

Abstract Selection

Rhinometry and open-mouth posture in young children. Gross, A. M., Kellum, G. D., Morris, T., Franz, D., Michas, C., Foster, M. L., Walker, M. E., Bishop, F. W. Department of Psychology, University of Mississippi, University 38677. *American Journal of Orthodontics and Dento-Facial Orthopedics* (1993) June, Vol. 103 (6), pp. 526–9.

A biracial sample of 348 elementary school children who were in the first grade were assessed for open-mouth posture (OMP) in the natural environment. In addition, rhinometry was performed on 296 of the children. Means were computed for percent OMP and cross-sectional nasal airway. Results indicated that, in general, these children exhibited relatively high rates of OMP. Boys displayed significantly greater OMP than girls, and black children showed significantly larger cross-sectional nasal areas than white children. A significant correlation between OMP and nasal area only was evident for children exhibiting OMP during more than 80 per cent of the observation intervals. The implications of the findings were discussed. Author.

Head and neck reconstruction using the platysma myocutaneous flap. Ruark, D. S., McClairn, W. C. Jr., Schlehaider, U. K., Abdel-Misih, R. Z. Department of Surgery, Medical Centre of Delaware, Wilmington. *American Journal of Surgery* (1993) June, Vol. 165 (6), pp. 713–8; discussion 718–9.

A retrospective analysis of our experience with 41 patients who received a platysma myocutaneous flap for reconstruction of intracranial and pharyngeal defects is presented. All patients had epidermoid carcinoma of the head and neck region, with tumour size ranging from T1 to T4. The primary sites of malignancy were the oral cavity (61 per cent), the oropharynx (32 per cent), and the hypopharynx (7 per cent). Either radical or modified radical neck dissection requiring routine ligation of the facial artery was performed in all 41 patients. Adjuvant therapy included preoperative or postoperative radiotherapy (39 per cent) and preoperative chemotherapy (73 per cent). The mean hospital stay was 13 days. Flap-related complications occurred in eight patients (19 per cent) only. These included partial flap necrosis involving the epithelium alone, skin necrosis of the neck suture line, and fistula formation. Most complications resolved with local care only. Minor surgical intervention was required in three patients. There were no perioperative deaths. These results indicate that the platysma myocutaneous flap is a viable alternative in head and neck reconstruction. Author.

Nasal lymphomas in Peru. High incidence of T-cell immunophenotype and Epstein-Barr virus infection. Arber, D. A., Weiss, L. M., Albuja, P. F., Chen, Y. Y., Jaffe, E. S. Division of Pathology, City of Hope National Medical Centre, Duarte, California 91010. *American Journal of Surgical Pathology* (1993) Apr, Vol. 17 (4), pp. 392–9.

The incidence of non-Hodgkin's lymphoma of the nasal region is much higher in Peru than in the United States and is similar to the incidence of sinonasal lymphomas in Asian countries. To characterize these lymphomas, we evaluated the clinical, morphologic, and immunohistochemical features of 14 cases and also analyzed the cases for Epstein-Barr virus (EBV) RNA using a sensitive and specific in situ hybridization method. Morphologically, the cases consisted of nine large cell immunoblastic lymphomas, one diffuse mixed cell lymphoma, and two cases unclassifiable in the Working Formulation. Eleven cases demonstrated evidence of T lineage, two were of B lineage and one of indeterminate immunophenotype. In 13 of the lymphoma cases including all of the T-cell lymphomas, EBV RNA was detected in a high percentage of cells. Double-labelling immunohistochemical and in situ hybridization studies identified CD43 positivity in the cells labelling for EBV RNA. Much smaller amounts of EBV RNA were detectable in six of eight control benign nasopharyngeal biopsy specimens, and two were completely nega-

tive. These findings are similar to the prevalence of EBV-positive T-cell lymphomas in Asian countries and differ from the findings of the more common EBV-negative B-cell nasal lymphomas in the United States. These findings suggest that EBV plays a role in the development of nasal T-cell lymphomas and that the incidence of EBV infection may explain the reported 'East-West' difference in the incidence of nasal T-cell lymphomas. Author.

Pure squamous cell carcinoma of the larynx with cervical nodal metastasis showing rhabdomyosarcomatous differentiation. Clinical, pathologic, and immunohistochemical study of a unique example of divergent differentiation. Goldman, R. L., Weidner, N. Department of Pathology, Mount Zion Hospital of University of California, San Francisco 94115. *American Journal of Surgical Pathology* (1993) Apr, Vol. 17 (4), pp. 415–21.

We describe a unique case of pure squamous carcinoma of the larynx that developed a cervical lymph node metastasis showing rhabdomyosarcoma admixed with squamous carcinoma (that is, carcinosarcoma). The rhabdomyosarcoma showed foci immunoreactive to multiple cytokeratin monoclonal antibodies, as well as to markers for striated muscle, thus indicating true divergent epithelial and rhabdomyosarcomatous differentiation. Although the morphogenesis of carcinosarcomas remains controversial, the sequence of events for the current case favours sarcomatous transformation of the original carcinoma (that is, sarcomatous neometaplasia of the primary carcinoma clone). The possible contributory role of radiation therapy in this case in inducing such a change is noted. Author.

Amygdaloid sclerosis in temporal lobe epilepsy. Hudson, L. P., Munoz, D. G., Miller, L., McLachlan, R. S., Girvin, J. P., Blume, W. T. Department of Pathology (Neuropathology), University of Western Ontario, London, Canada. *Annals of Neurology* (1993) Jun, Vol. 33 (6), pp. 622–31.

