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Abstract Selection

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(The American Physiological Society)
American Journal of Surgical Pathology
American Review of Respiratory Disorders
(American Lung Association)
Annals of Neurology
(Offical Journal of the American Neurological Association and the Child Neurology Society) (Little, Brown & Company)
Annals of Thoracic Surgery
(Official Journal of the Society of Thoracic Surgeons and Southern Thoracic Surgical Association) (Elsevier Science Publishing)
Australasian Radiology
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(Journal of the Netherlands Society of Neurology, The Netherlands Society of Neurosurgeons, and the Flemish Society of Neuro-Psychiatry)
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Neurologic Clinics of North America (W B Saunders Company)
New England Journal of Medicine
Ophthalmology
(Journal of the American Academy of Ophthalmology)
Physiologist (The Physiological Society)
Respiration Physiology
Thorax
Tropical Doctor (Royal Society of Medicine)

Seasonal variation of IgE synthesis in vitro by human peripheral blood mononuclear cells. Bjorksten, B., Gamkrelidze, A., Vanto, T., Kjellman, M. Department of Pediatrics, Faculty of Health Sciences, University of Linkoping, Sweden. *Allergy* (1990) Nov, Vol. 45(8), pp. 572–6.
Seasonal variations in IgE antibody synthesis in vitro were studied in cultures of blood mononuclear cells (MNC) from 11 pollen allergic individuals. The IgE levels were significantly higher in two summer seasons than in the winter and spring between them. Net synthesis was confined to the summer in all but one of the patients. All the IgE in the cultures outside the pollen season represented preformed IgE which was present mainly (59 per cent) in the monocyte fraction. Thus, preformed IgE seems to persist in monocytes at times when there is little de novo synthesis of IgE. Author.

Effects of P. aeruginosa-derived bacterial products on tracheal ciliary function: role of O_2 radicals. Jackowski, J. T., Szepfalusi, Z., Wanner, D. A., Seybold, Z., Sielczak, M. W., Lauredo, I. T., Adams, T., Abraham, W. M., Wanner, A. Pulmonary Division, University of Miami, Mount Sinai Medical Center, Miami Beach, Florida 33140. *American Journal of Physiology* (1991) Feb, Vol. 260 (2 Pt 1), pp. L61–7.
The purpose of this investigation was to evaluate the effects of bacterial products derived from Pseudomonas aeruginosa on the function of airway cilia and to assess the role of phagocytes and oxygen radicals in the observed responses. Ciliary beat frequency (CBF) was measured in a perfusion chamber with a microscopic technique using tracheal epithelial cells obtained from normal sheep by brush biopsy (70 per cent epithelial cells, 18 per cent macrophages, 11 per cent neutrophils). Baseline CBF ranged between 678 and 1,126 min-1. After 20 min of perfusion with the cell free supernatant of P. aeruginosa culture (mucoid strain), a concentration-dependent depression of CBF was observed with a 58 per cent inhibition at a 1:1 dilution (P less than 0.05). The P. aeruginosa-derived products pyocyanin and 1-hydroxyphenazine also decreased CBF in a dose-related fashion. The cilion-inhibitory effects of the supernatant and bacterial products were markedly attenuated after centrifugation of the brush preparation (80 per cent epithelial cells, 16.5 per cent macrophages, 3.5 per cent neurtophilis). clucose/glucose oxidase also caused a rapid, concentration-dependent cilioinhibition or ciliostasis. Catalase blocked or attenuated the ciliary effects of the supernatant, bacterial products and glucose/glucose oxidase. Thus bacterial products released from P. aeruginosa impaired ciliary activity by a pathway which involved neutrophils and was mediated by toxic oxygen radicals. Author.

Melanotic neuroectodermal tumor of infancy. A reexamination of a histogenetic problem based on immunohistochemical, flow cytometric, and ultrastructural study of 10 cases. Pettinato, G., Manivel, J. C., d-Amore, E. S., Jaszcz, W., Gorlin, R. J. Department of Pathology, 2nd Medical School, University of Naples, Italy. *American Journal of Surgical Pathology* (1991) Mar, Vol. 15 (3), pp. 233–45.
Ten cases of melanotic neuroectodermal tumor of infancy (MNTI) were studied. There were nine males and one female ranging in age from two weeks to 10 months; one patient was eight years old. Sites of origin were the maxilla (five), epididymis (two), mandible (one), skull (one), and soft tissues of the cheek (one). Six tumors recurred from one to 18 months after diagnosis. One patient had widespread dissemination. Electron microscopic study of four cases showed cells with melanosomes at various stages of maturation, and cells with neuroblastic features, including neurosecretory granules and cytoplasmic processes. Nine cases of MNTI were studied immunohistochemically. Small neuroblastic cells and large cells in all cases were reactive for neuron-specific enolase (NSE), synaptophysin, HMB45, and dopamine-beta-hydroxylase, large cells in all cases and few small cells were reactive for cytokeratin (CK) and vimentin (VIM). Epithelial membrane antigen was observed in large cells in three cases, four cases expressed Leu 7 antigen, three were focally

positive for glial fibrillary acidic protein, one for desmin, and one for chromogranin. All cases were nonreactive for retinol-binding protein, neurofilaments, alpha-fetoprotein, S-100 protein, and carcinoembryonic antigen. Five normal adult retinas were studied similarly; the pigmented epithelium of the retina was reactive for CK, VIM, HMB45, NSE, and S-100. DNA study, performed in eight tumors, revealed aneuploidy in two (DNA index = 1.7 and 1.8); these cases recurred within one month. No differences were observed according to site or behavior. MNTI is a primitive neuroectodermal tumor with polyphenotypic expression of neural and epithelial markers, melanin production, occasional glial, and rhabdomyoblastic differentiation, and no photoreceptor differentiation. It probably represents a dysembryogenetic neoplasm that recapitulates the retina at five weeks of gestation. Author.

