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# Abstract Selection

**The potential role of interleukin-13 in eosinophilic inflammation in nasal mucosa.** Terada, N., Hamano, N., Hohki, G., Ikeda, T., Sai, M., Yamashita, T., Konno, A. Department of Otorhinolaryngology, Chiba University, School of Medicine, Chiba City, Japan. *Allergy* (1998) July, Vol. 53(7), pp. 690–7.
BACKGROUND: Recent studies have revealed that interleukin (IL)–13, as well as IL–4, causes de novo surface expression of vascular cell adhesion molecule–1 (VCAM–1) on endothelial cells of the umbilical vein and accelerates selective eosinophil migration. However, its role in allergic rhinitis remains to be clarified. Of particular interest is whether IL–13 upregulates VCAM–1 expression in human mucosal microvascular endothelial cells (HMMECs), to which eosinophils adhere in nasal mucosa. METHODS: To understand the potential role of IL–13 in eosinophilic inflammation in nasal mucosa, we examined the effects of IL-13 on the adhesiveness between HMMECs and eosinophils. RESULTS: IL–13 increased VCAM–1 expression in HMMECs, the adhesiveness of endothelial cells to eosinophils, and the transendothelial migration. On the other hand, IL–13 decreased the adhesiveness of eosinophils to HMMECs, and, as a result, accelerated eosinophil infiltration. Those effects are more potent than was those of IL–4. In addition, we also report that the amount of IL–13 in nasal mucosa was higher than that of IL–4. CONCLUSIONS: These results strongly indicate that IL–13, as well as IL–4, may be important in eosinophilic inflammation in the nasal mucosa. Author.

**Somatic mosaicism: a common cause of classic disease in tumour-prone syndromes? Lessons from type 2 neurofibromatosis.** Evans, D. G., Wallace, A. J., Wu, C. L., Trueman, L., Ramsden, R. T., Strachan, T. Department of Medical Genetics, St Mary's Hospital, Manchester M13 OJH, United Kingdom. Gevans@central.cmht.nwest.nhs.uk. *American Journal of Human Genetics* (1998) September, Vol. 63(3), pp. 727–36.
Blood samples from 125 families with classic type 2 neurofibromatosis with bilateral vestibular schwannomas were analyzed for mutations in the NF2 gene. Causative mutations were identified in 52 families. In five families, the first affected individual in the family (the index case) was a mosaic for a disease-causing mutation. Only one of nine children from the three mosaic cases with children are affected. Four of these nine children inherited the allele associated with the disease-causing mutation yet did not inherit the mutation. NF2 mutations were identified in only 27/29 (34 per cent) of sporadic cases, compared with 25/46 (54 per cent) of familial cases ($p<0.05$). In 48 families in which a mutation has not been identified, the index cases have had 125 children, of whom only 29 are affected with NF2 and of whom only a further 21 cases would be predicted to be affected by use of life curves. The 50/125 (40 per cent) of cases is significantly less than the 50 per cent expected eventually to develop NF2 ($p<0.05$). Somatic mosaicism is likely to be a common cause of classic NF2 and may well account for a low detection rate for mutations in sporadic cases. Degrees of gonosomal mosaicism mean that recurrence risks may well be <50 per cent in the index case when a mutation is not identified in lymphocyte DNA. Author.

**Evidence for digenic inheritance of nonsyndromic hereditary hearing loss in a Swedish family.** Balciuniene, J., Dahl, N., Borg, E., Samuelsson, E., Koisti, M. J., Pettersson, U., Jazin, E. E. Unit of Medical Genetics, Department of Genetics and Pathology, Uppsala University, Uppsala, Sweden. *American Journal of Human Genetics* (1998) September, Vol. 63(3), pp. 786–93.
We investigated a Swedish family with nonsyndromic progressive bilateral sensorineural hearing loss. Thirteen candidate loci for autosomal dominant nonsyndromic hearing loss were tested for linkage in this family. We found significant LOD scores (>3) for markers at candidate locus DFNA12 (11q22-q24) and suggestive LOD scores (>2) for markers at locus DFNA2 (1p32). Our results for markers on chromosome 11 narrowed down the candidate region for the DFNA12 locus. A detailed analysis of the phenotypes and haplotypes shared by the affected individuals supported the notion that two genes segregated together with hearing impairment in the family. Severely affected family members had haplotypes linked to the disease allele on both chromosomes 1 and 11, whereas individuals with milder hearing loss had haplotypes linked to the disease allele on either chromosome 1 or chromosome 11. These observations suggest an additive effect of two genes, each gene resulting in a mild and sometimes undiagnosed phenotype, but both together resulting in a more severe phenotype. Author.