Hippocampal sclerosis is the sole abnormality found in approximately 65 per cent of all temporal lobe specimens resected for intractable temporal lobe epilepsy. Up to 27 per cent of en bloc temporal lobectomy specimens, however, show no definitive pathological changes. The lateral amygdaloid nucleus from eight consecutive patients who underwent temporal lobectomy in whom no definitive hippocampal pathology was present and corresponding tissue from eight consecutive patients with hippocampal sclerosis were subjected to quantitative estimation of neuronal density and astrogliosis. As compared to amygdaloid tissue from autopsy control subjects with no history of neurological disease, both the patient group with and that without hippocampal sclerosis consistently exhibited severe neuronal loss and gliosis with no quantitative differences between the two groups. Blinded clinical review of both groups of patients revealed that the development of hippocampal sclerosis was associated with a history of early brain insult; this history was absent in patients with isolated amygdaloid sclerosis. Neuropsychological testing prior to surgery demonstrated that patients with hippocampal sclerosis displayed a greater degree of memory impairment than did those without hippocampal sclerosis. We conclude that amygdaloid sclerosis occurs in the absence of hippocampal sclerosis, and that these patients form a distinct group with no history of early brain insult and milder memory impairment than that seen in patients afflicted with hippocampal sclerosis. Author.

X-linked ataxia, weakness, deafness, and loss of vision in early childhood with a fatal course. Arts, W. F., Loonen, M. C., Sengers, R. C., Slooff, J. L. Department of Neurology, Westeinde Hospital, The Hague, The Netherlands. *Annals of Neurology* (1993) May, Vol. 33 (5), pp. 535–9.

An X-linked recessive disease with, in almost all patients, a fatal course in early childhood, occurring in a five-generation family is described. The 12 affected boys had early-onset floppiness, ataxia,

liability to infections especially of the upper respiratory tract, deafness, and later, a flaccid tetraplegia and areflexia. Eleven boys died before the age of five years. One boy is still alive at the age of 12 years, but in addition to the above-mentioned signs, he must be ventilated at night and is nearly blind due to optic atrophy. In the only patient whose central nervous system could be examined at the time of autopsy, an almost complete absence of myelin in the posterior columns of the spinal cord was found. This may be the main pathological substrate for the neurological findings. No biochemical or immunological defects were detected. The family also counted 16 healthy male siblings and 13 definite of 28 possible female carriers. Some carriers developed a hearing impairment in early adulthood. As far as is known now, this disease has not been described before. Author.

Congenital absence of nasal bones. Guerrissi, J. O. Servicio of Plastic Surgery, Hospital Cosme Argerich, Buenos Aires, Argentina. *Annals of Plastic Surgery* (1993) Mar, Vol. 30 (3), pp. 260–3.

Isolated congenital nasal malformation is rare; the isolated absence of any specific nasal structure is even rarer. They are related to craniofacial stenosis syndromes and to facial cleft, which are described in Tessier classification; also they can appear in 58 complex genetic syndromes. Nasal malformations may be acquired as a consequence of traumas, tumours, infectious diseases, or sequelae of aesthetic surgery. Gorham's syndrome is a rare disease that produces spontaneous and asymptomatic disappearance of any bone of the skeleton. In the world literature, there is no case of Gorham's syndrome with disappearance of the nasal bones. This case report is of a 20-year-old patient who sought correction of an aesthetic defect produced by a cartilaginous hump without the presence of the nasal bones. The absence of both nasal bones is produced by failure of the development of both centres of ossification. Through study of embryological development of the nasal structure, isolated absence of the nasal bones can be explained. Author.

Psychiatric and otologic diagnoses in patients complaining of dizziness. Sullivan, M., Clark, M. R., Katon, W. J., Fischl, M., Russo, J., Dobie, R. A., Voorhees, R. Department of Psychiatry and Behavioural Sciences, University of Washington, Seattle. *Archives of Internal Medicine* (1993) Jun 28, Vol. 153 (12), pp. 1479–84.

BACKGROUND: Dizziness is a common and disabling symptom in primary care practice, especially among the elderly. Though there are many organic causes of dizziness, the results of medical workups are negative in the majority of patients. **METHODS:** A total of 75 patients with dizziness who were referred to a community otolaryngology practice received a structured psychiatric diagnostic interview (National Institute of Mental Health Diagnostic Interview Schedule) and questionnaires that assessed psychological distress as well as a complete otologic evaluation, including electronystagmogram. Patients with evidence of a peripheral vestibular disorder were compared with those without such evidence. **RESULTS:** While psychiatric diagnoses were present in both those with and without evidence of a peripheral vestibular disorder, those without such evidence had a greater mean number of lifetime psychiatric diagnoses as defined by the Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition, and specifically, a greater lifetime prevalence of major depression and panic disorder. This group also more frequently met criteria for somatization disorder, had more current and lifetime unexplained medical symptoms, and had more severe current depressive, anxiety, and somatic symptoms. **CONCLUSIONS:** Psychiatric diagnoses are common among patients with dizziness referred for otologic evaluation who do not show evidence of a peripheral vestibular disorder. Specific psychiatric disorders should be part of the differential diagnosis of patients who present with dizziness. Author.

Aggressive glomus tumour of the nasal region. Report of a case with multiple local recurrences. Hayes, M. M., Van-der-Westhuizen, N., Holden, G. P. Department of Pathology, Plains Health Centre, Regina, Saskatchewan, Canada. *Archives of Pathology and Laboratory Medicine* (1993) Jun, Vol. 117 (6), pp. 649–52.

We describe a locally aggressive glomus tumour that occurred in the nasal region of a 32-year-old woman. The neoplasm recurred six times over a period of 14 years following the initial excision. This aggressive behaviour resulted in problems with the diagnosis of the neoplasm. Although grossly cystic, the tumour contained large areas with a solid growth pattern and exhibited an infiltrative margin. There was no cytological atypia, mitoses were scanty, and necrosis was absent. The neoplasm did not metastasize. Author.

Intranasal treatment of perennial allergic rhinitis. Comparison of azelastine nasal spray and budesonide nasal aerosol. Gastpar, H., Aurich, R., Petzold, U., Dorow, P., Enzmann, H., Gering, R., Kochy, H. P., Philippe, A., Renz, W., Wendenburg, G. University of Munich Ear Nose and Throat (ENT) Clinic, Fed. Rep. of Germany. *Arzneimittelforschung* (1993) Apr, Vol. 43 (4), pp. 475–9.

