

## Abstract Selection

**Noise-induced hearing loss in randomly selected New York dairy farmers.** May J. J., Marvel, M., Regan, M., Marvel, L. H., Pratt, D. S. New York Centre for Agricultural Medicine and Health, Cooperstown. *American Journal of Industrial Medicine* (1990) Vol. 18(3), pp. 333–7.

To understand better the effects of noise levels associated with dairy farming, we randomly selected 49 full-time dairy farmers from an established cohort. Medical and occupational histories were taken and standard audiometric testing was done. Forty-six males (94%) and three females (6%) with a mean age of 43.5 ( $\pm 13$ ) years and an average of 29.4 ( $\pm 14$ ) years in farming were tested. Pure Tone Average thresholds (PTA4) at 0.5, 1.0, 2.0, and 3.0 kHz plus High Frequency Average thresholds (HFA3) at 3.0, 4.0, and 6.0 kHz were calculated. Subjects with a loss of greater than or equal to 20 db in either ear were considered abnormal. Eighteen subjects (37%) had abnormal PTA4S and 32 (65%) abnormal HFA3S. The left ear was more severely affected in both groups ( $p$  less than or equal to 0.05,  $t$ -test). Significant associations were found between hearing loss and years worked (odds ratio 4.1,  $r = 0.53$ ) and age (odds ratio 4.1,  $r = 0.59$ ). No association could be found between hearing loss and measles; mumps; previous ear infections; or use of power tools, guns, motorcycles, snowmobiles, or stereo headphones. Our data suggest that among farmers, substantial hearing loss occurs especially in the high-frequency ranges. Presbycusis is an important confounding variable. Author.

**Use of cephalometry in diagnosing resonance disorders.** Jakhi, S. A., Karjodkar, F. R. Nair Hospital Dental College, Bombay Central, India. *American Journal Orthodontics and Dento-facial Orthopaedics* (1990) Oct, Vol. 98(4), pp. 323–32.

A comparative cephalometric study of the oronasopharyngeal dimensions was carried out on 20 patients with normal speech, 20 patients with nasality and 22 patients with cleft palate speech, with the help of cephalometric landmarks given by Proffit and McGlove, Proffit *et al.*, and Ricketts. The data obtained were subjected to statistical analysis, to determine whether there were any significant changes in oronasopharyngeal dimension between the various groups. It was concluded from the obtained data that there was an increase in the width and depth of the nasopharynx, with a consequential increase in the pharyngeal cavity volume in patients with cleft palate speech when compared with patients who had normal speech and those who had nasality. Author.

**CT density of the TMJ disk: correlation with histologic observations of hyalinization, metaplastic cartilage, and calcification in autopsy specimens.** Paz, M. E., Carter, L. C., Westesson, P. L., Katzberg, R. W., Tallents, R., Subtelny, J. D., Goldin, B. Department of Stomatology and Interdisciplinary Sciences, State University of New York, School of Dental Medicine, Buffalo. *American Journal of Orthodontics and Dento-facial Orthopaedics* (1990) Oct, Vol. 98(4), pp. 354–7.

The attenuation number of the TMJ disk was measured in direct sagittal computerized tomograms (CTs) of eight fresh TMJ autopsy specimens. The CT attenuation number was correlated to histologic observations of hyalinization, calcification, and cartilaginous metaplasia of the disk. Correlations were found between high CT attenuation numbers and the presence of hyalinization, calcification, and foci of cartilaginous metaplasia in the disks. The results suggest that the high CT attenuation number of a disk might be associated with hyalinization, calcification, and metaplastic cartilage formation. Author.

**Patterns of cervical lymph node metastasis from squamous carcinomas of the upper aerodigestive tract.** Shah, J. P. Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York, New York. *American Journal of Surgery* (1990) Oct, Vol. 160(4), pp. 405–9.

A consecutive series of 1,081 previously untreated patients undergoing, 1,119 radical neck dissections (RNDs) for squamous car-

cinoma of the head and neck was reviewed to study the patterns of nodal metastases. Primary tumours were located in the oral cavity in 501 patients, in the oropharynx in 207 patients, in the hypopharynx in 126 patients, and in the larynx in 247 patients. Lymph node metastases were confirmed histologically in 82% of 776 therapeutic neck dissections, and micrometastases were discovered in 33% of 343 elective RNDs. Lymph node groups in the neck were described by levels (I to V). Predominance of certain levels was seen for each primary site. Levels I, II, and III were at highest risk for metastasis from cancer of the oral cavity, and levels II, III, and IV were at highest risk for metastasis from carcinomas of the oropharynx, hypopharynx, and larynx. Supraomohyoid neck dissection (clearing levels I, II, and III) for N0 patients with primary squamous cell carcinomas of the oral cavity and anterolateral neck dissection (clearing levels II, III, and IV) for N0 patients with primary squamous cell carcinomas of the oropharynx, hypopharynx, and larynx are recommended. Author.

**Squamous carcinoma of the posterior pharyngeal wall.** Spiro, R. H., Kelly, J., Vega, A. L., Harrison, L. B., Strong, E. W. Department of Surgery, Memorial Sloan-Kettering Cancer Center, New York, New York. *American Journal of Surgery* (1990) Oct, Vol. 160(4), pp. 420–3.