**Comparison of two cricothyrotomy techniques: standard method versus rapid four-step technique.** Holmes, J. F., Panacek, E. A., Sakles, J. C., Brofeldt, B. T. Division of Emergency Medicine, University of California, Davis, Medical Center, Sacramento, USA. jfholmes@ucdavis.edu. *Annals of Emergency Medicine* (1998) October, Vol. 32(4), pp. 442–6.
STUDY OBJECTIVE: To compare the success rate, complication rate and time required for the rapid four-step technique versus the standard technique for cricothyrotomy. METHODS: We conducted a prospective, randomized crossover study. Twenty-seven emergency medicine interns, one junior medicine resident, and four senior medical students, without prior cricothyrotomy experience, were randomly divided into two groups. Group 1 was initially instructed in and then performed the standard technique; group 2 was initially instructed in and then performed the rapid four-step technique. Each group was then instructed in and performed the alternate method. Cricothyrotomies were performed on preserved human cadavers. RESULTS: A surgical airway was established in 28 of 32 attempts with the use of the rapid four-step technique (88 per cent); the average time elapsed before tube placement was 43 seconds. Thirty of 32 attempts involving the standard technique (94 per cent) were successful; the average time to tube placement was 134 seconds (95 per cent confidence interval for a difference of 91 seconds, 63 to 119; $p<0.001$). Complications were identified in 12 attempts involving the standard technique (38 per cent; one considered major) and in 12 involving the rapid four-step technique (38 per cent; three considered major). The incidence of major complications was six per cent higher for the rapid four-step technique (95 per cent confidence interval, −nine per cent to 21 per cent). CONCLUSION: In a group of inexperienced subjects working on a preserved human cadaver model, the rapid four-step technique for cricothyrotomy was performed in about one-third the time required for performance of the standard technique. This finding was both clinically and statistically significant. Although the two techniques had similar success and complication rates, we noted a trend toward more severe complications in the rapid four-step technique. Author.

**Endoscope-assisted nasal osteotomy: a preliminary report.** Honda, T., Sasaki, K., Takeuchi, M., Nozaki, M. Department of Plastic and Reconstructive Surgery, Tokyo Metropolitan Hiroo Hospital, Japan. *Annals of Plastic Surgery* (1998) August, Vol. 41(2), pp. 119–24.
We report the use of an endoscope-assisted technique for nasal osteotomy in seven patients. The endoscopic approach has been especially helpful in performing the osteotomy safely and

accurately, compensating for the drawbacks of the conventional blind osteotomy procedure. This form of surgery took only approximately 20 minutes longer than conventional surgery. We encountered no complications attributable to the endoscopic approach. Author.