The efficacy and tolerability of azelastine (CAS 58581-89-8) nasal spray (0.14 mg/nostril b.i.d.) and budesonide (CAS 51333-22-3) nasal aerosol (0.05 mg/nostril b.i.d.) were compared in a six-week, multicentre, parallel group study of 193 patients suffering from perennial allergic rhinitis. Total rhinitis symptoms complex (TSC) scores derived from 10 rhinitis symptoms improved during treatment by a mean of 11.4 ± 6.8 with azelastine and 10.8 ± 6.4 with budesonide. Response rates, defined as a decrease in TSC of at least 50% at the end of therapy, was 79% with azelastine and 73% with budesonide. There were no significant differences between the treatment groups with respect to either target variable. Objective measurements of nasal flow rate showed a return to normal values during the six-week therapy. Signs of rhinitis identified by rhinoscopic examination improved in parallel to symptoms. Both medications were well tolerated. The incidence of adverse events of possibly causal relationship to therapy was low. The most frequent event in azelastine treated patients was the experience of an 'unpleasant' taste or smell. Occasional epistaxis occurred in both treatment groups but more frequently with budesonide. Results indicate that with the dose used azelastine nasal spray is an effective treatment for perennial allergic rhinitis comparable to that of budesonide nasal aerosol. Author.

Phenytoin as a countermeasure for motion sickness in NASA maritime operations. Woodard, D., Knox, G., Myers, K. J., Chelen, W., Ferguson, B. Bionetics Corporation, Kennedy Space Centre, FL. *Aviation, Space and Environmental Medicine* (1993) May, Vol. 64 (5), pp. 363–6.

Seasickness is the most prevalent form of motion sickness and is an operational problem during Space Shuttle Solid-fueled Rocket Booster (SRB) retrieval. Phenytoin has been shown to protect against motion sickness induced by Coriolis stress. We exposed SRB recovery personnel to off-vertical rotation and sea motion after phenytoin or placebo. Phenytoin blood levels of at least nine micrograms/ml were protective against motion sickness at sea. No change in susceptibility to nitrogen narcosis was seen in divers in chamber tests at 460 KPa. Phenytoin was used during performance of critical and hazardous tasks during training and actual SRB recovery operations. Phenytoin is an effective operational countermeasure for motion sickness for selected SRB crew members. Author.

Absence of amosite asbestos in airway mucosa of non-smoking long term workers with occupational exposure to asbestos. Churg, A., Stevens, B. Department of Pathology, University of British Columbia, Vancouver, Canada. *British Journal of Industrial Medicine* (1993) Apr, Vol. 50 (4), pp. 355–9.

There is considerable experimental evidence that asbestos fibres are taken up by epithelial cells, and that uptake of fibres is associated with various deleterious, particularly mutagenic, effects. It is not known, however, if asbestos fibres are taken up by human bronchial epithelial cells in vivo. To investigate this question, the amosite asbestos content of the mucosa of seven different airways and four parenchymal sites supplied by these airways in six necropsy lungs from heavily exposed never-smoking long term shipyard and insulation workers without asbestosis was examined. Amosite asbestos was readily found in moderately high concentration in all parenchymal samples, but 33 of 40 airway samples that could be evaluated showed no amosite fibres. The seven positive airways had fibre concentrations that were always much lower than the parenchymal concentrations, and these very few fibres may have been contaminants from the parenchyma. These data suggest that, at least in non-smokers, amosite asbestos either does not penetrate into or does not accumulate in human airway mucosa. These findings also call into question the idea that asbestos acts as a direct airway carcinogen in humans. Author.

Fractures of the frontal sinus: a rationale of treatment. Ioannides, C., Freihofer, H. P., Friens, J. Department of Surgery, University Hospital St. Rafael, K. U. Leuven, Belgium. *British Journal of Plastic Surgery* (1993) Apr, Vol. 46 (3), pp. 208–14.

There is still controversy on the management of frontal sinus fractures, as the optimal method of treatment has not been developed yet. Based on experience with 71 patients we formed a protocol, the

basic principles of which are outlined here. In cases of posterior wall fractures the sinus was either cranialized or it was obliterated down to the nasofrontal duct. Anterior table fractures were reduced, defects were reconstructed and the sinus was drained via the nose for 4–6 weeks. Autologous graft material was always used for all reconstructive purposes. Meningitis occurred directly after the operation in two patients and a mucopyocele of the sinus with osteomyelitis of the frontal bone 1.5 years postoperatively in another. No further early or long term sequelae originating from the sinus were seen. Author.

Familial clusters of nasopharyngeal carcinoma and salivary gland carcinomas in Greenland natives. Albeck, H., Bentzen, J., Ockelmann, H. H., Nielsen, N. H., Bretlau, P., Hansen, H. S. Department of Otolaryngology and Head and Neck Surgery, Rigshospitalet, Copenhagen, Denmark. *Cancer* (1993) Jul 1, Vol. 72 (1), pp. 196–200.

BACKGROUND. Nasopharyngeal carcinoma (NPC) and anaplastic salivary gland carcinoma (SGC), both associated with Epstein-Barr virus (EBV), are common among Inuit from Greenland, Canada, and Alaska. Because immigrant studies have shown that factors acting early in life are important for the development of NPC, the authors interviewed new patients in Greenland with either NPC or SGC about their lifestyles during childhood and additional cases in their families. **METHODS.** On admission, new patients from Greenland with either NPC or SGC were interviewed about childhood lifestyle, family size, and other cases of NPC or SGC within the family. Additional cases were confirmed by review of the medical records concerning these patients. **RESULTS.** During the 11 years from 1980 through 1990, 17 of 63 (27 per cent) cases in Greenland were found in familial clusters among first-degree relatives. There were no differences in the life-styles of multiple-case families and single-case families. **CONCLUSIONS.** The high rate of familial clusters among natives of Greenland is of interest because EBV is believed to play a role in the origin of these two diseases similar to that of Marek disease in neurolymphomatosis of chickens. Therefore, the familial clustering of NPC and SGC may indicate that an enhanced oncogenic potential of an EBV strain may occur more frequently in Greenland than in other parts of the world. Author.

Thermoradiation therapy for superficial malignant tumours. Engin, K., Leeper, D. B., Tupchong, L., Waterman, F. M., Mansfield, C. M. Department of Radiation, Oncology and Nuclear Medicine, Jefferson Medical College, Thomas Jefferson University, Philadelphia, Pennsylvania 19107–5097. *Cancer* (1993) Jul 1, Vol. 72 (1), pp. 287–96.