Nasal lymphoma. A clinicopathologic study with immunophenotypic and genotypic analysis. Ferry, J. A., Sklar, J., Zukerberg, L. R., Harris, N. L. James Homer Wright Pathology Laboratories, Massachusetts General Hospital, Boston 02114. *American Journal of Surgical Pathology* (1991) Mar, Vol. 15 (3), pp. 268–79.
We studied 13 cases of malignant lymphoma involving the nasal cavity, in six men and seven women, from 27 to 92 years of age (mean, 56 years; median, 55 years). All lymphomas had a diffuse pattern, with 10 of large-cell type (six immunoblastic polymorphous, one immunoblastic, three large cleaved cell), one of mixed small- and large-cell type and one of small cleaved-cell type. One case could not be subclassified. Angioinvasion and prominent necrosis were seen in 10 cases. Pseudoepitheliomatous hyperplasia of the overlying epithelium was present in five cases. Immunohistochemical studies on frozen or paraffin sections in nine cases revealed that the atypical cells were T-cells in four cases (CD8+ in two cases) and B cells with monotypic immunoglobulin in two cases. In three cases, the findings were suggestive but not diagnostic of T lineage. Genotypic analysis in one of two cases of T-cell lymphoma revealed clonal rearrangement of the genes for beta and gamma chains of the T-cell receptor. Patients were treated initially with local radiation therapy (10 cases) or with radiation and chemotherapy (three cases). Eight patients (62 per cent) had no relapse and were free of disease between nine months and 23 years (mean, six years and five months; median two years one month) after diagnosis. Five patients developed recurrent disease, three of whom were successfully salvaged. One patient was alive with tumor at the time of last follow-up and one died with tumor. Among cases of malignant lymphoma presenting with involvement of the nasal cavity, we find a high proportion of angioinvasive, diffuse large-cell lymphomas, with a predominance of T-cell type, and a relatively good prognosis when treated with radiation therapy. Author.

Rupture of the oesophagus during cricoid pressure. Ralph, S. J., Wareham, C. A. Department of Anaesthetics, Royal Hallamshire Hospital, Sheffield. *Anaesthesia* (1991) Jan, Vol. 46 (1), pp. 40–1
Rupture of the oesophagus occurred during the application of cricoid pressure at induction of anaesthesia when the patient vomited. The patient, who was bleeding from a gastric ulcer, was found to have a lower oesophageal tear which, although repaired at operation, resulted in a fatal mediastinitis. Author.

Accidental bronchial intubation with RAE tubes. Black, A. E., Mackersie, A. M. Department of Anaesthesia, Hospital for Sick Children, London. *Anaesthesia* (1991) Jan, Vol. 46 (1), pp. 42–3.
Preformed tracheal tubes are used frequently in paediatric anaesthesia. A feature which contributes to their popularity is the belief that they can be positioned more reliably than conventional tracheal tubes because of their design. We studied a group of 40 patients in whom the incidence of bronchial intubation was 20 per cent. The tube was too long in 32 per cent of patients, although the tube size was appropriate for the child's age in all patients. The consequences and outcome of this complication are discussed. Author.

Long-latency auditory evoked potentials during general anesthesia: N1 and P3 components. Plourde, G., Picton, T. W. Human Neurosciences Research Unit, University of Ottawa, Ontario, Canada. *Anesthesia and Analgesia* (1991) Mar, Vol. 72 (3), pp. 342–50.
The NI and P3 auditory evoked potentials were recorded to evaluate their usefulness as measures of the level of consciousness in 14 ASA physical status I and II patients undergoing elective surgery. The anesthetic agents were thiopental, fentanyl, and isoflurane with or without nitrous oxide. Recordings were carried out before induction (preinduction) and during induction, surgical anesthesia, emergence, and recovery from anesthesia. The auditory response was evoked by 700-Hz tones that occurred occasionally and unpredictably in a train of 500-Hz tones delivered at 40 per second. The patients were asked to press a button whenever they detected a 700-Hz tone. Studies with normal subjects have repeatedly shown that detected tones (HITS) evoke N1 and P3 waves, whereas undetected tones (MISSES) evoke no recognizable waves. The responses evoked by HITS were compared with those evoked by MISSES. The amplitudes of N1 and P3 were significantly different from zero for HITS before induction and during induction and recovery but not during emergence. The amplitudes of N1 and P3 were not different from zero for MISSES during induction, surgery, and emergence. During recovery, the N1 and P3 for MISSES were small and the P3 for HITS was significantly larger than for MISSES. The results indicate that except during emergence, HITS were associated with clear N1 and P3 waves, whereas MISSES were not. The lack of either N1 or P3 for HITS during emergence perhaps occurred because the patients, although responsive, were not yet fully conscious. The N1 and P3 components of the auditory evoked potential may provide specific indicators for consciousness. Author.

Cases from the aerospace medicine residents' teaching file. Case No. 39. Meniere's disease. Johnson, G. P. U.S. Air Force School of Aerospace Medicine, Brooks Air Force Base, TX 78235-5301. *Aviation, Space and Environmental Medicine* (1990) Dec, Vol. 61 (12), pp. 1160–2.
A case of Meniere's disease in an Air Force pilot is presented. The disease is reviewed in a question and answer format. A record review of all aviators evaluated at USAFSAM during the last 10 years revealed: 1. Only 11 cases of possible Meniere's disease were referred to USAFSAM in the years 1979–88. 2. 100 per cent of fliers with Meniere's disease were recommended to be permanently disqualified from flying status regardless of the treatment or the results. 3. A single case of cochlear hydrops was returned to flying status after one year of observation. Author.