**Head and neck reconstruction with the latissmus dorsi musculocutaneous pedicled flap: functional preservation of the muscle by staged transfer.** Safak, T., Akyurek, M., Yuksel, E., Kayikccioglu, A., Keccik, A. Department of Plastic and Reconstructive Surgery, Hacettepe University Medical School, Ankara, Turkey. *Annals of Plastic Surgery* (1998) August, Vol. 41(2), pp. 156–61.
The reconstruction of soft-tissue defects in the head and neck region with the latissimus dorsi musculocutaneous pedicled flap is traditionally carried out with dissection of a transaxillary subcutaneous tunnel, which may result in compression of the vascular pedicle in the tunnel, a contour deformity of the neck, or morbidity to the tissues in the axilla and the neck (such as hematoma and seroma). Furthermore, the flaps are often bulky and require secondary defatting. Loss of the muscle causes contour deformity in the back, and its functional loss may be a concern for the patient. To overcome such drawbacks of the traditional use of the flap, we devised a technique of regional transfer of the latissimus dorsi musculocutaneous pedicled island flap to the head and neck region over a pectoral skin bridge rather than utilizing a transaxillary subcutaneous tunnel. This is a two-stage procedure. During the first stage the musculocutaneous flap is transposed in an extracutaneous route to the recipient site. Following a three-week neovascularization period, the second stage is performed, during which the muscle is detached from its overlying skin island and replaced in situ. This technique was utilized successfully in five patients for reconstruction of various head and neck defects with no complications. We conclude that this staged technique of latissimus dorsi musculocutaneous flap transfer to the head and neck region enables functional preservation of the muscle and overcomes many of the complications of the traditional method of utilizing a transaxillary subcutaneous tunnel. Author.

**A survey of consultants treating upper aerodigestive tract cancer in the UK.** Edwards, D. M., Johnson, N. W., Cooper, D., Warnakulasuriya, K. A. Joint Department, Royal College of Surgeons of England. *Annals of the Royal College of Surgeons (England)* (1998) July, Vol. 80(4), pp. 283–7.
A study was undertaken to determine the current service provision for the treatment of upper aerodigestive tract (UAT) cancers in the UK. A postal questionnaire was sent to all consultant members of relevant specialist societies, with 1041 (74 per cent) responding. Treatment of UAT cancer is widely dispersed with over 900 consultants from five major disciplines treating, on average, less than 10 cases per year. There were few regional or provider differences in the facilities and services available and in processes used for assessing patients. There is little systematic collection of data for audit or research and some consultants do not record stage. The involvement of other disciplines in the assessment process, use of joint clinics, counselling, specialist nursing and therapy services appears to be low. There is a need for rationalization of head and neck cancer services; for more systematic collection of data for audit and research and for improvements in the use of joint clinics and support services. Author.

**Population based cohort study of the association between alcohol intake and cancer of the upper digestive tract (see comments).** Gronbaek, M., Becker, U., Johansen, D., Tonnesen, H., Jensen, G., Sorensen, T. I. Copenhagen Centre for Prospective Population Studies, Danish Epidemiology Science Centre at the Institute of Preventive Medicine, Kommunehospitalet, 1399 Copenhagen K, Denmark. mg@ipm.hosp.dk. *British Medical Journal* (1998) September 26, Vol. 317(7162), pp. 844-7. Comment in: *British Medical Journal* (1998) September 26, 317(7162):827.
OBJECTIVE: To examine the relation between different types of alcoholic drinks and upper digestive tract cancers (oropharyngeal and oesophageal). DESIGN: Population based study with baseline assessment of intake of beer, wine and spirits, smoking habits, educational level, and two to 19 years' follow up on risk of upper digestive tract cancer. SETTING: Denmark. SUBJECTS: 15,117 men and 13,063 women aged 20 to 98 years. Main outcome measure: Number and time of identification of incident upper digestive tract cancer during follow up. RESULTS: During a mean follow-up of 13.5 years, 156 subjects developed upper digestive tract cancer. Compared with non-drinkers (drinkers of <one drink/week), subjects who drank seven to 21 beers or spirits a week but no wine were at a risk of three (95 per cent confidence interval 1.5 to 6.1), whereas those who had the same total alcohol intake but with wine as >=30 per cent of their intake had a risk of 0.5 (0.2 to 1.4). Drinkers of >21 beers and spirits but no wine had a relative risk of 5.2 (2.7 to 10.2) compared with non-drinkers, whereas those who drank the same amount, but included wine in their alcohol intake, had a relative risk of 1.7 (0.6 to 4.4). CONCLUSION: A moderate intake of wine probably does not increase the risk of upper digestive tract cancer, whereas a moderate intake of beer or spirits increases the risk considerably. Author.