BACKGROUND. Between 1980–1990, 126 patients were treated with radiation therapy (RT) and hyperthermia using 915-MHz external microwave applicators. All but 11 patients had failed to respond to previous therapy. **METHODS.** The mean tumour volume was $73 \pm 13 \text{ cm}^3$, and the mean radiation dose delivered was $45 \pm 1 \text{ Gy}$. Hyperthermia was administered biweekly in 83 per cent of the fields in 5.5 ± 0.2 sessions. Lesions were stratified by depth. The predictive influence of pretreatment or treatment parameters was analyzed for the probability of response by logistic regression and for the duration of local control by proportional hazards. **RESULTS.** In tumours considered potentially heatable (i.e. < or = 3-cm deep), the complete response (CR) rate was 70 per cent, whereas the CR rate for patients with tumours deeper than 3 cm was 18 per cent ($P < 0.0001$). Among superficial lesions of less than or equal to 3-cm depth that exhibited a CR, 14 recurred (26 per cent, 8.7 ± 1.6 months), while 39 lesions were recurrence-free at last follow-up of 17.8 ± 1.4 months. The 50 per cent tumour-effective dose was 44 Gy. For superficial lesions that received between 30–60 Gy, the CR rate was 55 per cent when the fraction size was less than 3 Gy, whereas it was 77 per cent when the fraction size was 3–4 Gy ($p = 0.05$). Multivariate logistic regression analysis indicated that the model best correlating with CR included concurrent radiation dose of ($p = 0.006$) and tumour volume ($p = 0.02$; model $p = 0.0001$). Multivariate proportional hazard analysis indicated that the model best correlating with duration of local control included tumour histology ($p = 0.004$; model $p = 0.0007$). The overall survival rate of patients with lesions of less than or equal to 3-cm depth who were treated with thermoradiation therapy was 16.1 ± 1.2 months. For patients with lesions more than 3-cm deep, survival was 8.7 ± 1.1 months ($P < 0.001$). Forty-two fields were treated without any skin reactions (33 per cent), 59 exhibited erythema (47 per cent), and 25 experienced thermal blistering (20 per cent). **CONCLUSIONS.** Treatment of superficial malignant tumours

can benefit from the adjuvant use of hyperthermia delivered with external 915-MHz applicators provided tumours are less than 3 cm from the surface and the lateral margins are within the 50 per cent specific absorption rate (SAR) on the surface. Author.

Short-term efficacy of tympanostomy tubes for secretory otitis media in children with Down syndrome. Selikowitz, M. Tumbatin Developmental Clinic, Prince of Wales Children's Hospital, Randwick, Australia. *Developmental Medicine and Child Neurology* (1993) Jun, Vol. 35 (6), pp. 511–5.

Twenty-four children with Down syndrome, aged six to 14 years, were tested with audiometry six to nine weeks after insertion of tympanostomy tubes for bilateral secretory otitis media (SOM). There was no improvement in hearing in 40 per cent of ears, compared with only 9 per cent of ears in 21 age-matched controls with bilateral SOM. Tympanostomy tubes for SOM in children with Down syndrome have a high short-term failure rate, which should be explained to the parents before insertion, and the children should have audiometry tests shortly after the operation. Persistent hearing-loss may require the fitting of hearing aids. Management should involve ensuring that the children are in a situation in which they can hear as well as possible, and making allowances for the hearing impairment. Author.

Event-related auditory evoked potentials and multiple sclerosis. Gil, R., Zai, L., Neau, J. P., Jonveaux, T., Agbo, C., Rosolacci, T., Burbaud, P., Ingrand, P. Department of Neurology, CHU La Milettrie, Poitiers, France. *Electroencephalography and Clinical Neurophysiology* (1993) May-Jun, Vol. 88 (3), pp. 182–7.

Long latency event-related auditory evoked potentials, particularly the P300 wave, constitute an objective electrophysiological index of cognitive function. For this reason, these potentials have been studied in a series of 101 patients with multiple sclerosis (MS), classified according to McAlpine's criteria into definite, probable and possible cases. The patients were also classified as depressed or non-depressed according to the DSM-III and Research Diagnostic Criteria. They were also subjected to a battery of psychometric tests. In the patient population the N200 and P300 latencies were increased, as were the P200 latencies, when compared with a control population. This electrophysiological pattern had previously been observed in other conditions characterized by subcortical lesions. Partial correlations (at constant disease duration) between the disability score and the cognitive deficit were found to be significant. Patients with an increased P300 latency had a greater disability and the P300 latency was significantly correlated with the duration of the illness. The N200 and P300 latencies were increased in depressed MS subjects, but this increase did not reach the level of significance. Depression was more frequent in the more severely handicapped patients. This suggests that the origin of the depression seen in multiple sclerosis is only partly organic, and that it is one of the factors contributing to the subcortical cognitive deficit in multiple sclerosis. Progressive forms of the disease exhibited the most profound cognitive deficit, and the most marked increase in P300 latency. Author.

Long-latency event-related potentials in acute hepatitis patients with severe coagulopathy. Saibara, T., Maeda, T., Onishi, S., Yamamoto, Y. 1st Department of Medicine, Kochi Medical School, Nankoku, Japan. *Electroencephalography and Clinical Neurophysiology* (1993) May, Vol. 86 (5), pp. 329–34.

In 19 acute hepatitis patients with severe coagulopathy who were fully alert and oriented without any changes of mood or behaviour, the P300 latency and the arterial blood ketone body ratio (KBR) were assessed as predictors of fulminant hepatitis. All five patients developing fulminant hepatitis had a corrected P300 latency longer than 345 msec and four of them had a KBR below 0.6. There was a significant negative correlation between the KBR and the blood ammonia level and between the KBR and the corrected P300 latency, while there was a positive correlation between the blood ammonia level and the corrected P300 latency. These data suggest that hepatic encephalopathy develops when loss of hepatic detoxifying activity allows toxic substances to reach the brain and induce cerebral edema. Our findings also suggest the clinical value of using the P300 latency combined with the KBR as predictors of fulminant hepatitis. Author.