We have reviewed a 12-year experience with 295 patients treated for squamous carcinoma of the pharynx in order to focus on 78 patients whose lesions arose in the posterior wall. Surgery was the definitive therapy for the primary tumour in 57 (73%), including three treatment groups. Thirty-two patients had limited resections that preserved the larynx, involving local excision (7 patients), anterior pharyngotomy (7 patients), lateral pharyngotomy (6 patients), median labiomandibular glossectomy (6 patients), or median mandibulotomy with paralingual extension (6 patients). The second group consisted of 21 patients with more extensive tumours who required a laryngectomy and complex reconstruction, often with postoperative radiotherapy. Finally, there were four patients who developed metachronous second primaries in the pharynx subsequent to a laryngectomy. All required flap reconstruction. Of the 21 patients whose primary treatment was radiotherapy, five had lesions that were implanted after access was provided by a mandibulotomy. Cumulative five-year survival was 32% and ranged from 44% in those with favourable lesions to 15% in those with extensive tumours. Our experience highlights the variety of treatment approaches available in patients with pharyngeal carcinomas confined to the posterior wall. Surgery in this setting carries acceptable morbidity and yields survival rates that compare favourably with those achieved by external radiation therapy alone. Results in patients with extensive lesions still leave much to be desired, despite radical surgery and aggressive radiotherapy. Innovative brachytherapy techniques using surgery for access deserve further investigation. Author.

**Flow cytometric evaluation of chemosensitive and chemoresistant head and neck tumours.** Campbell, B. H., Schemmel, J. C., Hopwood, L. E., Hoffmann, R. G. Department of Otolaryngology and Human Communication, Medical College of Wisconsin, Milwaukee 53226. *American Journal of Surgery* (1990) Oct, Vol. 160(4), pp. 424–6.

For patients with head and neck squamous carcinoma, a clinical response to induction chemotherapy has correlated with a survival advantage. Similarly, patients with diploid tumours have displayed a survival advantage when compared with patients with aneuploid tumours. This study examined DNA content in 33 patients who had undergone induction chemotherapy as part of two clinical protocols to determine if there was a correlation between the patients with diploid tumours and the patients with a clinical response to chemotherapy. Although patients with stage III tumours had a longer disease-free survival than stage IV patients ( $p$  less than 0.0002), the addition of DNA content information did not improve the ability to predict response. Specifically, there was no correla-

tion between DNA content and the response to chemotherapy. In addition, for this group of patients, a diploid DNA content was not correlated with a survival advantage. We conclude that DNA content information did not add significantly to the prediction of clinical outcome in these patients who received induction chemotherapy. Author.

**Serologic determinants of survival in patients with squamous cell carcinoma of the head and neck.** Clayman, G. L., Savage, H. E., Ainslie, N., Liu, F. J. Schantz, S. P. Department of Head and Neck Surgery, M. D. Anderson Cancer Centre, Houston, Texas 77030. *American Journal of Surgery* (1990) Oct, Vol. 160 (4), pp. 434–8. Specific circulating serum proteins may reflect unique properties governing the growth and progression of head and neck cancers. One hundred and three previously untreated patients with squamous cell carcinoma of the head and neck were prospectively evaluated for serum IgA, IgG, and IgM and Clq-binding macromolecules. Immunoglobulins were assessed by the immunoturbidimetric technique. Clq-binding macromolecules (ClqBM) were measured utilizing the iodine-125 assay of Zubler *et al.* (*J Immunol* 1976; 116: 232–5). Neither the level of serum immunoglobulins nor ClqBM values were correlated with the primary site, AJC (American Joint Committee on Cancer) stage of disease, or size of primary lesion. Likewise, comparison of serum IgA with ClqBM values demonstrated that these laboratory parameters were independent variables ( $r = 0.15$  by Pearson linear regression). Univariate statistical analysis, utilizing the Cox proportional hazard model, showed serum IgA and ClqBM values to each contribute significantly to the ability to predict survival in patients with advanced squamous cell carcinoma of the head and neck ( $p = 0.01$  and  $0.003$ , respectively). Furthermore, multivariate analysis reveals that both ClqBM and serum IgA levels contribute significantly to the hazards model beyond staging in predicting survival ( $p$  less than  $0.001$ ). Predictive results were most apparent in patients with stage IV disease and related to the probability of both regional and distant metastatic recurrences. Conversely, serologic analysis provided no information in patients who were staged early. These results support pretreatment multiparametric serologic analysis of patients with squamous cell carcinoma of the head and neck. Author.

**Efficacy of radical neck dissection for the control of cervical metastasis after radiotherapy for nasopharyngeal carcinoma.** Wei, W. I., Lam, K. H., Ho, C. M., Sham, J. S., Lau, S. K. Department of Surgery, University of Hong Kong, Queen Mary Hospital. *American Journal of Surgery* (1990) Oct, Vol. 160 (4), pp. 439–42. Fifty-one patients who had persistent or recurrent neck disease from nasopharyngeal carcinoma after radiotherapy underwent radical neck dissection. The follow-up period ranged from 0.5 to 9 years (median: 2 years). Multiple cervical lymph node involvement was present in 51% of the patients (26 of 51). Malignant cells were detected in 88% of the resected specimens (45 of 51). The clinical sign of fixation of lymph node is the only factor that affects the successful control of neck disease ( $p = 0.04$ ). Extracapsular extension of the nodal disease was present, and 35% of the lymph nodes were adherent to surrounding structures at operation (18 of 51). There was one hospital mortality and the overall morbidity was minimal. The actuarial survival at five years was 38%, and the probability of control of neck disease was 66%. Radical neck dissection is effective in controlling post-irradiation cervical metastasis from nasopharyngeal carcinoma. Author.