**Effect of traditional Chinese acupuncture on severe tinnitus: a double-blind, placebo-controlled, clinical investigation with open therapeutic control.** Vilholm, O. J., Moller, K., Jorgensen, K. Department of Audiology, Vejle Hospital, Denmark. *British Journal of Audiology* (1998) June, Vol. 32 (3), pp. 197–204.
This study aims to determine the effect of intensive acupuncture on severe tinnitus. The structure of the study was a randomized, double-blind, clinical investigation with open therapeutic surveillance and included 54 patients. All were subjected to 25 treatment sessions over a period of two months, each treatment lasting 30 minutes. Fifty-two patients completed the study. The variables used for self-registration were based on the visual analogue scale (VAS), where annoyance, loudness and awareness of the tinnitus were assessed. These were recorded twice daily over a four-month period starting one month before the first treatment and ending one month after the last treatment. Questionnaires, interviews and audiometry were carried out repeatedly. No statistically significant differences were found between the acupuncture group and the placebo group. Author.

**Transient deafness due to temperature-sensitive auditory neuropathy.** Starr, A., Sininger, Y., Winter, M., Derebery, M. J., Oba, S., Michalewski, H. J. House Ear Institute, Los Angeles, California, USA. *Ear and Hearing* (1998) June, Vol. 19(3), pp. 169–79.
OBJECTIVE: To define mechanisms accounting for transient deafness in three children (two siblings, ages three and six, and an unrelated child age 15) when they become febrile. DESIGN: Audiometric tests (pure-tone audiometry, speech and sentence comprehension), tympanometry, middle ear muscle reflex thresholds, otoacoustic emissions (OAEs), and electrophysiological methods (auditory brain stem responses (ABRs), sensory evoked potentials, peripheral nerve conduction velocities) were used to test the children when they were afebrile and febrile. RESULTS: ABRs, when afebrile, were abnormal with a profound delay of the IV–V and absence of waves I–III. The ABR in one of the children, tested when febrile, showed no ABR components. Measures of cochlear receptor function using OAEs were normal in both febrile and afebrile states. Cochlear microphonic potentials were present in the three children, and a summating potential was likely present in two. When afebrile, there was a mild threshold elevation for all frequencies in the 15-year-old and a mild elevation of thresholds for just low frequencies in the two siblings. Speech comprehension in quiet was normal but impaired in noise. One of the siblings tested when febrile had a profound elevation (>80 dB) of pure-tone thresholds and speech comprehension was absent. Acoustic reflexes subserving middle ear muscles and olivocochlear bundle were absent when febrile and when afebrile. No other peripheral or cranial nerve abnormalities were found in any of the children. Sensory nerve action potentials from median nerve in one of the children showed no abnormalities on warming of the hand to 39 degrees C. CONCLUSION: These children have an auditory neuropathy manifested by a disorder of auditory nerve function in the presence of normal cochlear outer hair cell functions. They develop a conduction block of the auditory nerves when their core body temperature rises due, most likely, to a demyelinating disorder of the auditory nerve. The auditory neuropathy in the two affected siblings is likely to be inherited as a recessive disorder. Author.

**Linear and nonlinear model of the human middle ear.** Pascal, J., Bourgeade, A., Lagier, M., Legros, C. CEA Centre d'Etudes Scientifiques et Techniques d'Aquitaine, Le Barp, France. *Journal*

*of the Acoustical Society of America* (1998) September, Vol. 104(3 Pt 1), pp. 1509–16.
The measurement of the middle ear transfer function usually requires invasive methods. An equivalent analog equivalent model enables us to evaluate its characteristics without damaging any part of the ear. A linear and a nonlinear model of the middle ear have been developed to predict intracochlear pressure and the stapes volume velocity for various sound pressure levels (SPL). The linear model results have been compared with human eardrum impedance and middle ear transfer function data. The nonlinear phenomena due to the contraction of the stapedius muscle over 80 dB and to the stapes clipping displacement above 120 dB are represented by a set of variable electrical components. The model of the acoustic reflex is based on experimental observations. The study of the annular ligament behaviour was performed on cats and extrapolated to humans with some hypothetical restrictions. These approximations provide information on the middle ear transfer function and enable us to better understand the nonlinear middle ear mechanisms in an intense acoustic field. Author.