Motion sickness in operational bomber crews. Strongin, T. S., Charlton, S. G. Samaritan Counseling Center of Albuquerque, NM. *Aviation, Space and Environmental Medicine* (1991) Jan, Vol. 62 (1), pp. 57–9.
Airsickness has long been identified as a flying training issue. The present study sought to assess its impact in an operational setting. During a monthly wing safety meeting, 88 B–1B and B–52H crew members completed the 'B–1B Airsickness Research File' questionnaire. The questionnaire responses were analyzed using ANOVA, Chi-square median tests, and multiple regression analyses. The percent of flights in which airsickness was experienced was found to be a function of crew position but not of aircraft type or the interaction of crew position and aircraft type. The degree of in-flight incapacitation experienced, however, was significantly predicted by the combination of crew position, aircraft type, and the amount of experience flying in bombers. Pilots reported the least amount of incapacitation, as did crew members who flew the B–1B and crew members with less bomber experience. Airsickness was reported to be a frequent occurrence among non-pilots in both aircraft. Experienced crewmembers were more likely to report an impact on their duties. Author.

Effects of pre-exposures to a rotating optokinetic drum on adaptation to motion sickness. Hu, S. Q., Stern R. M., Koch, K. L. Department of Psychology, Pennsylvania State University, University Park 16802. *Aviation, Space and Environmental Medicine* (1991) Jan, Vol. 62 (1), pp. 53–6.
The purpose of this study was to investigate the effects of two different pre-exposure procedures on adaptation to motion sickness in a rotating circular vection drum. The 45 subjects were randomly divided into three groups. The control group only had a standard 16-min exposure to the drum rotating at 60 degrees/s with no pre-exposure. The incremental exposure group had two separated 4-min pre-exposure periods at 15 degrees/s and 30 degrees/s in the rotating drum immediately prior to the standard 16-min exposure period in the drum rotating at 60 degrees/s. The abrupt-exposure group had the same pre-exposure procedure except the pre-expo-

sure drum rotation speed was 60 degrees/s and was followed by the same standard exposure periods. Subjective motion sickness reports and a measure of gastric myoelectric activity (electrogastrogram, EGG) were obtained during the standard 16-min drum rotation period in all three groups. The results showed that subjects in the incremental exposure group reported significantly fewer motion sickness symptoms during the standard 16-min rotation period than did the subjects in the abrupt exposure group and the control group. Subjects in the incremental exposure group also had less tachyarrhythmia, abnormal gastric myoelectric activity associated with nausea, during the 16-min rotation period than did the subjects in the control and abrupt exposure group. Incremental exposure to motion stimuli may be a useful method for training resistance to visually-induced motion sickness. Author.

Malignant malanomas of the nasal cavity after occupational exposure to formaldehyde. Holmstrom, M., Lund, V. J. Professiorial Unit, Royal National Throat, Nose, and Ear Hospital, London. *British Journal of Industrial Medicine* (1991) Jan, Vol. 48 (1), pp. 9–11

Formaldehyde is a well known nasal carcinogen in rodents, but so far there has been no convincing evidence that workers occupationally exposed to formaldehyde have an increased risk of nasal cancer. In this study three cases of malignant melanoma of the nasal mucosa in persons occupationally exposed to formaldehyde for a long time are presented. The occurrence of such a rare tumour in patients with significant exposure to a known carcinogen warrants further investigation. Author.

Preoperative non-surgical over-correction of cleft lip nasal deformity. Matsuo, K., Hirose, T. Department of Plastic and Reconstructive Surgery, Shinshu University School of Medicine, Matsumoto, Japan. *British Journal of Plastic Surgery* (1991) Jan, Vol. 44 (1), pp. 5–11

Alar cartilage, which is elastic like auricular cartilage, is correctable in the early neonatal period. Taking advantage of this correctability, we have performed preoperative non-surgical over-correction for cleft lip nasal deformity of incomplete and complete cleft lips with a Simonart's band. The device for this correction was made by processing a nostril retainer into a nostril over-corrector which utilizes a spring of silicone rubber, works like a tissue expander and is supported by the nostril floor. Twenty cases are reviewed whose follow-up lasted more than 19 months. The earlier the non-surgical over-correction began, the more satisfactory were the results that were obtained. Author.

Subclavicular approach in head and neck reconstruction with the latissimus dorsi musculocutaneous flap. Hayashi, A., Maruyama, Y. Department of Plastic and Reconstructive Surgery, Toho University School of Medicine, Tokyo, Japan. *British Journal of Plastic Surgery* (1991) Jan, Vol. 44 (1), pp. 71–4.

As an alternative procedure in transferring the pedicled latissimus dorsi musculocutaneous flap to the head and neck, we have devised a subclavicular approach and applied it successfully in our clinic. This approach reduces the distance of the transfer and leves no bulkiness over the clavicle. The subclavian vessels, the brachial plexus and the cervical pleura are retracted safely beyond the periosteum during the procedure, and the pedicle of the flap is protected under the clavicle postoperatively. Author.

Synaptosomal ATPase activities in temporal cortex and hippocampal formation of humans with focal epilepsy. Nagy, A. K., Houser, C. R., Delgado-Escueta, A. V. California Comprehensive Epilepsy Program, Southwest Regional Epilepsy Center, Veternans Administration Medical Center, Wadsworth Division, Los Angeles, CA 90073. *Brain Research* (1990) Oct, Vol. 529 (1–2), pp. 192–201