Critical ages in brainstem development revealed by neonatal 3-channel Lissajous' trajectory of auditory brainstem evoked potentials. Hafner, H., Pratt, H., Blazer, S., Sujov, P. Evoked Potentials Laboratory, Technion-Israel Institute of Technology, Haifa. *Hearing Research* (1993) Apr, Vol. 66 (2), pp. 157–68.

Auditory brainstem evoked potentials (ABEPs) were recorded from 91 newborns from seven age groups between 26 to 43 weeks of gestation. In addition to the widely used vertex-mastoid derivation, potentials were recorded from three orthogonal electrode configurations, and represented in three dimensional voltage-space as three-channel Lissajous' trajectories (3CLTs). ABEPs were evoked by alternating polarity, monaural 75 dBnHL clicks presented at rates of 10/s, 55/s and 80/s. Potentials were also recorded to 45 dBnHL and 15 dBnHL clicks presented at 10/s. 3CLT point by point (apex latencies, amplitudes and orientation) as well as planar segment (planar segment position and duration) descriptors, along with peak latencies of the vertex-mastoid peaks, were followed for effects of age, stimulus intensity and rate. ABEPs began to appear consistently at 29 weeks of gestation to high stimulus intensities, with a rapid decrease of ABEP thresholds up to 34 weeks. At 35 weeks, thresholds stabilized approximately at adult values. The results indicate a significant effect of stimulus rate and intensity as well as of gestational age group on apex latencies. The findings also showed changes in apex orientations associated with stimulus rate and intensity interacting with gestational age. 3CLT descriptors enhanced the understanding of these results in relation to developmental and maturational aspects of the auditory system. The results may be explained by maturational change in relative contributions of constituents of the complex ABEP generators. Author.

Analysis of a second family with hereditary non-chromaffin paragangliomas locates the underlying gene at the proximal region of chromosome 11q. Mariman, E. C., van-Beersum, S. E., Cremers, C. W., Van-Baars, F. M., Ropers, H. H. Department of Human Genetics, University Hospital Nijmegen, The Netherlands. *Human Genetics* (1993) May, Vol. 91 (4), pp. 357–61.

The gene for autosomal, dominantly inherited, non-chromaffin paragangliomas has previously been mapped at 11q23-qter by linkage analysis of a single family. In the present study, we have used genetic markers from 11q for the analysis of two distantly related pedigrees with the same disorder. Linkage analysis and haplotyping indicate that the gene underlying the disorder in the present family is located on chromosome 11q proximal to the tyrosinase gene locus (11q14-q21). Closely linked markers are the human homologue of the murine INT2 protoonogene and the anonymous DNA marker D11S527. A maximum lod score of 5.4 (theta = 0.0) has been obtained for linkage between the disorder and the chromosomal region defined by these markers. The human INT2 gene can be regarded as a candidate for the disorder on the basis of its expression pattern during embryogenesis in the mouse. However, haplotype analysis indicates that this gene is probably not the predisposing genetic factor in the present family. Author.

Idiopathic progressive sensorineural hearing loss in children. Savastano, M., Savini, M., Andreoli, C. Ear, Nose and Throat Clinic, Padua University, Italy. *International Journal of Pediatric Otorhinolaryngology* (1993) Apr, Vol. 26 (3), pp. 225–33.

Clinical observations were made of 42 children with bilateral idiopathic progressive sensorineural hearing loss considering hearing loss distribution in relation to age at onset, audiometric features, audiologic characteristics and possible correlation with some haematochemical alterations. Patients were divided into two groups on the basis of hearing onset: Group I, 0–6 years; Group II, 7–14 years. A peak in the distribution of onset age was observed in the range of 4–6 years. In most cases a 'descending' curve was recognized accompanied by recruitment. The haematochemical tests only suggested a possible correlation between hearing loss and anaemia. Finally, no significant difference of incidence between the sexes was observed. Author.

Local nasal immunotherapy for Dermatophagoides-induced rhinitis: efficacy of a powder extract. Andri, L., Senna, G., Betteli, C., Givanni, S., Andri, G., Falagiani, P. Department of Allergology, Municipal Hospital of Verona, Italy. *Journal of Allergy and Clinical Immunology* (1993) May, Vol. 91 (5), pp. 987–96.

BACKGROUND: Local nasal immunotherapy by means of an extract in 'macronized' powder form was studied in allergic rhinitis to Dermatophagoides species. **METHODS:** Twenty-four Dermatophagoides-sensitive patients were studied for 12 months in a double-blind controlled trial. Subjects were selected on the basis of a positive history, skin test, radioallergosorbent test, and intranasal challenge, to Dermatophagoides antigen. Two 12-patient groups were selected at random; the first group was given active treatment, and the second received placebo. **RESULTS:** After six months, the

mean weekly symptom and medication scores were significantly lower in the treated group than in the control group. The treated group had a significant increase of specific nasal threshold to Dermatophagoides antigen after treatment. Adverse reactions to local nasal immunotherapy, which were limited to the upper respiratory tract, occurred very rarely and did not interfere with dose schedule. **CONCLUSION:** Local nasal immunotherapy in powder form may be a suitable alternative to the traditional subcutaneous immunotherapy in terms of clinical efficacy and safety. Author.

Quantification of resident inflammatory cells in the human nasal mucosa. Igarashi, Y., Kaliner, M. A., Hausfeld, J. N., Irani, A. A., Schwartz, L. B., White, M. V. Allergic Diseases Section, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD 20892. *Journal of Allergy and Clinical Immunology* (1993) May, Vol. 91 (5), pp. 1082–93.

