statistically significant.

Adverse events, mainly gastrointestinal symptoms and headache, were similar in both groups and more frequent in phase I than in phase II, (42 vs 15 patients); these side effects were probably due to the antibiotic. **CONCLUSION:** The addition of flunisolide topical nasal spray as an adjunct to antibiotic therapy was most effective in global evaluations, tended to improve symptoms, to decrease inflammatory cells in nasal cytograms, to normalize ultrasound scans, and to aid regression of radiographic abnormalities compared with placebo spray. Author.

Detection of *Mycobacterium leprae* nasal carriers in populations for which leprosy is endemic. Klatser, P. R., van Beers, S., Madjid, B., Day, R., de Wit, M. Y. Department of Biomedical Research, Royal Tropical Institute, Amsterdam, The Netherlands. *Journal of Clinical Microbiology* (1993) November, Vol. 31 (11), pp. 2947–51.

In order to better understand the role of *Mycobacterium leprae* nasal carriage in the maintenance of infection reservoirs and transmission of leprosy, we applied a polymerase chain reaction (PCR) that detected a 531-bp fragment of the *pra* gene of *M. leprae* on nasal swab specimens collected through a total population survey from individuals living in an area in which leprosy is endemic. Among the total tested population of 1,228 people, 7.8 per cent were found to be PCR positive. PCR positivity was shown to be randomly distributed among the population for which leprosy is endemic. No association was observed between PCR positivity, age, or sex. The observed distribution of PCR positivity among households of different sizes confirmed the expected values, with the exception of two households, each with three people with PCR-positive nasal swab specimens. Although nasal carriage does not necessarily imply infection or excretion of bacilli, the finding of nasal carriage supports the theory of a disseminated occurrence of *M. leprae* in populations for which leprosy is endemic. Author.

A parallel-group comparison of budesonide and beclomethasone dipropionate for the treatment of perennial allergic rhinitis in adults. Al-Mohaimeid, H. Ear, Nose and Throat Department, King Abdul Aziz University Hospital, Riyadh, Saudi Arabia. *Journal of International Medical Research* (1993) March–April, Vol. 21 (2), pp. 67–73.

The efficacy and safety of the two intranasal glucocorticosteroids, budesonide and beclomethasone dipropionate (BDP), were compared in a single-blind study of 120 patients with perennial allergic rhinitis. Patients were randomized to receive either budesonide 200 micrograms twice daily or BDP 200 micrograms twice daily from pressurized nasal inhalers for three weeks. No other anti-rhinitis medication was allowed during the study. Patients recorded symptoms (blocked nose, runny nose, itchy nose, sneezing, runny eyes and sore eyes) daily on a diary card and were asked to make a global assessment of their treatment at the end of the study. Mean daily symptom scores were lower in patients receiving budesonide than in those receiving BDP for all symptoms, although treatment differences only reached statistical significance for runny nose and sneezing. After three weeks, 38 per cent of patients on budesonide and 27 per cent on BDP were totally symptom-free, and 72 per cent of patients on budesonide described the treatment as noticeably, very or totally effective compared with 58 per cent on BDP. In conclusion, the present study showed budesonide to be more effective in controlling symptoms of perennial allergic rhinitis than BDP. Author.

Subdural empyema of the cervical spine: clinicopathological correlates and magnetic resonance imaging. Report of three cases. Levy, M. L., Wieder, B. H., Schneider, J., Zee, C. S., Weiss, M. H. Department of Neurosurgery, University of Southern California School of Medicine, Los Angeles. *Journal of Neurosurgery* (1993) December, Vol. 79 (6), pp. 929–35.

A paucity of formally described information is available in the scientific literature regarding spinal subdural empyema. Patients presenting with neurological deterioration associated with subdural empyema are rarely identified, and treatment is often based upon anecdotal cases. The authors contribute three cases of primary cervical spinal subdural empyema and review the seven found in the literature. All patients had clinical evidence of neurological compromise, cervical tenderness, cervical pain, and leukocytosis upon admission. Cervical involvement ranged from C-2 to C-7. All patients underwent laminectomy with durotomy and drainage. The authors recommend prompt surgical decompressive laminectomy,

copious irrigation, and drainage, followed with appropriate adjunctive antibiotic therapy for treatment of these patients. Author.

Mandibular involvement in patients with multiple myeloma. Furutani, M., Ohnishi, M., Tanaka, Y. Department of Dentistry and Maxillo-Facial Surgery, Kobe City General Hospital, Japan. *Journal of Oral and Maxillofacial Surgery* (1994) January, Vol. 52 (1), pp. 23–5.