Intact nerve endings (synaptosomes) have been isolated from spiking and non-spiking temporal cortex and hippocampus samples from 14 patients immediately after temporal lobectomy for intractable epilepsy. Synaptosomes were also prepared from frozen brain samples of humans with no known neurological diseases. Four adenosine triphosphatase (ATP)-metabolizing enzymes (ecto-ATPase), ecto-adenylate kinase, Na+, K(+)-ATPase and Ca2+, Mg(+)-ATPase) were assayed in the synaptosomal fractions from the most spiking temporal cortex area (including focus) as well as from various regions of the hippocampus, and compared with enzyme activities of the least spiking or non-spiking temporal cortex of the same patient. Enzyme activities of the epileptic brain samples were also compared with values measured in the corresponding regions of normal brains. Ecto-ATPase activities of epileptic temporal cortex were decreased (approximately 30 per cent) in both comparisons. In contrast to these findings, a substantially increased (in some cases 300 per cent) ecto-ATPase activity was observed in the posterior part of epileptic hippocampus. We suggest that the higher than normal ecto-ATPase activity in this particular hippocampal region is related to the presence of granule cells and their efferent (or afferent) synaptic connections. The synaptosomal ecto-adenylate kinase showed alterations opposite to the changes found for the ecto-ATPase. The intrasynaptosomal ATPase (Na+, K(+)− and CA2+, Mg2(+)−) were decreased in the epileptic hippocampus-, but not in the temporal cortex samples, in relation to the corresponding normal enzyme activity values. These complex alterations in synaptosomal ATP-metabolizing enzyme activities may be important elements of seizure development and maintenance in human temporal lobe epilepsy. Author.

Central neurogenic hyperventilation in invasive laryngeal carcinoma. Dubaybo, B. A., Afridi, I., Hussain, M. Department of Internal Medicine, Veterans Administration Medical Center, Allen Park, Michigan 48101. *Chest* (1991) Mar, Vol. 99 (3), pp. 767–9

We describe a patient with central neurogenic hyperventilation secondary to extension of a laryngeal tumor into the base of the brain, resulting in extrinsic compression of the medulla. Such an association has not been previously described. Unique features which distinguish this patient from previously reported cases are emphasized. Possible mechanisms involved in pathogenesis, as well as types of therapy, are outlined. Author.

Neurofibromatosis 2: a clinically and genetically heterogeneous disease? Report on 10 sporadic cases. Mayfrank, L., Wullich, B., Wolff, G., Finke, J., Gouzoulis, E., Gilsbach, J. M. Department of General Neurosurgery, University of Freiburg, Germany. *Clinical Genetics* (1990) Nov, Vol. 38 (5), pp. 362–70

Clinical and genetic data of 10 patients with neurofibromatosis 2 (NF-2) are presented. Interestingly, no family history of neurofibromatosis was detectable in any of them, which indicates that these are sporadic cases of NF-2, most likely due to a new mutational event. According to our own results and the data in the literature, sporadic cases of NF-2 are clinically characterized by a high incidence of multiple meningiomas and spinal tumors in addition to the bilateral occurrence of acoustic neurinomas. The clinical heterogeneity of NF-2 is pointed out and the possible existence of different forms of this disease is discussed. Author.

Temporal lobectomy for the treatment of intractable complex partial seizures of temporal lobe origin in early childhood. Hopkins, I. J., Klug, G. L. Royal Children's Hospital, Melbourne, Australia. *Development Medicine and Child Neurology* (1991) Jan, Vol. 33 (1), pp. 26–31

Eleven patients with intractable complex partial seizures underwent temporal lobectomy during their first decade. The mean age at onset of epilepsy was two years and at surgery was 5.5 years. On the basis of data from clinical evaluation, CT, MRI in six patients, and pathological examination of excised tissue, the aetiology of the epilepsy was thought to be mesial temporal sclerosis in four children, glioma in five, dyspasia in one and chronic progressive encephalitis in another. At follow-up eight children were seizure-free, two had reduced seizure frequency and only the child with chronic progressive encephalitis had not benefitted from surgery. Author.

Breast metastasis from nasopharyngeal carcinoma. Sham, J. S., Choy, D. Department of Radiotherapy and Oncology, Queen Mary Hospital, Hong Kong. *European Journal of Surgical Oncology* (1991) Feb, Vol. 17 (1), pp. 91–3.

The first two cases of breast metastases from anaplastic carcinoma of the nasopharynx are presented. In both cases the breast metastasis was solitary, but there was no delay in confirming their metastatic nature since both lesions manifested after the documentation

of disseminated disease. The difference in histology, since 99 per cent of our nasopharyngeal carcinoma patients have anaplastic carcinoma of poorly differentiated carcinoma subtype, makes it easy to differentiate them from primary breast cancer by cytology or histology. Author.

The use of biopsy in the evaluation of pediatric nasopharyngeal masses. Burkey, B., Koopmann, C. F., Brunberg, J. Department of Otolaryngology, University of Michigan Hospital, Ann Arbor 48109. *International Journal of Pediatric Otorhinolaryngology* (1990) Nov, Vol. 20 (2), pp. 169–79

Pediatric nasopharyngeal tumors are rare, and few clinicians possess more than anecdotal experience. The differential diagnosis includes a diverse group of benign and malignant tumors, but can be narrowed further based on the clinical and radiographic appearance of the mass. Nasopharyngeal angiofibroma has such characteristic angiographic and CT imaging that many authors suggest biopsy is not essential in the evaluation of this lesion. We present a case of a pediatric nasopharyngeal neoplasm with angiographic, CT, and clinical findings consistent with angiofibroma. We then discuss the preoperative evaluation of, operative approach to, and postoperative staging and treatment of the biopsy-proven embryonal rhabdomyosarcoma. A review of the literature pertinent to this case is presented, and recommendations made concerning biopsy of lesions resembling juvenile nasopharyngeal angiofibroma. We believe this report reaffirms the use of histologic study whenever possible, in addition to radiographic imaging, in the diagnosis of pediatric nasopharyngeal masses. Author.