BACKGROUND: To define the normal resident inflammatory cell population in the nasal mucosa, surgical specimens of human nasal turbinates were immunohistologically stained for various cell markers. **METHODS:** Freeze-dried paraffin-embedded sections were stained for lymphocyte cell-surface markers, and Carnoy's fixed sections were stained for mast cells and immunoglobulins. The numbers of stained cells were microscopically counted. **RESULTS:** T cells (CD3+ cells) were abundant in the lamina propria, and the number of CD4+ cells and CD8+ cells accounted for two thirds and one third of CD3+ cell number, respectively. Cells that stained for the alpha-chain of the interleukin-2 receptor (activated cells, CD25+) were limited and accounted for only 0.6 per cent of CD3+ cell number. B cells (CD22+ cells) and monocytes and macrophages (CD14+ cells) were observed less frequently than T cells. Many immunoglobulin-producing cells were found in close proximity to the submucosal glands, and those cells were predominantly IgA+. Mast cells were widely distributed in the nasal mucosa, and about one third of these cells were stained for IgE molecules. Nonmast cells bearing IgE were rarely observed. **CONCLUSION:** Thus the dominant cell in the nasal mucosa is a CD3+, CD4+, CD25-lymphocyte. Author.

Proposal for a modified T-classification for oral cancer. The DOSAK. Howaldt, H. P., Frenz, M., Pitz, H. Department of Maxillofacial Surgery, University Medical School, DOSAK Central Tumour Registry/Frankfurt am Main, Germany. *Journal of Craniomaxillofacial Surgery* (1993) Apr, Vol. 21 (3), pp. 96–101.

The UICC plans to publish a modification of the TNM system. A proposal for a T category is calculated out of the data from the DOSAK tumour registry containing more than 3,000 cases of primary squamous cell carcinomas of the oral cavity and oropharynx. By adding tumour thickness as a factor of the T component, the prognostic relevance of the classification is enhanced. Author.

Assessment of tumorous mandibular involvement by transcuteaneous ultrasound and flexible endosonography. Heppt, W. J., Issing, W. J. Department of Otorhinolaryngology, University of Heidelberg, Germany. *Journal of Craniomaxillofacial Surgery* (1993) Apr, Vol. 21 (3), pp. 107–12.

Tumorous involvement of the mandible affects the prognosis and choice of treatment. To evaluate the usefulness of transcuteaneous ultrasound and recently-developed flexible endosonography and their ability to display bone invasion in the lower jaw, we studied 33 non-selected patients with extensive, histologically-verified oral and oropharyngeal carcinomas. Both sonographic examinations were performed prospectively in all patients prior to surgery, without knowledge to the sonographer of the results of other imaging methods. Histological findings served as gold standards and offered 14 mandibular involvements. Flexible endosonography is characterized by high accuracy data in assessment of mandibular involvement occurring in tumours of the floor of the mouth and of the tonsil. On the other hand acceptable results by transcuteaneous ultrasound could only be obtained in assessing bone invasion of oral tumours. However, osseous destruction in patients with oropharyngeal tumours were not detectable as the involved medial surface of the mandibular ramus was inaccessible to the extraorally placed transducer. Both sonographic methods, especially endosonography, enabled the examiner to differentiate cortical bone as opposed to spongiosa involvement in many cases, but failed in assessment of tumorous periosteal involvement. Pitfalls in detection and differentiation of bone invasion with false positive and false negative findings are discussed with regard to mandibular anatomy, for both intra- and extraoral examination. Author.

A technique for diagnosing the individual patterns of innervation of the trapezius muscle prior to neck dissection. Krause, H. R., Kornhuber, A., Dempf, R. Department of Oral and Maxillo-facial Surgery, University of Ulm, Germany. *Journal Craniomaxillofacial Surgery* (1993) Apr, Vol. 21 (3), pp. 102–6.

Based on the techniques of regional anaesthesia, a method for simulating the effects of radical neck dissection on the innervation of the trapezius muscle by selectively and reversibly blocking the accessory nerve and its superficial cervical anastomoses, was developed and tested on 40 patients who were due to undergo radical neck dissection. Action potentials of the three portions of the muscle were recorded after this blockade as well as after radical neck dissection, and compared. It was found that the electromyograms were congruent in 92.5 per cent of the cases. Four patterns of innervation were demonstrated, ranging from complete substitution of the resected or blocked nerves to a remaining muscle activity of less than 20 per cent after blockade or radical neck dissection. Author.

Pseudocyst of the ear. Surgical treatment. Harder, M. K., Zachary, C. B. Department of Dermatology, UMHC, Minneapolis 55455-0392. *Journal of Dermatologic Surgery and Oncology* (1993) Jun, Vol. 19 (6), pp. 585–8.

BACKGROUND. Pseudocyst of the auricle is characterized by an asymptomatic swelling caused by an intra-cartilaginous accumulation of fluid. Treatments include aspiration, steroid injection, and surgical intervention. **OBJECTIVE.** To present two cases of pseudocyst of the auricle treated surgically with an open, deroofting technique. **METHODS.** Two cases are presented and the relevant literature is reviewed. **CONCLUSION.** Optimal treatment for pseudocyst of the ear involves removal of the anterior cartilaginous leaflet of the pseudocyst with repositioning of the overlying flap of skin. This results in a normal-appearing auricle with minimal scarring or recurrence of the pseudocyst. Author.

Characterization of the antibody response to the latent infection terminal proteins of Epstein-Barr virus in patients with nasopharyngeal carcinoma. Frech, B., Zimmer-Strobl, U., Yip, T. T., Lau, W. H., Mueller-Lantzsch, N. Abteilung Virologie, Universitätsklinik des Saarlandes, Homburg/Saar, Germany. *Journal of General Virology* (1993) May, Vol. 74 (Pt 5), pp. 811–8.

Human sera were tested for antibodies against the Epstein-Barr virus (EBV) latent infection terminal proteins (TPs). Anti-TP IgG and IgA antibodies were detected by an indirect immunofluorescence assay of insect cells expressing a recombinant TP1. Out of 301 human sera of patients with EBV-related and EBV-unrelated disorders, only sera from patients with nasopharyngeal carcinoma (NPC) (32/83; 38 per cent) showed anti-TP antibodies. Studies on serial sera from German and Hong Kong NPC patients revealed a decline of anti-TP antibodies during tumour therapy, and none of these antibodies were identified in patients with early tumour stages or in remission. Comparative studies of TP1-specific polyclonal rabbit antisera and human TP-positive sera showed clear differences in the TP epitopes recognized by each. Human antisera contained antibodies only to native epitopes in exons 2 to 7 of TP1 whereas rabbit antisera reacted only with epitopes located in the first exon and, additionally, exhibited EBV strain specificities. Author.