**Comparison of propofol and thiopental/halothane for short-duration ENT surgical procedures in children.** Borgeat, A., Popovic, V., Meier, D., Schwander, D. Service d'anesthesiologie-reanimation et d'otorhinolaryngologie, Hopital Cantonal de Fribourg, Switzerland. *Anesthesia and Analgesia* (1990) Nov, Vol. 71 (5), pp. 511–5. Experiences with propofol in pediatric anesthesia are limited. We undertook a study to evaluate the quality of induction and recovery from anesthesia with propofol compared to thiopental/halothane. Twenty children received  $3 \text{ mg/kg}^{-1}/1. \text{ min}^{-1}$  of propofol as a loading dose followed by a maintenance dose of  $0.1 \text{ mg/kg}^{-1} \text{ min}^{-1}$  ( $\pm 10\%$ ). Twenty children received 5–7 mg/kg of thiopental, and maintenance was provided with halothane (0.5–1.5%). The interval between the end of the administration of propofol or thiopental/halothane and extubation, as well to discharge to the ward, was significantly shorter with propofol (4.4 versus 13.5 min and 7.22 versus 30.4 min, respectively). Spontaneous movements and pain on

injection were seen significantly more frequently with propofol, whereas laryngospasm and hiccup were only observed with thiopental. During the first 6 h after the surgical procedure, analgesics were needed significantly more often in the thiopental group. Nausea and vomiting also were observed more frequently in the thiopental group. In conclusion, propofol used as a single anesthetic is a satisfactory technique for ENT surgery of short duration in children. Author.

**Influence of menopause on the auditory brainstem response.** Wharton, J. A., Church, G. T. Henry Ford Hospital, Detroit, Mich. *Audiology* (1990) Vol. 29 (4), pp. 196–201. Auditory brainstem response (ABR) wave latency, interpeak interval and amplitude as a function of intensity were measured in 40 subjects divided into equal groups of postmenopausal females, age-matched males and young adults of both sexes. The results illustrate that age and gender play a significant role in ABR wave latency and amplitude. A larger age effect occurred for the female subjects. While this does not dispute an anatomical explanation for the gender effect in ABR, hormonal changes accompanying menopause may also account for some of the gender differences noted in ABR. Author.

**Surgical ciliated (postoperative maxillary) cysts following mid-face osteotomies.** Sugar, A. W., Walker, D. M., Bounds, G. A. Department of Oral and Maxillofacial Surgery, St Lawrence Hospital, Cardiff. *British Journal of Oral and Maxillofacial Surgery* (1990) Aug, Vol. 28 (4), pp. 264–7. Surgical ciliated (postoperative maxillary) cysts have been reported extensively as occurring six months to 50 years after radical surgery for maxillary sinusitis. Three cases are presented in which these aggressive cysts occurred three to four years after Le Fort I, II and III mid-face osteotomies. The presentation, treatment and possible aetiology are discussed and some attempt made to clarify the descriptive terms used in the literature. Author.

**Arthrotopography and the surgical correction of temporomandibular joint disorders.** Ryan, D., Ahmed, S., Harris, M. Joint Department of Oral Maxillofacial Surgery, Eastman Dental and University College Hospitals, London. *British Journal of Oral and Maxillofacial Surgery* (1990) Aug, Vol. 28 (4), pp. 228–33. Over a two-year period, 321 new patients were seen at one clinic with temporomandibular joint dysfunction and pain. Sixty-seven (21%) of these who did not respond to 12 weeks medical therapy, had arthrotopography performed and 24 patients (7.5%) underwent surgery to the joint. Eighteen (75%) of these patients were free of pain one year later, although this success was not always sustained without medical therapy. Meniscus adhesions were underestimated on arthrotopography compared to surgical findings and meniscus perforations were over diagnosed. However, increased accuracy in preoperative diagnosis was seen with experience. There was only one false positive result which lead to unnecessary surgery. Author.

**Induction chemotherapy with a new regimen alternating cisplatin, fluorouracil with mitomycin, hydroxyurea and bleomycin in carcinomas of nasopharynx or other sites of the head and neck region.** Fountzilas, G., Daniilidis, J., Sridhar, K. S., Kalogera-Fountzila, A., Zaramboulas, T., Sombolos, K., Destouni-Salem, E., Vritsios, A., Tourkantonis, A. First Department of Internal Medicine, AHEPA University Hospital, Thessaloniki, Greece. *Cancer* (1990) Oct 1, Vol. 66 (7), pp. 1453–60. Sixty-six patients with locally advanced (Stages III and IV) carcinoma of the head and neck were treated with three cycles of induction chemotherapy, consisting of cisplatin, fluorouracil (FU) infusion, bleomycin, mitomycin, and hydroxyurea, followed by radiotherapy and/or surgery. There were 48 men and 18 women with a median age of 55 years (range 18 to 75 years) and Karnofsky performance status of 80 (range 40 to 90 years). Primary site was nasopharynx (28 patients), followed by larynx (12), and others (26). Forty-one (62%) patients were presented with stage IV disease. The response rate to induction chemotherapy was 27% complete response, 50% partial response, 20% stable disease, and 3% progressive disease. There was no significant difference in response rate between patients with cancer of nasopharynx or other sites ( $P$  greater than 0.01). Survival was 61% at 24 months. Patients with cancer of nasopharynx had a better survival than those with other primaries ( $P = 0.033$ ). Toxicities from chemotherapy included alopecia (73%), nausea/vomiting (66%), leuko-

penia (54%), stomatitis (36%), anemia (32%), thrombocytopenia (16%) and diarrhea (9%). Grade IV toxicity was not observed. Induction chemotherapy with this new regimen resulted in a high response rate but may not be superior to cisplatin and FU alone. It can be safely combined with radiotherapy as a potentially curative therapy in squamous cell carcinoma of the head and neck. Chemotherapy followed by radiation therapy may yield survival similar to radical surgery in laryngeal and other head and neck cancers. Author.

**Relationship of 4F2 antigen with local growth and metastatic potential of squamous cell carcinoma of the larynx.** Esteban, F., Ruiz-Cabello, F., Concha, A., Perez-Ayala, M., Delgado, M., Garrido, F. Department of Otorhinolaryngology, Hospital Virgen de las Nieves, Universidad de Granada, Spain. *Cancer* (1990) Oct 1, Vol. 66 (7), pp. 1493–8.