Otitis media and hearing loss in children attending an ENT clinic in Luanda, Angola. Bastos, I., Janzon, L., Lundgren, K., Reimer, A. Department of Otorhinolaryngology, University of Lund, Malmo General Hospital, Sweden. *International Journal of Pediatric Otorhinolaryngology* (1990) Nov, Vol. 20 (2), pp. 137–48

At the ENT clinic in Luanda, Angola, 110 consecutive cases of children with chronic otitis media (COM) were studied to find out some clinical characteristics regarding age of onset and duration of otorrhea as well as the general state of health of the children. Eighty-five per cent of the children had had longstanding otorrhea. In 75 per cent of all the cases ear discharge had started during early childhood. It was possible to institute a simple conservative treatment of COM. Fifty per cent returned to the clinic for a follow-up. The majority of the children came from families who lived under fairly good social conditions. One-hundred and five children with sensorineural hearing loss consulted the clinic. Many of them had had their hearing loss for several years before coming to the clinic. The etiology was in 39 cases infectious disease, meningitis being the most common one. Seventy-two per cent had severe to profound hearing loss. Children with slight to moderate hearing loss rarely appeared at the clinic. Some of the hearing-handicapped children could be sent to a special school for rehabilitation. Author.

Prognostic factors in patients with early stage non-Hodgkin's lymphomas of the head and neck treated with definitive irradiation. Goldwein, J. W., Coia, L. R., Hanks, G. E. Fox Chase Cancer Center, Department of Radiation Oncology Philadelphia, PA 19111. *International Journal of Radiation Oncology, Biology and Physics* (1991) Jan, Vol. 20 (1), pp. 45–51.

Between 1974 and 1989, 58 patients with clinical Stages I and II non-Hodgkin's lymphomas of the head and neck were treated with radiation at the Fox Chase Cancer Center. Forty-one treated with radiotherapy alone form the basis for this retrospective analysis of outcome and prognostic factors. With a mean radiation dose of 4400 cGy, the five-year actuarial local control rate is 92 per cent. Only one patient failed within an irradiated field. The five-year actuarial survival and relapse-free survival and relapse-free survival rates are 85 per cent and 54 per cent, respectively. In a univariate analysis, poor survival was significantly correlated with involvement of Waldeyer's ring, postoperative tumor size greater than 3 cm, and greater than two involved lymph nodes and extranodal sites (p less than 0.02). No such correlations were seen for stage, histologic grade, the presence of extranodal disease, or any of the other parameters that were examined. Relapse free survival was significantly correlated only with the total of the number of involved nodes and extranodal sites. Patients with one or two involved nodes and sites had a 68 per cent chance of remaining diseae-free at five years compared to 0 per cent for patients with greater than two ($p = 0.02$). Again, significant trends were not seen for the other parameters analyzed. These data demonstrate excellent local control, survival, and relapse-free survival using radiation alone with doses of 3000–5000 cGy. In our group of clinically staged patients preselected for treatment with radiation alone, the total of the number of involved nodes and extranodal sites, involvement of Waldeyer's ring, and tumor size after resection correlated strongly with relapse-free survival and overall survival. In patients with early stage non-Hodgkin's lymphomas of the head and neck, initial management with external beam radiotherapy should be considered in particular for those with one or two involved nodes and extranodal sites that are less than 3 cm following resection and that do not involve Waldeyer's ring. Author.

The morbidity of salvage surgery following conventional radiotherapy and continuous, hyperfractionated accelerated radiotherapy (CHART). Rugg, T., Lartigau, E., Sanders, R., Glover, G., Saunders, M. I., Dische, S. Regional Centre for Radiotherapy and Oncology, Mount Vernon Hospital, Northwood, Middlesex, UK. *International Journal of Radiation Oncology, Biology and Physics* (1991) Mar, Vol. 20 (3), pp. 581–6

A comparison was made of the morbidity of surgery for locoregional recurrence in patients with advanced cancer of the head and neck region following continuous hyperfractionated accelerated radiotherapy (CHART), after conventional radiotherapy, and also in a group following surgery only as the primary treatment. Post-surgical morbidity occurred in 14 (77 per cent) of the 18 patients treated with CHART, of whom 11 (78 per cent) required a further surgical procedure. In the conventional group, morbidity occurred in 14 (58 per cent) of the 24 patients, of whom nine (64 per cent) required further surgery. Finally, in the surgical group morbidity occurred in 13 (48 per cent) of the 27 patients, of whom seven (54 per cent) required further surgery. Because of the many factors that may influence the chance of morbidity and of the small number of cases, considered statistical analysis is not meaningful and there must be caution in the interpretation of results. When allowance is made for the greater frequency of more advanced tumors and for sites in the oropharynx and oral cavity, where procedures associated with greater risk of complication were performed, the morbidity seen after surgery was performed upon CHART patients appeared to be no greater than when conventional radiotherapy had been given. As expected, the surgery only group showed less morbidity than either of the radiotherapy groups. Author.

An alternative mathematical description of the relationship between noise exposure and hearing loss. Bies, D. A., Hansen, C. H. Department of Mechanical Engineering, University of Adelaide, South Australia. *Journal of Acoustical Society of America* (1990) Dec, Vol. 88 (6), pp. 2743–54.

Retrospective investigation of large populations has provided means for determining quantitative relationships between the hearing levels of non-noise-exposed populations and age, and between the hearing levels of noise-exposed populations and age and noise exposure. In the latter case, noise exposures have been predominantly steady state over many years and no way of measuring the effects of noise alone, excluding the effects of age, has ever been demonstrated. In the following paper, attention is confined to the problem of developing a mathematical description of an existing set of empirically determined hearing level data; questions of audiology are not of concern here. It is shown that the mathematical analysis traditionally used to determine the contribution of noise exposure alone to hearing level is not unique; an alternative formulation is possible and indeed is demonstrated. Whereas the traditional formulation leads to the conclusion that noise-induced hearing loss scales on the integral of sound pressure squared with time, and thus, to the equal energy hypothesis, the alternative formulation leads to the conclusion that noise-induced hearing loss scales on the integral of pressure with time. Since either formulation adequately describes the data, and the equal energy hypothesis has never been adequately substantiated, use of the latter hypothesis to extend the findings of steady-state exposures to application for unsteady exposures is not justified. The alternative formulation presented here is recommended for consideration. Author.