A survey of changes in the jaw bones of 38 patients with multiple myeloma revealed five cases with mandibular involvement. One case showed a pathological fracture of the mandibular angle, and in another case, a radiolucent area was found in the body of the mandible. These two clinical findings led to the diagnosis of multiple myeloma. The other three cases had no symptoms related to the oral region. All five cases also showed typical 'punched-out' lesions in the skull. It is suggested that a skeletal radiologic survey including the jaw should be performed in patients with multiple myeloma. Author.

Temporomandibular joint reconstruction of the complex patient with the Techmedica custom-made total joint prosthesis. Wolford, L. M., Cottrell, D. A., Henry, C. H. Baylor College of Dentistry, Dallas, Tx. *Journal of Oral and Maxillofacial Surgery* (1994) January, Vol. 52 (1), pp. 2–10; discussion 11.

A study of 56 patients (55 females, one male) with 100 reconstructed temporomandibular joints (TMJ) using the Techmedica custom-made total joint system (Techmedica Inc, Camarillo, CA) is presented. The patients ranged in age from 15 to 61 years (average, 39 years) and had 16 to 46 months' follow-up (average 30 months). Outcome groups were categorized as good, fair, or poor, based on clinical assessment. Results show that 35 patients (63 per cent) with 58 joints (58 per cent) had a good outcome, and 13 patients (23 per cent) with 26 joints (26 per cent) had a fair outcome, and eight patients (14 per cent) with 16 joints (16 per cent) had a poor outcome. Patients with one or no previous temporomandibular joint surgeries had 86 per cent in the good group, 14 per cent in the fair group, and no patients in the poor group. In patients with two or more previous surgeries, the success rate decreased to 55 per cent with good results, 26 per cent with fair results and 19 per cent with poor results. Long-term morbidity included five ramus prostheses that were removed or revised. Seventeen patients (30 per cent) received further operations because of heterotopic bone formation, fibrosis, calcification, inflammation, and/or pain which occurred mostly in patients with previous Proplast/Teflon (Vitek, Inc, Houston, Tx.) Implants. Continued pain has been associated with the poor group, which may be related to problems such as cervical neuropathy, sympathetic dystrophy, a residual inflammatory or immunologic reaction to Proplast/Teflon or silastic particles, fibrosis, calcification, heterotopic bone, or other unidentified factors. Author.

Osseointegrated implants in microvascular fibula free flap reconstructed mandibles. Hury, J. M., Zlotolow, I. M., Piro, J. D., Lenchewski, E. Dental Service, Memorial Sloan-Kettering Cancer Centre, New York, N.Y. *Journal of Prosthetic Dentistry* (1993) November, Vol. 70 (5), pp. 443–6.

In the past, prosthodontic rehabilitation of patients who underwent segmental mandibular resection relied on removable prostheses, which were less than ideal. The advent of the microvascular free flap has provided improved appearance and function through reconstruction of the skeletal integrity of the mandible. In select patients osseointegrated implants strategically placed in the reconstructed mandible can be used to restore masticatory function. Patient selection criteria and techniques are discussed. Author.

A fatal case of cerebral artery gas embolism following fine needle biopsy of the lung. Pereira, P. Department of Emergency Medicine, Westmead Hospital, NSW. *Medical Journal of Australia* (1993) December 6–20, Vol. 159 (11–12), pp. 755–7.

OBJECTIVES: To report a case of cerebral artery gas embolism (CAGE), following fine needle biopsy of the lung, and to discuss the pathophysiology and treatment. **CLINICAL FEATURES:** A 65-year-old woman presented to an emergency department with the clinical features of a right thromboembolic stroke following a fine needle biopsy of the lung. **INTERVENTIONS AND OUTCOME:** Computed tomography (CT) was performed after an unexpected deterioration in the woman's condition. The CT demonstrated the

presence of intracranial translucencies consistent with CAGE. Hyperbaric oxygen therapy was initiated but, despite two courses, the woman's condition continued to deteriorate and she died two days later. **CONCLUSION:** CAGE is a known but little appreciated complication of fine needle biopsy of the lung, and may be clinically indistinguishable from thromboembolic strokes. Successful treatment is dependent on early recognition and application of hyperbaric oxygen therapy, which appears to protect against injury and reverse many of the pathological changes associated with CAGE. The increasing popularity of fine needle biopsy of the lung as an outpatient procedure is likely to result in further presentations with CAGE to emergency departments. Author.

Computed tomographic study of the common cold. Gwaltney, J. M. Jr., Phillips, C. D., Miller, R. D., Riker, D. K. Department of Internal Medicine, University of Virginia Health Sciences Centre, Charlottesville 22908. *New England Journal of Medicine* (1994) January 6, Vol. 330 (1), pp. 25–30.