The 4F2 antigen is a cell-membrane glycoprotein which arises early in the G0–G1 phases of the cell cycle. This molecule is present in all established human cell lines and most malignant human cells. The authors used an indirect immunophosphatase method to study 50 squamous cell carcinomas of the larynx and ten lymph-node metastases, corresponding to six primary tumours, for 4F2 expression. The tumours showed several patterns of 4F2 staining which were correlated with different behaviours and prognoses of the neoplasms. Three different patterns (no staining, peripheral staining, and diffuse 4F2 expression) are described as are their relationships with metastatic behaviour of the carcinomas. Tumours with metastases were found only in the third group ( $p = 0.0001$ ). These results led to the following conclusions: (1) the 4F2 antigen is present in squamous cell carcinomas; (2) its distribution reflects the tumour-spreading pattern; and (3) it correlates with differentiation and metastatic behaviour. Author.

**Human papillomavirus type 16 associated with oral squamous carcinoma in a cardiac transplant recipient.** Demetrick, D. J., Inoue, M., Lester, W. M., Kingma, I., Duggan, M. A., Paul, L. C. Department of Pathology, Faculty of Medicine, University of Calgary, Alberta, Canada. *Cancer* (1990) Oct 15, Vol. 66 (8), pp. 1726–31.

Human papillomavirus type 16 (HPV 16) has been associated with a variety of squamous carcinomas, particularly those involving the anogenital tract. The authors report the development of an oropharyngeal carcinoma in a 43-year-old man approximately 20 months after cardiac transplantation while he was on a maintenance regimen of cyclosporine A and prednisone. The carcinoma was resistant to treatment, and he died of complications related to metastatic disease three years post-transplantation. Molecular biologic studies using nonisotopic-labelled viral DNA probes were done. In situ hybridization demonstrated the presence of HPV 16 DNA in the tumour cells. DNA dot blot analysis confirmed the presence of multiple copies of HPV 16 DNA within the tumour cells and their absence from adjacent normal-appearing tissue. Southern blot analysis suggested that the HPV 16 DNA was integrated into the tumour cell genome. With increasing recognition of the carcinogenicity of HPV type 16 infection, a role for this virus in the development of squamous cell malignancies in immunosuppressed organ transplant recipients is likely to be noted with increasing frequency. Author.

**A clinical and flow cytometric analysis of patients with nasopharyngeal cancer.** Costello, F., Mason, B. R., Collins, R. J., Kearsley, J. H. Royal Brisbane Hospital, Queensland, Australia. *Cancer* (1990) Oct 15, Vol. 66 (8), pp. 1789–95.

Abnormal cellular DNA content, a hallmark of malignancy, is known to be an important prognostic factor in many human solid tumours; however, no data have been published on whether cellular DNA content carries prognostic significance for patients with nasopharyngeal cancer (NPC). Archival, formalin-fixed, paraffin-embedded pathology specimens representing pretreatment tissue biopsies from 55 patients (41 men and 14 women) with NPC were analyzed for cellular DNA content in a retrospective fashion from 1968 to 1988. Individual tumours were classified as either lymphoepithelioma, squamous cell, or anaplastic carcinoma, and were staged according to International Union Against Cancer (UICC) criteria. All patients were treated with curative intent using a four to six MeV linear accelerator to total doses ranging from 50 to 60 Gy in four to six weeks. The overall five-year actuarial survival for all 55 patients was 44.4% (men, 41%; women, 52%). Survival by T stage was as follows: T1, 65%; T2, 51%; T3, 36%; and T4,

27%. Similarly, the five-year survival rate declined as the bulk of nodal metastases increased: N0, 62%; N2, 50%; N3, 37%; and N1, 25%.

Patients who had anaplastic carcinoma had a five-year survival of 73%, those with lymphoepithelioma had a 60% survival, and those with squamous cell cancer (SCC) had a 30% survival. There was a statistically significant difference in five-year survival between patients with SCC and those with non-keratinizing histologies ( $P$  less than 0.05). In addition, there was a significant association between patients older than 40 years of age with SCC and patients younger than 40 years of age with non-keratinizing malignancies ( $P$  less than 0.01). Of the 55 tumours successfully analyzed, 22 (40%) were diploid and 33 (60%) were aneuploid. The mean coefficient of variation (CV) of all 55 samples was 6.17%. There was no significant difference in five-year survival between patients with diploid and those with aneuploid tumours (48% versus 42%). Furthermore, there was no statistically significant survival difference between aneuploid and diploid tumours within any one histologic subgroup. There was also no significant survival difference related to the DNA index. The results indicate that the extent of local tumour spread is still the most important prognostic factor for patients treated with radiotherapy for NPC. The data support the conclusion that patients with lymphoepithelioma and anaplastic carcinomas have a superior survival to patients with squamous cell carcinoma. Author.

**Laryngomalacia in children.** Nussbaum, E., Maggi, J. C. Department of Pediatrics, University of California, Irvine. *Chest* (1990) Oct, Vol. 98 (4), pp. 942–4.

Two hundred and three (68%) of 297 children with laryngomalacia had associated respiratory disorders by flexible fiberoptic bronchoscopy (FFB). Associated disorders included congenital respiratory anomalies, a variety of anatomic obstructions of the upper and lower airways, and aspiration disorders. Mean age for isolated laryngomalacia (type 1) was 11.5 weeks (range, five weeks to four months) while children with laryngomalacia and associated respiratory disorders (type 2) had a mean age of 9.06 years (range: 6 weeks to 18 years). We conclude the following: (1) complete evaluation of the pediatric airways (bronchoscopy) is recommended in every symptomatic child with diagnosis of laryngomalacia confirmed by laryngoscopy; (2) type 1 laryngomalacia was more common in early infancy while type 2 laryngomalacia was associated with older age; (3) although type 2 laryngomalacia is the most common endoscopic diagnosis in our experience, the majority of cases were associated with lower airway dysfunction. Author.