**Ameloblastic carcinoma of the maxilla: a report of three cases.** Infante-Cossio, P., Hernandez-Guisado, J. M., Fernandez-Machin, P., Garcia-Perla, A., Rollon-Mayordomo, A., Gutierrez-Perez, J. L. Department of Maxillofacial Surgery and Stomatology, Virgen del Rocio University Hospital, University of Seville, Spain. *Journal of the Craniomaxillofacial Surgery* (1998) June, Vol. 26(3), pp. 159–62.
Odontogenic carcinomas of the maxilla are classified as malignant ameloblastoma, ameloblastic carcinoma or primary intraosseous carcinoma. The term 'ameloblastic carcinoma' is used to describe those ameloblastomas in which there is histological evidence of malignancy in the primary, recurrent or metastatic tumour. Three cases of ameloblastic carcinoma with an unusual location in the maxilla are presented here. Histologically, the lesions were characterized by typical zones of ameloblastoma as well as zones with anaplastic transformation. The authors review the literature describing the clinical and histological presentation and the treatment of this rare tumour. Author.

**Meeting the expectations of chronic tinnitus patients: comparison of a structured group therapy program for tinnitus management with a problem-solving group.** Wise, K., Rief, W., Goebel, G. Klinik Roseneck, Prien, Germany. *Journal of Psychosomatic Research* (1998) June, Vol. 44(6), pp. 681–5.
Two different group treatments were evaluated in 144 in-patients suffering from impairment due to chronic tinnitus. A tinnitus management therapy (TMT) was developed using principles of cognitive-behavioural therapy and compared with problem solving group therapy. Self-ratings were used to evaluate the help patients found in dealing with life problems and tinnitus as well as the degree to which they felt they were being properly treated and taken seriously. Patients showed significantly more satisfaction with the TMT group and evaluated the help they found in coping with tinnitus and life problems significantly higher. Thus, in the light of unsatisfactory medical solutions and the poor acceptance of some psychological treatments for tinnitus, TMT appears to be an acceptable and helpful treatment program. Author.

**A novel use of xylitol sugar in preventing acute otitis media (see comments).** Uhari, M., Kontiokari, T., Niemela, M. Department of Pediatrics, University of Oulu, Oulu, Finland. *Pediatrics* (1998) October, Vol. 102(4 Pt1), pp. 879-84. Comment in: *Pediatrics* (1998) October, 102(4 Pt1):971–2. Comment in: *Pediatrics* (1998) October, 102(4 Pt1):974–5.
BACKGROUND: Xylitol, a commonly used sweetener, is effective in preventing dental caries. As it inhibits the growth of pneumococci, we evaluated whether xylitol could be effective in preventing acute otitis media (AOM). DESIGN: Altogether, 857 healthy children recruited from day care centers were randomized to one of five treatment groups to receive control syrup (n = 165), xylitol syrup (n = 159), control chewing gum (n = 178), xylitol gum (n = 179), or xylitol lozenge (n = 176). The daily dose of xylitol varied from 8.4 g (chewing gum) to 10 g (syrup). The design was a three-month randomized, controlled trial, blinded within the chewing gum and syrup groups. The occurrence of AOM each time the child showed any symptoms of respiratory infection was the main outcome. RESULTS: Although at least one event of AOM was experienced by 68 (41 per cent) of the 165 children who received control syrup, only 46 (29 per cent) of the 159 childern receiving xylitol syrup were affected, for a 30 per cent decrease (95 per cent confidence interval (CI): 4.6–55.4 per cent). Likewise, the occurrence of otitis decreased by 40 per cent compared with control subjects in the children who received xylitol chewing gum (CI: 10–71.1 per cent) and by 20 per cent in the lozenge group (CI: −12.9–51.4 per cent). Thus, the occurrence of AOM during the follow-up period was significantly lower in those who received xylitol syrup or gum, and these children required antimicrobials less often than did controls. Xylitol was well tolerated. CONCLUSIONS: Xylitol sugar, when given in a syrup or chewing gum, was effective in preventing AOM and decreasing the need for antimicrobials. Author.