BACKGROUND. Colds are common, but the abnormalities they produce in the nasal passages and sinus cavities have not been well defined. **METHODS.** We studied healthy adult volunteers with self-diagnosed colds of 48 to 96 hours' duration and obtained the following data: information on symptoms, computed tomographic (CT) studies of the nasal passages and sinuses, mucosal-transport times, measures of nasal-airway resistance, and viral-culture studies. Thirty-one subjects (mean age, 24 years) had complete evaluations, including CT scans, which were read without knowledge of the clinical data. An additional 79 subjects underwent the same evaluations, except the CT scans. **RESULTS.** Of the 31 subjects with CT scans, 24 (77 per cent) had occlusion of the ethmoid infundibulum; 27 (87 per cent) had abnormalities of one or both maxillary-sinus cavities; 20 (65 per cent) had abnormalities of the ethmoid sinuses; 10 (32 per cent) had abnormalities of the frontal sinuses; and 12 (39 per cent) had abnormalities of the sphenoid sinuses. Infraorbital air cells were present in 14 subjects (45 per cent), and pneumatization of the middle turbinate (concha bullosa) was noted in 11 subjects (35 per cent). Also common were engorged turbinates (in seven subjects) and thickening of the walls of the nasal passages (in 13). After two weeks, the CT studies were repeated in 14 subjects, none of whom received antibiotics. In 11 of these subjects (79 per cent) the abnormalities of the infundibula and sinuses had cleared or markedly improved. Nasal-airway resistance was abnormal in 29 (94 per cent) and mucosal rhinitis in 19 (61 per cent) of the 31 subjects who had CT scans. Rhinovirus was detected in nasal secretions from 24 (27 per cent) of 90 subjects. **CONCLUSIONS:** The common cold is associated with frequent and variable anatomical involvement of the upper airways, including occlusion and abnormalities in the sinus cavities. Author.

Contour mapping of the TMJ temporal component and the relationship to articular soft tissue thickness and disk displacement. Pullinger, A. G., Bibb, C. A., Ding, X., Baldiodeda, F. Section of Orofacial Pain and Occlusion, UCLA School of Dentistry. *Oral Surgery, Oral Medicine, Oral Pathology* (1993) November, Vol. 76 (5), pp. 636–46.

The osseous architecture of central sagittal histologic sections of the temporal component of 51 temporomandibular joints of young adults at autopsy was studied to determine if this predicted the thickness of the overlying articular soft tissue and disk displacement. Geometric groupings of fossa-eminence shapes were generated using a hierarchical cluster analysis of the osseous fossa-eminence sigmoid curve, size, and slope. Six cluster groups were evolved and tested for relationship to soft tissue thickness measured at the eminence crest, mid-point of the eminence slope, closed pack location of the condyle, the inflection point, and the depth of the fossa. Soft tissue thickness at the inflection point and depth of the fossa was remarkably constant between cluster groups. Increased soft tissue thickness at the eminence crest and lower part of the posterior slope was weakly correlated to a flatter eminence slope and curve, explaining 10 per cent to 20 per cent of the variance (r^2). There were no relationships between the parameters studied to the fossa curvature. An ANOVA showed no statistical difference in the posterior slope angle between the categories of disk position ($p = 0.715$) or to the six cluster groupings. The results suggest that the osseous contours seen on radiographs may not accurately predict the actual articular surface of the temporal component. Author.

Eosinophilic granuloma of the mandibular condyle. A case

report and management discussion. Bhaskar, P. B., White, C. S., Baughman, R. A. Department of Oral and Maxillofacial Surgery, University of Florida College of Dentistry, Gainesville. *Oral Surgery, Oral Medicine, Oral Pathology* (1993) November, Vol. 76 (5), pp. 557–60.

The occurrence of eosinophilic granuloma in the mandibular condyle has been reported in only three cases. An additional case of eosinophilic granuloma of the mandibular condyle is reported. The lesion presented was treated with condylectomy and surgical curettage. There was no recurrence or soft tissue involvement on annual postoperative examination. Secondary reconstruction was planned but was not required. Author.

Vigintiphobia, unbound bilirubin, and auditory brainstem responses. Funato, M., Tamai, H., Shimada, S., Nakamura, H. Department of Pediatrics, Yodogawa Christian Hospital, Osaka, Japan. *Pediatrics* (1994) January, Vol. 93 (1), pp. 50–3.