**Right-sided microtia and conductive hearing loss with variable expressivity in three generations.** Orstavik, K. H., Medbo, S., Mair, I. W. Department of Medical Genetics, Ullevål Hospital, Oslo, Norway. *Clinical Genetics* (1990) Aug, Vol. 38(2), pp. 117–20.

Familial cases of microtia and meatal atresia are rare, and both dominant and recessive inheritance have been suggested. We here report a family with right-sided external ear malformations and conductive hearing loss in a grandfather, his daughter and granddaughter. The grandfather and the granddaughter both had microtia and meatal atresia, whereas the daughter had a normal outer ear except for a narrow meatus and auricular appendages. The pedigree suggests autosomal dominant inheritance with variable expressivity. Author.

**Intracranial calcification and seizures: a case of central neurofibromatosis.** Clarke, A., Church, W., Gardner-Medwin, D., Sengupta, R. Department of Human Genetics, University of Newcastle upon Tyne. *Developmental Medicine and Child Neurology* (1990) Aug, Vol. 32 (8), pp. 729–32.

Periventricular calcification was found in an eight-year-old boy with seizures. The diagnosis of tuberous sclerosis was considered, but (like his mother) he has central neurofibromatosis. This condition must be considered in the differential diagnosis of children with intracranial calcification and seizures. Author.

**Hearing in the elderly: the Framingham cohort, 1983–1985. Part I. Basic audiometric test results.** Gates, G. A., Cooper, J. C. Jr., Kannel, W. B., Miller, N. J. Department of Otolaryngology, Washington University School of Medicine, St. Louis, Missouri. *Ear and Hearing* (1990) Aug, Vol. 11 (4), pp. 247–56.

Many studies have documented the decline in auditory function with age. We broaden that data base in this the first of a series of

reports emanating from the auditory testing of the Framingham cohort during biennial exam 18. The results of the auditory questionnaire, hearing sensitivity, acoustic compliance measures, and word recognition tests obtained from 1662 men and women in their 60th through 90th decades are presented. Pure-tone thresholds increased with age but the rate of change with age did not differ by gender even though men had poorer threshold sensitivity. Maximum word recognition ability declined with age more rapidly in men than in women and was poorer in men than in women at all ages. Acoustic compliance and middle ear pressure did not vary with gender or age. Acoustic reflex thresholds to a contralateral stimulus at 1 kHz increased slightly with age, more in women than in men; ipsilateral acoustic reflex thresholds did not vary with age or gender. Hearing aids were being used in only 10% of subjects likely to benefit from amplification. Author.

**Speech recognition ability of children with unilateral sensorineural hearing loss as a function of amplification, speech stimuli and listening condition.** Kenworthy, O. T., Klee, T., Tharpe, A. M. Providence Hearing and Speech Centre, Orange, California. *Ear and Hearing* (1990) Aug, Vol. 11 (4), pp. 264–70.

The purpose of this investigation was to examine three types of audiological recommendations (unaided, CROS (contralateral routing of signals) and personal FM system) and their impact upon speech recognition ability of children with unilateral sensorineural hearing loss. Each of these recommendations was tested under three listening conditions encountered in a classroom (monaural direct (MD), monaural indirect (MI), midline signal/omnidirectional noise (MS/ON)) with two types of speech materials (Non-sense Syllable Test and an American English adaptation on the Bamford-Kowal-Bench Sentence Lists). These experimental conditions were stimulated in a classroom, recorded on audiotape, and played back to subjects under headphones to control such factors as signal-to-noise ratio, earmold fit, and head shadow effects. Six school-age children with unilateral hearing losses between 56 and greater than 120 dB HL (PTA) were evaluated using a repeated measures design. The children experienced the most listening difficulty in the MI condition when they were unaided. The CROS aid improved speech recognition in this condition but degraded speech recognition in the MD condition. The FM system was the only audiological recommendation to produce uniformly high speech recognition scores across all listening conditions with both types of speech materials. Implications for the audiological management of unilaterally hearing-impaired children in the classroom are discussed. Author.

**Immediate correction of congenital nasal deformities; follow-up of eight years.** Sorri, M., Laitakari, K., Vainio-Mattila, J., Hartikainen-Sorri, A. L. Department of Otolaryngology, University of Oulu, Finland. *International Journal of Pediatric Otorhinolaryngology* (1990) Aug, Vol. 19 (3), pp. 277–83.

A total of 4724 newborns was screened for congenital nasal deformities. Altogether 91 (1.9%) pathological, screening-positive cases were found. Because of refusal to participate, three pathological cases were lost leaving 88 cases. The first 55 screening positive newborns were left without treatment while an attempt was made by an otolaryngologist to correct the remaining 33 cases within a week from delivery. Eighty-two newborns of those who passed the screening tests were analysed as a control group. In 1987, at the age of eight years the case and control children were interviewed by mailed questionnaire and invited to be re-examined by an ENT-surgeon. Forty-seven of the not corrected, 21 of the corrected cases and 61 controls came to the re-examination. The luxated septal cauda tended to be straight both spontaneously as well as after active treatment. The few mid-septal pathologies (vomerrine junction) in the corrected group were resistant to the treatment attempted. The mid-septal deformities found in the follow-up were connected with frequent antibiotic prescriptions but not respiratory infections. No increase in frequency of otitis media or sinusitis was noticed. The immediate treatment of nasal deformities did not significantly affect the clinical status of the nose at the follow-up. Thus the benefit of immediate treatment on nasal deformities in newborns and screening to find them remains questionable. Author.