The use of botulinum toxin in the treatment of adductor spasmodic dysphonia. Whurr, R., Lorch, M., Fontana, H., Brookes, G., Lees, A., Marsden, C. D. National Hospital for Neurology and Neurosurgery, London. *Journal Neurology, Neurosurgery and Psychiatry* (1993) May, Vol. 56 (5), pp. 526–30.

Botulinum toxin injections have been used to treat 31 patients with adductor spasmodic dysphonia. Injections of 3.00–3.75 units of botulinum toxin were performed bilaterally into the thyroarytenoid muscle. This treatment significantly decreased the standard deviation of the fundamental frequency of the speech sample, indicating a reduction in the variability of pitch amongst patients. A total of 96 per cent of patients' subjective diary reports showed an improvement with a median of seven days to peak effect and a five week duration of peak effect. Author.

In vivo deterioration of proplast-teflon temporomandibular joint interpositional implants: a scanning electron microscopy and energy-dispersive X-ray analysis. Trumpy, I. G., Lyberg, T. Department of Maxillo-Facial Surgery, Ullevaal University Hospital, Oslo, Norway. *Journal of Oral and Maxillofacial Surgery* (1993) Jun, Vol. 51 (6), pp. 624–9.

The surgical treatment of internal derangements of the tempo-

romandibular joint (TMJ) often involves disc removal. Alloplastic interpositional implants for disc replacement have been widely used to avoid the development of osteoarthritic changes in the TMJ. This study reports the in vivo wear characteristics of Proplast-Teflon (Vitek Inc, Houston, TX) interpositional implants (PTIPI) in 12 patients who had their implants for 13 to 71 (mean 54.6 ± 5.8 SEM) months. In all cases, changes in the condyle and fossa were found resulting from resorption and replacement of the articulating bone by granulomatous tissue. All implants showed significant signs of wear, such as thinning, cracks and tears, and overt perforations were seen in five cases. Scanning electron microscopy (SEM) combined with energy-dispersive X-ray microanalysis (EDAX) showed numerous microfragments of the PTIPI in the peri-implant soft tissues. Microfragments were demonstrated by their aluminium content. In addition to the inflammatory foreign-body reaction, it is suggested that there also were toxic and hypersensitivity reactions to aluminium involved in the pathogenesis of the bone destruction. Author.

Esthesioneuroblastoma: prognosis and management. Morita, A., Ebersold, M. J., Olsen, K. D., Foote, R. L., Lewis, J. E., Quast, L. M. Department of Neurologic Surgery, Mayo Clinic, Rochester, Minnesota. *Neurosurgery* (1993) May, Vol. 32 (5), pp. 706–14; discussion 714–5.

Forty-nine patients with esthesioneuroblastoma were treated at the Mayo Clinic between 1951 and 1990. Their clinical manifestations and treatment results were reviewed to identify possible prognostic factors. The five-year survival rate for all patients was 69 per cent. Tumour progression occurred in 25 patients (51 per cent; no local control in six and local recurrence in 19). Metastasis was found in 15 patients (31 per cent; regional in ten and distant in nine). Nineteen patients died directly from metastatic or intracranial tumour extension. The pathological grade of the tumour was the most significant prognostic factor identified. The five-year survival rate was 80 per cent for the low-grade tumours and 40 per cent for the high-grade tumours ($p = 0.0001$). Surgical treatment alone is effective for low-grade tumours if tumour-free margins can be obtained. Radiation is used for low-grade tumours when margins are close, for residual or recurrent disease, and for all high-grade cancers. The poor prognosis associated with high-grade tumours may also mandate the addition of chemotherapy. Recurrent tumour and regional metastasis should be treated aggressively because this approach has been shown to be worthwhile. A craniofacial resection is now the surgical procedure performed in all cases. Because recurrence can occur after five or even 10 years, long-term follow-up is mandatory. Author.

Immunoblastic B-cell malignant lymphoma involving the orbit and maxillary sinus in a patient with acquired immune deficiency syndrome. Font, R. L., Laucirica, R., Patrinely, J. R. Department of Ophthalmology, Cullen Eye Institute, Baylor College of Medicine, Houston, TX 77030. *Ophthalmology* (1993) Jun, Vol. 100 (6), pp. 966–70.

BACKGROUND: A 44-year-old man was diagnosed with acquired immune deficiency syndrome (AIDS)-related complex in 1986. Four years later, erythema and swelling of the right lower eyelid and face and a palpable mass along the right inferior orbital rim developed. Computed tomographic scans of the orbits disclosed a mass involving the right superior antrum and inferior orbit. Histopathologic examination and immunohistochemical studies of the tumour were performed. **METHODS:** Immunohistochemical studies were performed on paraffin sections of the neoplasm. Markers used included leukocyte-common antigen and L26 (pan B-cell marker), and MT1, Leu22, polyclonal CD3, UCHL-1, and OPD4 (pan T-cell markers). Additional markers included cytokeratin, HMB-45, lysozyme, S-100 protein, kappa, and lambda. **FINDINGS:** The neoplastic cells were strongly to moderately positive with LCA, L26, MT1, and Leu 22. Negative staining was observed with the remaining nine antibodies. **CONCLUSION:** Orbital lymphomas in patients with AIDS have been rarely documented; those few reported cases showed a B-cell phenotype. The authors report an immunoblastic B cell with immunophenotypic coexpression of T-cell markers. Author.

Duration of positive throat cultures for group A streptococci after initiation of antibiotic therapy. Snellman, L. W., Stang, H. J., Stang, J. M., Johnson, D. R., Kaplan, E. L. Department of Pediatrics, Group Health, Inc., White Bear Lake, Minnesota 55110. *Pediatrics* (1993) Jun, Vol. 91 (6), pp. 1166–70.