**Clinical utility of positron emission tomography with 18F-fluorodeoxyglucose in detecting residual/recurrent squamous cell carcinoma of the head and neck (see comments).** Fischbein, N. J., Assar, O. S., Caputo, G. R., Kaplan, M. J., Singer, M. I., Price, D. C., Dillon, W. P., Hawkins, R. A. Department of Radiology, University of California, San Francisco 94143, USA. *American Journal of Neuroradiology* (1998) August, Vol. 19(7), pp. 1189–96. Comment in: *American Journal of Neuroradiology* (1998) August; 19(7):1197.
PURPOSE: The use of positron emission tomography with 18F-fluorodeoxyglucose (FDG-PET) to detect residual/recurrent squamous cell carcinoma of the head and neck has been tested only in small groups of patients. Our purpose, therefore, was to evaluate the ability of this technique to detect the presence of tumour at both primary and nodal sites in a large cohort of patients. METHODS: All patients referred for PET scanning over a 2.5-year period with a question of residual or recurrent squamous cell carcinoma of the head and neck were identified. Thirty-five of 44 patients had sufficient follow-up to be meaningful to our analysis (range, six to 33 months). PET scans were interpreted visually with knowledge of the clinical history and correlative anatomic imaging findings. Detection of disease involving primary and nodal sites was assessed independently. Additionally, because each patient had been referred in an attempt to resolve a specific clinical problem, the usefulness of PET in accurately addressing these questions was assessed. RESULTS: At the primary site, sensitivity and specificity for residual/recurrent disease were 100 per cent and 64 per cent, respectively; for nodal disease, sensitivity and specificity were 93 per cent and 77 per cent, respectively. In helping to resolve the clinical question being asked, the positive predictive value of the test result was 65 per cent and the negative predictive value was 91 per cent. CONCLUSION: The high sensitivity and negative predictive value of PET scanning in our cohort of patients suggest an important role for this technique in the care of patients with suspected residual/recurrent head and neck carcinoma. The lower figures obtained for specificity and positive predictive value reflect the fact that increased FDG uptake may be due to either tumour or inflammation. Author.

**MR-guided endoscopic sinus surgery.** Hsu, L., Fried, M. P., Jolesz, F. A. Department of Radiology, Harvard Medical School, Brigham and Women's Hospital, Boston, MA 02115, USA. *American Journal of Neuroradiology* (1998) August, Vol. 19(7), pp. 1235–40.
We describe an interactive, intraoperative imaging-guided method for performing endoscopic sinus surgery (ESS) within a vertically open MR system. The procedure was performed with intraoperative imaging using a 0.5-T magnet with a 56 cm vertical gap. Interactive control of imaging planes was accomplished by optical tracking with two infrared light-emitting diodes mounted on an aspirator probe. The probe's position defined the location of the orthogonal imaging planes. Twelve patients with varying degrees of sinus disease underwent ESS with MR imaging guidance. Patients had acute and chronic sinusitis, nasal polyposis causing airway obstruction, or tumour requiring tissue biopsy. All procedures were performed with the patients under general anesthesia. The integration of endoscopy with optical tracking and intraoperative interactive imaging allowed localization of anatomic landmarks during ESS. No complications were encountered. Author.

**Incidence of temporomandibular joint changes after whiplash trauma: a prospective study using MR imaging.** Bergman, H., Andersson, F., Isberg, A. Department of Oral and Maxillofacial Radiology, Umea University, Sweden. *American Journal of Roentgenology* (1998) November, Vol. 171(5), pp. 1237–43.
OBJECTIVE: The purpose of this study was to describe the incidence of temporomandibular joint (TMJ) changes after a well-defined whiplash trauma. SUBJECTS AND METHODS: Sixty consecutively admitted patients with symptoms in the neck after rear-end traffic collisions underwent MR imaging of the TMJs within three to 14 days after the collisions. Fifty-three healthy volunteers constituted a control group. RESULTS: No statistically significant differences were found between the 60 patients and the 53 volunteers regarding frequency, stage, grade, or direction of TMJ disk displacement or joint effusion. MR imaging revealed that 45 per cent of the control group and 53 per cent of the patient group had a displaced disk in one or both TMJs ($p = 0.393$). Disk displacement was seen in 35 per cent of TMJs in the control group and 40 per cent of TMJs in the patient group. Effusion was seen in eight per cent of TMJs in the control group and six per cent of TMJs in the patient group. No signs of bleeding or edema in the soft tissues were observed. In 15 per cent of the patients, mild clinical symptoms in the TMJ or masticatory muscles developed in association with the trauma; in one third of these patients the symptoms were transient. CONCLUSION: This prospective study does not show any significantly increased incidence of disk displacement, joint effusion, or any other injury to the TMJ after whiplash trauma that could be revealed by MR imaging. Author.