**Tympanometric screening in children on admission to a paediatric ward: a preliminary study.** Wolthers, O. D. Department of Paediatrics, Kolding Hospital, Denmark. *International Journal of Pediatric Otorhinolaryngology* (1990) Aug, Vol. 19 (3), pp. 251–7.

Tympanometric screening of children admitted to paediatric wards has not previously been undertaken. In order to describe the middle ear status and to estimate the point prevalence of middle ear effusion (MEE) in this population a preliminary study based on a single tympanometry test was undertaken. MEE was defined by the finding of a flat curve in the tympanogram of at least one ear. Six hundred and one children were admitted during the study period. Four hundred and twenty seven (71%) entered the study and this group was representative of the total population that was referred. Eighty-two per cent were found to have an abnormal middle ear pressure and MEE was diagnosed in 59% of the children. Seventy-six per cent of the children were 0–4 year olds. Thirty-one per cent were admitted due to respiratory infections and 41% presented with catarrhal symptoms. MEE was associated with the age group of 0- to four-year olds and with the presence of catarrhal symptoms. The population of paediatric in-patients represents the highest frequency of abnormal tympanometry findings hitherto reported. It should be emphasized that the one-time finding of a flat tympanogram does have the correlation but no congruence with MEE and the finding of this high prevalence of MEE needs to be followed up by studies using independent methods for confirmation of the middle ear fluid. Author.

**Nasopharyngeal carcinoma in the young: a combined M. D. Anderson and Stanford experience.** Ingersoll, L., Woo, S. Y., Donaldson, S., Giesler, J., Maor, M. H., Goffinet, D., Cangir, A., Goepfert, H., Oswald, M. J., Peters, L. J. Department of Radiation Oncology, Stanford University Medical Centre, CA. *International Journal of Radiation Oncology, Biology and Physics*. (1990) Oct, Vol. 19 (4), pp. 881–7.

From 1956 to 1988, 57 children and young adults (age 4–21 years) with a diagnosis of nasopharyngeal carcinoma were treated at The University of Texas M.D. Anderson Cancer Center (42 patients) and Stanford University Medical Center (15 patients). The male to female ratio was 2:1. Forty-three patients had lymphoepithelioma, seven had undifferentiated neoplasms, and seven had squamous cell carcinoma. Two patients had stage III disease and the remainder had stage IV disease at the time of presentation. All patients were treated with primary radiotherapy, and 14 patients also had chemotherapy with combinations of the following drugs: dactinomycin, doxorubicin, bleomycin, cisplatin, cyclophosphamide, fluorouracil, methotrexate, and vincristine. Twenty-six patients are alive 6 to 178 months from the first day of treatment (median 93 months). The 5- and 10-year actuarial survival rates are 51% and 36%, respectively, and the corresponding disease specific survival rates were 51% and 51%. There were no recurrences after 42 months. The patterns of failure were as follows: distant metastasis only, 21 patients; locoregional metastasis only, one; both, five. Distant metastases most commonly occurred in bones, lungs, liver, and mediastinal lymph nodes. Chronic treatment-related morbidity was encountered in a significant number of long term survivors. Trends in the data not reaching statistical significance suggest a more favourable prognosis for (a) females, (b) patients less than or equal to 15 years of age, (c) lymphoepithelioma or undifferentiated histologies, (d) stages T3-4 N0-1 vs T1-2 N2-3 vs T3-4 N2-3, (e) primary tumour dose greater than or equal to 65 Gy and (f) patients who received chemotherapy. Author.

**Nasopharyngeal carcinoma: orderly neck node spread.** Sham, J. S., Choy, D., Wei, W. I. Department of Radiotherapy and Oncology, Hong Kong University, Queen Mary Hospital. *International Journal of Radiation Oncology, Biology and Physics* (1990) Oct, Vol. 19 (4), pp. 929–33.

A prospective study of 271 consecutive patients with newly diagnosed nasopharyngeal carcinoma was undertaken to assess the pattern of cervical nodal involvement with reference to ten cervical nodal groups and three levels of neck; 204 (75.3%) patients were found to have cervical lymphadenopathy at presentation. Fifty-four (26.5%) of these patients had right cervical lymphadenopathy, 70 (34.3%) had left cervical lymphadenopathy, and 80 (39.2%) had bilateral cervical lymphadenopathy. The occurrence of lymphadenopathy in the ten cervical nodal groups and the mean size of nodes in these nodal groups were computed. The subdiaphragic and upper jugular group was involved in more than 95% of cases. The lower position in the neck, the less frequently the nodal group was involved. The mean size of nodes was largest in the subdiaphragic and upper jugular region compared with the other groups. The nodes in the upper neck were generally larger than those in the lower neck. The lower two levels of neck were involved without

involvement of the upper level of the ipsilateral neck in fewer than 4% of cases. The present study indicates that neck node involvement by nasopharyngeal carcinoma is by orderly spread down the neck, which explains the adverse prognostic significance of neck node involvement in the lower neck. The orderly involvement of the neck nodes suggests that prophylactic irradiation of the neck should be given at least one level beyond the clinical extent of disease, which for patients with no clinically palpable node would mean prophylactic irradiation of the upper neck. Author.

**Place coding of vowel formants for cochlear implant patients.** Blamey, P. J., Clark, G. M. Department of Otolaryngology, University of Melbourne, Royal Victorian Eye and Ear Hospital, Australia. *Journal of the Acoustical Society of America* (1990) Aug, Vol 88 (2), pp. 667–73.