Alterations of adrenoceptors in the nasal mucosa of allergic patients in comparison with nonallergic individuals. van-Megen, Y. J.,

Klaassen, A. B., Rodrigues de Miranda, J. F., van Ginneken, C. A., Wentges, B. T. Department of Otorhinolaryngology, University of Nijmegen, The Netherlands. *Journal of Allergy and Clinical Immunology* (1991) Feb, Vol. 87 (2), pp. 530–40.
Nasal hyperreactivity in nasal allergy may be due to changes of the characteristics in adrenergic receptors. Radioligand receptor-binding studies with the antagonists, 3H-prazosin (alpha 1-adrenoceptor), 3H-rauwolscine (alpha 2-adrenoceptor), and 125I-(-)-Cyanopindolol (beta-adrenoceptor) were performed in homogenates of nasal mucosa of allergic and nonallergic (NA) patients to investigate this hypothesis. The heterogeneous NA group was subdivided into control individuals and patients with chronic sinusitis and vasomotor rhinitis. No significant differences in affinities or densities of alpha 1- and alpha 2-adrenoceptors could be demonstrated in allergic patients in comparison with NA and control individuals. The beta-adrenoceptor density was significantly reduced in allergic patients in comparison with that of control individuals. Neither changes in agonist binding or in the effect of Gpp (NH)p on the agonist binding to beta-adrenoceptors could be observed in allergic patients. The subtype selective antagonist, LK203-030, demonstrated the presence of a homogeneous population of beta 2-adrenoceptors in human nasal mucosa of both NA and allergic patients. In vitro, autoradiography demonstrated specific 125I-(-)-Cyanopindolol labelling of the epithelium in NA and allergic patients. In conclusion, no changes in characteristics of alpha 1- or alpha 2-adrenoceptors in the nasal mucosa could be demonstrated in nasal allergy. However, a decreased number of beta-adrenoceptors may reflect a beta-adrenergic abnormality in nasal allergy. Author.

Alterations of muscarinic acetylcholine receptors in the nasal mucosa of allergic patients in comparison with nonallergic individuals. van Megen, Y. J., Klaassen, A. B., Rodrigues de Miranda, J. F., van Ginneken, C. A., Wentges, B. T. Department of Otorhinolaryngology, University of Nijmegen, The Netherlands. *Journal of Allergy and Clinical Immunology* (1991) Feb, Vol. 87 (2), pp. 521–9
Cholinergic nasal hyperresponsiveness in nasal allergy may be due to changes of the characteristics in muscarinic cholinergic receptors. Radioligand receptor binding and in vitro autoradiographic studies of nasal mucosa in nonallergic (NA) and allergic patients were performed to investigate this hypothesis. The heterogeneous NA group was subdivided into control individuals and patients with chronic sinusitis and vasomotor rhinitis. The 3H-(-)-Quinuclidinylbenzilate binding to muscarinic receptors in human nasal mucosa membranes was saturable and of high affinity in all groups. No significant differences could be demonstrated between the subgroups of the NA patients. In allergic patients the dissociation constants and receptor densities were significantly decreased in comparison with those of NA and with those of control individuals. No differences in agonist binding or coupling of the muscarinic receptor to the effector system via the G protein could be observed in allergic patients. In vitro autoradiographic experiments demonstrated specific 3H-(-)-Quinuclidinylbenzilate labelling of the glandular acini in NA and allergic patients. No specific labelling could be observed in the epithelium, blood vessels, or connective tissue. In conclusion, the increased sensitivity and decreased muscarinic receptor number may reflect the cholinergic-induced hypersecretion in nasal allergy by are probably too small to explain the complex allergic reaction. Author.

Lymphocytes and nonlymphoid cells in human nasal polyps. Stoop, A. E., van der Heijden, H. A., Biewenga, J., van der Baan, S. Department of Otorhinolaryngology/Head and Neck Surgery, Free University Hospital, Amsterdam, The Netherlands. *Journal of Allergy and Clinical Immunology* (1991) Feb, Vol. 87 (2), pp. 470–5.
Immunohistochemical staining were performed on polyp specimens of 48 patients and on mucosal biopsy specimens of the middle and inferior turbinates of 23 and 28 patients, respectively. Significantly more CD8+ (suppressor/cytotoxic) than CD4+ (helper/inducer) cells were found in the polyps. The number of CD2+, CD4+, and CD8+ lymphocytes in nasal polyps were very similar to the number in the macroscopically unaffected mucosa of the middle turbinates, whereas scores in the inferior turbinates were lower. In healthy subjects, the differences were smaller. CD22+ B cells were detected in varying numbers in the polyps in more or less organized clusters. Significantly more HLA-DR+ cells were found in polyps and middle turbinates than in the inferior turbinates. Eosinophils were found in moderate to large numbers in polyps of 77 per cent of the patients. Mast cells and plasma cells were detected in moderate numbers, whereas neutrophils were found in 35 per cent of the patients. In the middle and inferior turbinates varying but small numbers of eosinophils, mast cells, plasma cells, and neutrophils were found. In considering these findings, the role of chronic inflammation with T cell-dependent disturbances is discussed with regard to the pathogenesis of nasal polyps. Author.

Sultamicillin (sulbactam/ampicillin) versus amoxycillin in the treatment of acute otitis media in children. Rodriguez, W. J., Khan, W. H., Sait, T., Chhabra, O. P., Guarinello, A., Smith, A. W., Ahmad, S. Department of Infectious Diseases, Children's Hospital, National Medical Center, Washington, DC 20010. *Journal of International Medical Research* (1990) Vol. 18 Suppl 4, pp. 78D–84D.
A comparative study of sultamicillin (an orally active dimer of sulbactam and ampicillin) and amoxycillin for the treatment of acute otitis media was carried out in 86 children with acute otitis media. After 10 days' treatment, of those with traditional middle ear pathogens, 35/36 (97 per cent) 50 mg/kg day or 500 mg/day sultamicillin-treated children were cured with eight relapses after a further 18 days without treatment compared with 12/13 (92 per cent) 40 mg/kg day or 250 mg/day amoxycillin-treated children and three subsequent relapses. All six beta-lactamase-producing pathogens were in the sultamicillin treatment group: four were Haemophilus influenzae/H. parainfluenzae that were resistant to amoxycillin, and all were cured although two then relapsed. No significant clinical or laboratory side-effects were noted in either amoxycillin- or sultamicillin-treated patients. It is concluded that sultamicillin was comparable to amoxycillin in the treatment of acute otitis media. Author.