**Ultrasonic nebulization of hypertonic solution: a new method for obtaining specimens from nasal mucosa for morphologic and biochemical analysis in allergic rhinitis.** Melillo, G., Balzano, G., Stefanelli, F., Iorio, C., De Angelis, E., Melillo, E., Fondazione, S. Maugeri, Divisione di Penumologia e Centro per l'Asma Bronchiale, Centro Medico, Telese Terme (BN), Italy. *Allergy* (1998) August, Vol. 53(8), pp. 794–7.
Various techniques are used to collect specimens from the nasal mucosa for morphologic and biochemical analysis. The purpose of this study was to devise a method that overcomes some of the disadvantages (e.g. invasive procedure, samples not suitable for cytologic and biochemical analysis, lack of standardization, and poor reproducibility) of these techniques. The new method requires subjects, with neck extended, to inhale an ultrasonic nebulization of a hypertonic (three per cent NaCl) solution (UNHS) for five minutes. They then blow their nose into a Petri dish, one nostril at a time with the other one blocked. The secretions are dispersed with 0.1 per cent dithiothreitol in phosphate buffer solution for 20 minutes. Total cell count (TCC) is evaluated, and the cellular suspension is divided into two aliquots: one is centrifuged and the supernatants are collected for eosinophil cationic protein (ECP) measurements; the other is cytocentrifuged and the slides, stained with Diff-Quik, are used for differential cell count. The results obtained with the UNHS and nasal lavage (NL) methods were compared. Eleven nonatopic healthy subjects and 19 allergic rhinitic patients were studied. Total cell count ($\times 10(5)$) was significantly higher with UNHS than with NL ($13.0 \pm 12.3$ vs. $1.9 \pm 1.6$; $p<0.01$). The differential cell count was similar with the two procedures. ECP levels (microg/l) were higher with UNHS than with NL ($39.1 \pm 38.2$ vs. $16.7 \pm 41.2$; $p<0.01$). For evaluation of reproducibility, four healthy and six rhinitic subjects underwent UNHS on two occasions within five days, and the results of two samples (sample one vs sample two) were analyzed. Reproducibility was good as to TCC, differential cell count, and ECP. Author.

**Familial migraine with vertigo: no mutations found in CACNA1A.** Kim, J. S., Yue, Q., Jen, J. C., Nelson, S. F., Baloh, R. W. Department of Neurology, UCLA School of Medicine, Los Angeles, California 90095-1769, USA. *American Journal Medical Genetics* (1998) September 1, Vol. 79(2), pp. 148–51.
We searched for mutations in the voltage-gated calcium channel gene, CACNA1A, in nine propositi of families with migraine headaches and episodic vertigo inherited in an autosomal dominant pattern. All 47 exons and flanking introns in CACNA1A were subjected to single-strand conformation polymorphism analysis of polymerase chain reaction-amplified genomic DNA. Exons with aberrantly migrating fragments were sequenced using standard techniques. We also determined the CAG repeat length at the 3′ end of CACNA1A. Several polymorphisms were found but no mutations identified in any of the 47 exons of the nine patients. No index-case had a CAG repeat length greater than 13 (normal <17). Mutations in CACNA1A are not common in families with migraine headaches and episodic vertigo. Other ion channel genes expressed in the brain and inner ear remain candidate genes. Author.