Four multiple-channel cochlear implant patients were tested with synthesized versions of the words 'hid, head, had, hud, hod, hood' containing 1, 2, or 3 formants, and with a natural 2-formant version of the same words. The formant frequencies were encoded in terms of the positions of electrical stimulation in the cochlea. Loudness, duration, and fundamental frequency were kept fixed within the synthetic stimulus sets. The average recognition scores were 47%, 61%, 62%, and 79% for the synthesized 1-, 2-, and 3-formant vowels and the natural vowels, respectively. These scores showed that the place coding of the first and second formant frequencies accounted for a large part of the vowel recognition of cochlear implant patients using these coding schemes. The recognition of the natural stimuli was significantly higher than recognition of the synthetic stimuli, indicating that extra cues such as loudness, duration, and fundamental frequency contributed to recognition of the spoken words. Author.

**Forward masking in patients with cochlear implants.** Shannon, R. V. House Ear Institute, Los Angeles, California 90057. *Journal of the Acoustic Society of America* (1990) Aug, Vol. 88 (2), pp. 741–4. Forward masking was measured in 12 patients with cochlear implants. The amount of masking (in microamps) decreased linearly as a function of the logarithm of the signal delay from masker offset. Normalized forward-masking recovery functions for cochlear implants were similar to normalized functions of normal-hearing listeners, indicating that the mechanism of psychophysical forward masking is retrocochlear. These results indicate that the logarithm of acoustic amplitude should be mapped to microamps to produce normal forward masking in implanted patients. Despite the fact that the forward masking recovery functions were similar across all patients, their performance with their speech processor varied widely. Author.

**The effects of an H1-receptor antagonist, terfenadine, on histamine-induced microcirculatory changes and vasopermeability in nasal mucosa.** Druce, H. M. Department of Internal Medicine, St. Louis University School of Medicine, Mo 63104. *Journal of Allergy and Clinical Immunology* (1990) Sep, Vol. 86 (3) (Pt 1), pp. 344–52. We used a non-sedating, selective histamine H1-receptor antagonist, terfenadine, to investigate the effects of antihistamines on the microcirculatory changes and vascular permeability induced by topical histamine provocation challenge. We assessed the former by the laser-Doppler measurement of blood flow, volume, and red blood cell speed, and the latter by analysis of albumin/total protein ratios in nasal lavages. Terfenadine reduced the mean symptom score and permeability changes (p less than 0.05) induced by histamine in a dose-related manner. Terfenadine had no effect on blood flow or other microcirculatory parameters. We propose that vascular effects of histamine in the nasal mucosa are not mediated uniquely through the H1 receptor. Author.

**Botulinum toxin treatment of cranial-cervical dystonia, spasmodic dysphonia, other focal dystonias and hemifacial spasm.** Jankovic, J., Schwartz, K., Donovan, D. T. Department of Neurology, Baylor College of Medicine, Houston, Texas. *Journal of Neurology, Neurosurgery and Psychiatry* (1990) Aug, Vol. 53 (8), pp. 633–9. In the past five years, 477 patients with various focal dystonias and hemifacial spasm received 3,806 injections of botulinum A toxin for relief of involuntary spasms. A definite improvement with a global rating greater than or equal to 2 on a 0–4 scale, was obtained in all 13 patients with spasmodic dysphonia, 94% of 70 patients with blepharospasm, 92% of 13 patients with hemifacial spasm, 90% of 195 patients with cervical dystonia, 77% of 22 patients with hand dystonia, 73% of 45 patients with oromandibular dystonia, and in

90% of 21 patients with other focal dystonia who had adequate follow-up. While the average duration of maximum improvement lasted about 11 weeks after an injection (range seven weeks in patients with hand dystonia to 15 weeks in patients with hemifacial spasm), some patients benefited for over a year. Only 16% of the 941 treatment visits with follow-up were not successful. Except for transient focal weakness, there were very few complications or systemic effects attributed to the injections. This study supports the conclusion that botulinum toxin injections are a safe and effective therapy for patients with focal dystonia and hemifacial spasm. Author.

**Acute sensorineural deafness in Lassa fever (see comments).** Cummins, D., McCormick, J. B., Bennett, D., Samba, J. A., Farrar, B., Machin, S. J., Fisher-Hoch, S. P. Department of Hematology, University College, London, England. *JAMA* (1990) Oct 24–31, Vol. 264 (16), pp. 2093–6. Comment in *JAMA* (1990) Oct 24–31; 264 (16): 2119.

A prospective audiometric evaluation of 69 hospitalized febrile patients in Sierra Leone, West Africa, revealed a sensorineural hearing deficit (SNHD) in 14 (29%) of 49 confirmed cases of Lassa fever and in 0 of 20 febrile controls. An SNHD was present in nine (17.6%) of 51 people who had evidence of previous Lassa virus infection. Twenty-six of 32 local residents who had previously sustained a sudden deafness had antibody titers to Lassa virus of 16 or greater, compared with six of 32 matched controls. Lassa fever is associated with an incidence of SNHD, which considerably exceeds that previously reported with any other postnatally acquired infection, and accounts for a prevalence of virus-related hearing impairment in the eastern province of Sierra Leone that is greater than that reported from anywhere else in the world. Author.

**A unique indexing splint for use in combined Le Fort and nasal injuries to avoid tracheostomy.** Farole, A., Piotrowski, J. C. Thomas Jefferson University Hospital, Philadelphia, PA 19107. *Oral Surgery, Oral Medicine, Oral Pathology* (1990) Oct, Vol. 70 (4), pp. 399–400.

Mid-face fractures with associated displaced and/or comminuted nasal fractures can require tracheostomy for a general anesthetic airway if these fractures are to be reduced simultaneously. We describe a unique indexing splint that allows oral intubation yet also allows simultaneous reduction of midface and nasal fractures under one anesthetic. Furthermore, tracheostomy with its potential complications is avoided. The case report illustrates the technique, and alternative treatments for these injuries are discussed. Author.