Radical intracapsular removal of acoustic neurinomas. Long-term follow-up review of 11 patients. Lownie, S. P., Drake, C. G. Division of Neurosurgery, University of Western Ontario, London, Canada. *Journal of Neurosurgery* (1991) Mar, Vol. 74 (3), pp. 422–5
Historically, the neurosurgical treatment of large acoustic neurinomas has developed with two principal goals: complete tumor removal and preservation of facial nerve function. A recent goal for small tumors is the preservation of hearing. Out of a personal series of 124 acoustic neurinomas treated over the past 35 years, the senior author has undertaken a radical intracapsular approach in 12 patients with large tumors (greater than 3 cm in diameter). Surgical indications for intracapsular removal included advanced age (five cases), the patient's wish to avoid any risk of facial paralysis (six cases), contralateral facial palsy (one case), and contralateral deafness (one case). Eleven of these 12 patients were available for follow-up review. Tumor recurrence developed in two patients (18 per cent) at two and three years postoperatively; there were no late recurrences. Four patients died of unrelated causes, 10 to 19 years after surgery. The remaining five patients have survived a mean of 12 years since surgery without recurrence (range three to 22 years). Facial function was preserved in nine patients (82 per cent). The results suggest that radical intracapsular removal may be the procedure of choice under certain circumstances and may offer an alternative to focused high-energy radiation. Author.

A vascular malformation mimicking an intracanalicular acoustic neurilemoma. Case report. Linskey, M. E., Jannetta, P. J., Martinez, A. J. Department of Neurological Surgery, University of Pittsburgh School of Medicine, Pennsylvania. *Journal of Neurosurgery* (1991) Mar, Vol. 74 (3), pp. 516–9
A patient with an enhancing, completely intracanclicular mass on magnetic resonance imaging was operated on for a presumed acoustic neurilemoma, but was found at surgery to have an intracanalicular vascular malformation. This rare lesion should be distinguished from angiomatous change within an acoustic neurilemoma and in the past has been termed 'vascular tumor', 'hemangioma', or 'fibroangioma'. The clinical distinctions between intracanalicular acoustic neurilemomas and intracanalicular vascular malformations and the ability of magnetic resonance imaging to distinguish between the two are discussed. Author.

Nasopalatine duct cyst: an analysis of 334 cases. Swanson, K. S., Kaugars, G. E., Gunsolley, J. C. Department of Oral and Maxillofacial Surgery, Medical College of Virginia, Richmond 23298. *Journal of Oral and Maxillofacial Surgery* (1991) Mar, Vol. 49 (3), pp. 268–71

The nasopalatine duct cyst (NPDC) is the most common cyst of non-odontogenic origin in the maxilla. However, the information reported about this lesion consists primarily of small surveys and isolated case reports. The purpose of this retrospective investigation was to gather demographic, clinical, and histologic data on a large series of NPDCs, and to compare the findings with those of previous studies. In this study, the overall mean age at diagnosis was 42.5 years, and there was a slight male predilection. The mean radiographic diameter was 17.1 mm, but 75 per cent of the lesions were 20 mm or less in diameter. Symptoms were present in at least 70 per cent of the cases. Only 28 per cent of the specimens contained respiratory epithelium. There was no correlation between radiographic size, patient's age, presenting symptoms, or type of epithelium. Recurrence was noted in only two per cent of the cases. Author.

Host factors and early therapeutic response in acute otitis media. Carlin, S. A., Marchant, C. D., Shurin, P. A., Johnson, C. E., Super, D. M., Rehmus, J. M. Department of Pediatrics, Case Western Reserve University, Metro Health Medical Center, Cleveland, Ohio 44109. *Journal of Pediatrics* (1991) Feb, Vol. 118 (2), pp. 178–83

To evaluate the relationship between eradication of bacterial infection and clinical improvement in children with otitis media, we reviewed the clinical outcome of bacterial otitis media in patients enrolled in double-blind trials of antibacterial therapy from 1979 to 1988. Cultures of middle ear exudates showed the distribution of bacterial pathogens to be similar to that observed in other geographic areas. Two-hundred and ninety-three patients had otitis media caused by bacterial pathogens and underwent repeat tympanocentesis after three to six days of therapy. Bacteriologic success was demonstrated in 253 patients (86 per cent); 40 patients (14 per cent) had bacteriologic failure. Children who had bacteriologic failure were younger than those with bacteriologic success (median age 10.6 vs 18.5 months; $p = 0.001$); 38 per cent of patients who had bacteriologic failure were black, compared with 18 per cent of patients with bacteriologic success ($p = 0.007$). Gender, history of frequent otitis media, and presence of bilateral otitis media were not risk factors for bacteriologic failure. Clinical success was demonstrated in 261 patients (89 per cent); 32 patients (11 per cent) had clinical failure. Agreement between clinical and bacteriologic response was 86 per cent (95 per cent confidence interval: 81.6 per cent to 89.6 per cent). Ninety-three per cent (236/253) of subjects whose infection was eliminated had clinical resolution, whereas 37 per cent (15/40) of those with bacteriologic failure had persisting symptoms or signs of clinical failure. We conclude that failure to eliminate bacteria from the middle ear is often associated with persistent signs and symptoms. Bacteriologic failure affects children less than 18 months of age almost exclusively. Bacteriologic and clinical failure are frequently discordant; mechanisms unrelated to the bacterial infection may explain some of the persisting clinical signs. Author.