OBJECTIVE. The management of nonhemolytic hyperbilirubinemia in term newborns is controversial. To evaluate the usefulness of serum unbound bilirubin concentrations (UBCs) in the management of hyperbilirubinemia, we compared the concentrations with abnormal auditory brainstem responses (ABRs). **METHODS.** ABRs and serum UBCs in 37 hyperbilirubinemic term newborns (total bilirubin concentrations (TBCs) ≥ 20 mg/dL and direct bilirubin concentrations < 2 mg/dL) were measured before treatment with either phototherapy or exchange transfusions. Eight of these newborns had blood incompatibilities. These hyperbilirubinemic newborns were divided into three groups according to the findings of ABR: group A, normal ABR ($n = 18$); group B, prolonged latency of wave I only ($n = 8$); and group C, prolonged interpeak latency of wave I–III/IV–V and/or poor amplitude ($n = 11$). **RESULTS.** The peak TBC was significantly different between groups A and C (22.8 ± 2.2 mg/dL and 25.4 ± 2.5 mg/dL, respectively; $P < 0.05$), though there were no differences between groups A and B and between groups B and C. The peak UBCs in groups B (1.27 ± 0.7 micrograms/dL) and C (1.34 ± 0.37 micrograms/dL) were significantly higher than in group A (0.78 ± 0.26 microgram/dL) ($P < 0.05$ and $P < 0.01$, respectively), though there was no significant difference in the peak UBC between groups B and C. Abnormal ABR findings were more clearly associated with the level of UBC at 1.0 microgram/dL than that of TBC at 23 mg/dL by multiple logistic regression analysis (odds ratio = 16.6, $P = 0.0026$, vs 4.2, $P = 0.1272$). **CONCLUSIONS.** These results suggest that measuring UBC may help in evaluating the possible risk of bilirubin encephalopathy in full-term newborns when there is vigintiphobia (fear of 20). Author.

Aryepiglottic fold width in patients with epiglottitis: where should measurements be obtained? John, S. D., Swischuk, L. E., Hayden, C. K. Jr., Freeman, D. H. Jr. Department of Radiology and Pediatrics, University of Texas Medical Branch, Galveston. *Radiology* (1994) January, Vol. 190 (1), pp. 123–5.

PURPOSE: To determine the best site for measurement or assessment of the aryepiglottic folds and determine whether evaluation of the lower portion of the folds is useful. **MATERIALS AND METHODS:** The lateral neck radiographs from 38 children with epiglottitis were retrospectively reviewed and compared with findings in 100 patients with croup and 100 control patients. In all patients, the fold thickness was measured at three levels: at the mid-point (site 1), just behind the epiglottis (site 2), and at the base, just above the false vocal cords (site 3). **RESULTS:** Full-thickness measurements obtained at sites 1 and 2 were statistically significant predictors of epiglottitis (sensitivity, 94.74 per cent; specificity, at least 96.50 per cent) in comparison with those obtained in patients with croup and control patients. **CONCLUSION:** The best site for width assessment is the upper half of the folds. Measurement at the base, where the folds overlie the arytenoid cartilage, is not nearly as accurate and should be avoided. Author.

Lower respiratory tract symptoms in Queensland schoolchildren: risk factors for wheeze, cough and diminished ventilatory function. Duffy, D. L., Mitchell, C. A. Department of Medicine, University of Queensland, Princess Alexandra Hospital, Australia. *Thorax* (1993) October, Vol. 48 (10), pp. 1021–4.

BACKGROUND—The occurrence of respiratory symptoms and abnormal lung function in children is known to be influenced by genetic and many environmental factors. The association between specific respiratory symptoms in children of school age and their

parents has been examined. **METHODS**—Respiratory symptoms and ventilatory function were recorded for 4549 schoolchildren in Queensland, Australia. **RESULTS**—The cumulative prevalence of wheezing was 23.1 per cent of eight year olds and 20.8 per cent of 12 year olds, and the prevalence of wheezing within the previous 12 months was 13.9 per cent and 10.5 per cent respectively. A parental history of asthma or wheeze and hayfever was associated with wheeze in the child, but did not affect either the age of onset or frequency of episodes. A history of frequent cough in children who had

never wheezed was associated with a parental history of frequent bronchitis, but less strongly with parental wheeze. These familial aggregations were not mediated by common exposure to cigarette smoke. Both a history of parental wheeze and maternal cigarette use were associated with a decrease in FEF_{25–75} in the child and these effects were additive. **CONCLUSIONS**—The association of specific symptoms (wheeze and cough without wheeze) in parent and offspring is interpreted as evidence for different mechanisms of familial transmission, which may be genetic. Author.