**Capillary hemangioma of the maxilla. A report of two cases in which angiography and embolization were used.** Greene, L. A., Freedman, P. D., Friedman, J. M., Wolf, M. Albert Einstein College of Medicine, Montefiore Medical Centre, Bronx, N. Y. *Oral Surgery, Oral Medicine, Oral Pathology* (1990) Sep, Vol. 70 (3), pp. 268–73. This article presents two clinical cases of capillary hemangiomas of the maxilla. Such lesions are rare, as demonstrated by the review of the literature included in this article. The presentation, differential diagnosis, histopathology, management, and follow-up for each case are discussed. Our rationale for approaching these types of lesions, as well as our opinion that microembolization should be considered as a first line approach to treatment, is presented. Author.

**Invasive aspergillosis of the maxilla in an immunocompromised patient.** Shannon, M. T., Sclaroff, A., Colm, S. J. Department of Oral and Maxillofacial Surgery, Washington University School of Dental Medicine, St. Louis, Mo. *Oral Surgery, Oral Medicine, Oral Pathology* (1990) Oct, Vol. 70 (4), pp. 425–7.

Patients who are immunocompromised have a high susceptibility to infection, which can be fatal. Studies have shown that patients receiving chemotherapeutic and adjunctive medications have inhibited inflammatory response to microbes, particularly those increasing the potential for the development of invasive infection. Aspergillus is a fungus often found in the atmosphere. Colonization of Aspergillus in the upper respiratory tract is common. In the immunocompromised patient, Aspergillus flavus is found to be the most frequent fungus cultured in the maxillary sinus. Because of the depressed immunologic state of the patient, A. flavus can differentiate into hyphal forms producing toxins that destroy epithelial tissues. Penetration of Aspergillus into connective and vascular tissue produces thrombosis and ultimately necrosis of hard and soft tissue. Author.

**Diffuse sclerosing osteomyelitis of the mandible: a new concept of its aetiology.** van Merkesteyn, J. P., Groot, R. H., Bras, J., McCarroll, R. S., Bakker, D. J. Academic Medical Centre, University of Amsterdam, The Netherlands. *Oral Surgery, Oral Medicine, Oral Pathology* (1990) Oct, Vol. 70 (4), pp. 414-9.

Diffuse sclerosing osteomyelitis of the mandible is a disease of unknown aetiology. The clinical and radiographic findings suggest an infectious origin, but bacteriologic and histologic findings do not support this concept. Analysis of clinical symptoms, localization of the condition, and post-treatment findings in a group of 27 patients suggest a chronic tendoperiostitis due to muscular overuse as an aetiological factor in diffuse sclerosing osteomyelitis of the mandible. This hypothesis was supported by the initial results of muscle relaxation treatment in 13 of these patients. Author.

**Cervical lymph node metastasis: assessment of radiologic criteria.** van den Brekel, M. W., Stel, H. V., Castelijns, J. A., Nauta, J. J., van der Waal, I., Valk, J., Meyer, C. J., Snow, G. B. Department of Otorhinolaryngology, Free University Hospital, Amsterdam, The Netherlands. *Radiology* (1990) Nov, Vol. 177 (2) pp. 379-84.

To estimate the accuracy of different radiologic criteria used to detect cervical lymph node metastasis in patients with head and neck carcinoma, seven different characteristics of 2,719 lymph nodes in 71 neck dissection specimens from 55 patients were assessed. Three lymph node diameters, their location, their number, the presence of a tumour, and the amount of necrosis and fatty metaplasia were recorded. The minimal diameter in the axial plane was found to be the most accurate size criterion for predicting lymph node metastasis. A minimal axial diameter of 10 mm was determined to be the most effective size criterion. The size criterion for lymph nodes in the subdiaphragmatic region was 1 mm larger (11 mm). Groups of three or more borderline nodes were proved to

increase the sensitivity but did not significantly decrease the specificity. Radiologically detectable necrosis (3 mm or larger) was found only in tumorous nodes and was present in 74% of the positive neck dissection specimens. Shape was not a valuable criterion for the radiologic assessment of the cervical lymph node status. Author.

**Comparison of cefuroxime axetil, cefaclor, and amoxicillin-clavulanate potassium suspensions in acute otitis media in infants and children.** Pichichero, M., Aronovitz, G. H., Gooch, W. M., McLinn, S. E., Maddern, B., Johnson, C., Darden, P. M. Department of Paediatrics, University of Rochester, NY 14642. *Southern Medical Journal* (1990) Oct, Vol. 83 (10), pp. 1174-7.

In this randomized, blinded, multicentre comparison study, 377 infants and children with acute otitis media (AOM) received a 10-day course of an oral suspension of one of the following: cefuroxime axetil (CAE), 30 mg/kg/day; cefaclor (CEC), 40 mg/kg/day; or amoxicillin-clavulanate potassium (AMX-CL), 40 mg/kg/day. Clinical efficacy was determined by pneumatic otoscopy and tympanometric testing 3 to 5, 11 to 14, and 22 to 26 days after the initiation of therapy. There was a statistically significant difference among the three treatment groups with respect to clinical outcome; more patients in the CAE group (62%) than in the CEC group (46%) or the AMX-CL group (52%) had complete resolution of signs and symptoms of AOM (including effusion). Paired comparisons revealed a significant difference in efficacy between CAE and CEC and a nearly significant difference between AMX-CL and CEC. Taste acceptability was highest for CEC and lowest for this formulation of CAE. Significantly more patients in the AMX-CL group than in the CAE or CEC group had a side effect, primarily diarrhoea, vomiting, or diaper rash. We conclude that CAE suspension has greater clinical efficacy than CEC and fewer side effects than AMX-CL. Author.