OBJECTIVE. To determine if it is appropriate to recommend that

patients with group A beta-hemolytic streptococcal pharyngitis, who are clinically well by the morning after starting antibiotic treatment, can return to school or day care, or if they should wait until they have completed 24 hours of antibiotics as recommended by the *American Academy of Pediatrics Committee on Infectious Diseases*. **METHODS.** We examined the duration of positivity of the throat culture after antibiotics were begun as a means of assessing the potential risk of transmission to close school contacts. Forty-seven children (4 to 17 years of age) with pharyngitis and a positive throat culture for group A streptococci in an outpatient, staff model health maintenance organization clinic were enrolled and were randomly selected to receive therapy with either oral penicillin V, intramuscular benzathine penicillin G, or oral erythromycin estolate. Additional throat cultures were obtained and clinical findings were recorded for each child during three home visits in the 24 hours after their initial clinic visit. Acute and convalescent sera were obtained for determination of anti-streptolysin O and anti-DNase B titers. **RESULTS.** Seventeen (36.2 per cent) of the 47 patients had a positive culture the morning after initiating antibiotic therapy. However, 39 (83 per cent) of the patients became 'culture negative' within the first 24 hours. Neither the time interval to the first negative culture nor the presence or absence of the group A streptococcal organisms on any single convalescent culture could be predicted by clinical findings. Six of the eight children who failed to convert to a 'negative' throat culture within 24 hours of initiating therapy were receiving erythromycin. We could detect no difference in either time to conversion to a negative culture or the presence of a positive culture 24 hours after starting antibiotics between those who demonstrated a significant antibody increase and those who did not. **CONCLUSION.** The data from this study strongly suggest that children with group A beta-hemolytic streptococcal pharyngitis should complete a full 24 hours of antibiotics before returning to school or daycare. Author.

Imaging the postoperative neck. Som, P. M., Urken, M. L., Biller, H., Lidov, M. Department of Radiology, Mount Sinai Medical School, City University of New York, NY. *Radiology* (1993) Jun, Vol. 187 (3), pp. 593–603.

The variety of cervical lymphadenectomy and neck reconstructive procedures that have been developed in the past 20 years has led to confusion about nomenclature in the literature. In addition, some of these operations result in gross alteration of the normal anatomy. The authors review the present classification system for cervical lymph nodes and various lymphadenectomy and reconstructive procedures. Examples of typical postoperative images are given. A protocol for postoperative follow-up is presented, which calls for imaging for five years after surgery. Finally, the authors review their experience with 400 cases, 276 of which were initially classified as having no clinical evidence of disease. Recurrence developed in 68 of these (in 62 (91 per cent) within 4–18 months of surgery). Imaging findings altered the postoperative salvage plan in 17 (25 per cent). Clinically occult disease was found at sectional imaging in 47 (17 per cent). Author.

Failure of frusemide to increase production of prostaglandin E2 in human nasal mucosa in vivo. Mullol, J., Ramis, I., Prat, J., Rosello-Catafau, J., Xaubet, A., Piera, C., Gelpi, E., Picado, C. Servei de

Pneumologia, Hospital Clinic, Facultat de Medicina, Universitat de Barcelona, Catalonia, Spain. *Thorax* (1993) Mar, Vol. 48 (3), pp. 260–3.

BACKGROUND: It has been suggested that inhaled frusemide protects subjects with asthma against bronchoconstriction by enhancing the synthesis of prostaglandin E2 (PGE2). To evaluate this hypothesis the effect of frusemide on PGE2 production from nasal mucosa was studied. **METHODS:** Two main arachidonic acid metabolites produced by epithelial cells, PGE2 and 15-hydroxy 5,8,11,13-eicosatetraenoic acid (15-HETE), were measured by radioimmunoassay in nasal secretions obtained by nasal lavages with saline. Eleven healthy volunteers were randomly assigned to two study days, one week apart, in a double blind crossover study. Nasal instillation with three increasing doses of frusemide (5, 10 and 20 mg) or placebo was carried out at intervals of 15 minutes. Nasal lavages were performed immediately before nasal instillations and 15, 30 and 60 minutes after the last instillation. **RESULTS:** Baseline concentrations of 15-HETE were at least six times higher than PGE2. No differences between frusemide and placebo were detected either on PGE2 or 15-HETE release. **CONCLUSIONS:** The findings do not support the hypothesis that the antiasthmatic effect of frusemide may be due to increased synthesis of PGE2 or release in the respiratory mucosa. Author.

Surgical correction of nasal obstruction in the treatment of mild sleep apnoea: importance of cephalometry in predicting outcome. Series, F., St. Pierre, S., Carrier, G. Centre de Pneumologie, Hôpital Laval, Québec G1V 4G5, Canada. *Thorax* (1993) Apr, Vol. 48 (4), pp. 360–3.

BACKGROUND: A study was undertaken to determine if cephalometric radiographs could identify those who will benefit from nasal surgery in patients with a sleep apnoea hypopnoea syndrome (SAHS) and chronic nasal obstruction. **METHODS:** Fourteen patients with SAHS were enrolled. Those with normal posterior airway space and mandibular plane to hyoid bone distances on preoperative cephalometric radiographs were matched with those with abnormal cephalometry for the frequency of sleep disordered breathing and body mass index. Polysomnographic studies (all subjects) and nasal resistance measurements (n = 10) were performed one to three months before and two to three months after surgery (septoplasty, turbinectomy, and polypectomy). **RESULTS:** There was no difference in the baseline results of the polysomnographic studies between the two groups of patients. Nasal resistance decreased from a mean (SE) value of 2.9 (0.3) cm H2O/l/s before surgery to 1.4 (0.1) cm H2O/l/s after surgery in the normal cephalometry group and from 2.7 (0.3) cm H2O/l/s to 1.3 (0.3) cm H2O/l/s in the other group. The apnoea + hypopnoea index returned to normal (< 10 breathing abnormalities/hour) in all but one subject with normal cephalometric measurements, and sleep fragmentation improved with a decrease in the arousal index from 23.9 (3.3)/hour at baseline to 10.6 (2.5)/hour after surgery. Both of these parameters remained unchanged after surgery in the patients with abnormal cephalometry. **CONCLUSIONS:** Normal cephalometry is helpful in identifying patients with mild SAHS and nasal obstruction who will benefit from nasal surgery. The presence of craniomandibular abnormalities makes it unlikely that nasal surgery will improve sleep related breathing abnormalities. Author.