Peer relations of hearing-impaired adolescents. Henggeler, S. W., Watson, S. M., Whelan, J. P. United States International University, School of Human Behavior, San Diego, California 92131.*Journal of Pediatric Psychology* (1990) Dec, Vol. 15 (6), pp. 721–31

Compared peer relations of hearing-impaired adolescents ($n = 35$) with those of hearing adolescents ($n = 35$) based on reports from mothers, fathers, and adolescents. Dependent measures included the emotional bonding, aggression, and social maturity subscales of the Missouri Peer Relations Inventory, the socialized aggression subscale from the Revised Behavior Problem Checklist and the acitivities and social subscales of the Child Behaviour Checklist. Analyses showed that parents of hearing-impaired youths rated their adolescents' friendships as relatively high in aggression, but hearing-impaired adolescents rated their behavior with friends as relatively low in aggression. These findings were interpreted in light of recent research regarding the cognitive biases of aggressive hearing children. Mothers of hearing-impaired youths also rated their adolescents' friendships as lower in emotional bonding than did mothers of hearing adolescents. Author.

Ear disease in three aboriginal communities in Western Australia. Kelly, H. A., Weeks, S. A. Health Department of Western Australia, East Perth *Medical Journal of Australia* (1991) Feb 18, Vol. 154 (4), pp. 240–5

Surveys of ear disease amongst Aboriginal people in two isolated bush communities (Wiluna and La Grange) and one urban community (Kwinana) in Western Australia were undertaken in 1988 or 1989. The age-adjusted prevalence odds ratio (relative risk) of perforations of the tympanic membrane for Wiluna compared with Kwinana was 5.0 (95 per cent confidence interval (CI) 2.7–12.2) and 6.8 (95 per cent CI 3.5–13.9) for La Grange compared with Kwinana. The relative risk of mild hearing loss, in comparison with Kwinana was 2.5 (95 per cent CI 1.5–4.3) for Wiluna and 3.2 (95 per cent CI 2.0–5.0) for La Grange. There was no significant difference in the relative risk of moderate or severe hearing loss or impedance pattern B, usually interpreted as 'glue ear', in any of the three communities, but even this community did not approach the much lower levels of prevalence in Australia as a whole. Author.

Lesions that manifest as medial cheek and nasolabial fold masses. Som, P. M., Norton, K. I. Department of Radiology, Mount Sinai Medical Center, New York, NY 10029–6574. *Radiology* (1991) Mar, Vol. 178 (3), pp. 831–5

Seventeen cases were collected in which the patient presented with a medial cheek or nasolabial fold mass. Most of these lesions were uncommon, and some were rare. The most reliable differentiating finding was the type of associated bone involvement. The malignancies had bone erosion and as a group could be distinguished from the other masses. Computed tomographic attenuation and magnetic resonance imaging signal intensities were nonspecific and did not allow a definitive diagnosis to be made. The types of patholgoic conditions and their sectional imaging findings are reviewed. Author.

Mapping the distribution of amobarbital sodium in the intracarotid Wada test by use of Tc-99m HMPAO with SPECT. Jeffery, P. J., Monsein, L. H., Szabo, Z., Hart, J., Fisher, R. S., Lesser, R. P., Debrun, G. M., Gordon, B., Wagner, H. N. Jr., Camargo, E. E., Russell, H. Morgan Department of Radiology and Radiological Science, John Hopkins Medical Institutions, Baltimore, MD 21205. *Radiology* (1991) Mar, Vol. 178 (3), pp.847–50

The intracarotid amobarbital sodium, or Wada, test has been used to localize speech and memory function prior to surgical treatment of temporal lobe seizures. The authors mixed technetium-99m hexamethyl-propyleneamine oxime (HMPAO) with amobarbital sodium and injected the mixture in 25 patients with epilepsy. Single photon emission computed tomography (SPECT) of the brain was then performed to determine intracerebral distribution of the amobarbital sodium. Results of SPECT were compared with those of conventional and digital subtraction angiography (DSA). The distribution of Tc-99m HMPAO and, presumably, amobarbital sodium varied from patient to patient. SPECT revealed a statistically different distribution from that predicted with conventional angiography. The distribution also often differed from that of DSA, although the difference was not significant. SPECT revealed infrequent delivery to mesial temporal lobe structures. This emphasizes the need for caution in the use of the intracarotid amobarbital sodium test to predict the outcome of removal of these areas. Author.

Intraoperative I-125 seed implantation for extensive recurrent head and neck carcinomas. Lee, D. J., Liberman, F. Z., Park, R. I., Zinreich, E. S. Division of Radiation Oncology, Johns Hopkins Hospital, Baltimore MD 21205. *Radiology* (1991) Mar, Vol. 178 (3), pp. 879–82

From 1978 to 1988, 41 patients with extensive recurrent carcinomas of the head and neck were treated with surgical resection plus intraoperative iodine-125 seed implantation. Surgery was performed to resect the tumors and to expose the tumor beds for implantation. I-125 seeds were implanted intraoperatively, with a spacing of 0.75-1 cm between adjacent seeds, either into the soft tissue in the tumor bed or onto small patches of gelatin sponges to cover the bone, nerve, or blood vessel involved with disease. Reconstructive flaps were used in 18 patients. The average I-125 dose delivered by the implanted seeds was 8,263 cGy. The determinate 5-year actuarial survival rate for the entire group was 40 per cent. The 5-year local disease control rate was 44 per cent. Major complications were transient wound infection (32 per cent), flap necrosis (24 per cent), fistula formation (*10* per cent), and carotid blowout (five per cent). These results indicate that surgical resection plus I-125 seed implantation provides a potentially curative treatment for patients with extensive recurrent head and neck carcinomas that would be considered traditionally unresectable and that would be treated only with palliative therapy. Author.