ABSTRACTS

EAR

Will Noise Damage One's Hearing? W. E. GROVE, Milwaukee. *Journal Amer. Med. Assoc.*, 1949, cxl, 674.

Noise produces fatigue, neurasthenia and psychasthenia, similar to battle fatigue (boiler-maker's deafness has been recognized for years). The dividing line between the innocuous and hazardous noise lies somewhere between 70 and 100 decibels. Exposure to extremely loud sounds over a long period damages hearing and the most vulnerable spot is the basal coil of the cochlea. Not all ears are equally susceptible but most ears would suffer if the exposure lasted long enough. Other factors to be considered beside the intensity of the noise are: (1) Total length of exposure. (2) Length of exposure per period. (3) Whether the sound stimulus is continuous or interrupted. (4) Length of interruptions. (5) Type of space and environment. (6) Age of worker. (7) Previous ear or associated disease.

Prevention must be considered since treatment of the damaged ear is useless. The sub-committee on industrial noise suggests that a pilot plant be set up in some industry where noise is a special health factor, that a competent physicist measure the actual or potential noise level, that the actual operation of the programme be turned over to a competent otologist, that careful pre-employment hearing examination be made where noise level exceeds 90 decibels, and that this examination be checked in one month and after six months. Preventive measures are of three types: (1) The redesigning of buildings and machinery to ensure less noisy operation. (2) The transfer of a worker with especially noise-sensitive ears. (3) The protection of the ears by covering the external ear with material like sponge rubber. Loss of hearing from exposure to noise is an occupational disease and the worker should be entitled to compensation. The article has four figures and a bibliography.

ANGUS A. CAMPBELL.

Otosclerosis: Theory of its origin and development. JULIUS LEMPERT and DOROTHY WOLFF, New York. *Arch. Otolaryng., Chicago*, 1949, l, 115.

A histological study of a second series of ossicles removed from 100 patients whose labyrinths were being fenestrated for clinical otosclerosis is herewith presented. In this study the incus, the head and neck of the malleus and occasionally the head and crura of the stapes were included. As in the preceding series, no typical circumscribed focus of otosclerosis was found. No clearly demarcated pathological area comparable to that occurring in the otic capsule of the otosclerotic patient could be demonstrated. As in the preceding series, numerous pathological changes were observed, with completely normal ossicles being found in only four cases. Again pathological changes were

found in the joints, the bony tissue, and the marrow spaces of the ossicles and particularly in the blood-vessels.

Since the pathological changes observed in the ossicles removed *in vivo* from patients suffering from clinical otosclerosis were identical with those observed in the ossicles of post-mortem material wherein the lesion of otosclerosis was observed in the otic capsule, the authors feel that the lesions occurring in the ossicles, though not circumscribed, were part of the otosclerotic process observed in the otic capsule. They believe that the reason the lesions in the ossicles are not circumscribed by healthy bone, whereas in the otic capsules they are, is that the number of blood-vessels normally feeding the ossicles is limited as compared with the much richer blood supply normally nourishing the otic capsule.

One of the outstanding observations made in the histological study of these two series of ossicles was that the blood-vessels constantly show pathological involvement and that this is similar to the pathological involvement of the blood-vessels of otosclerotic foci observed within the otic capsule. The article contains 32 micro-photographs.

R. B. LUMSDEN.

Tympano-sympathetic Anesthesia for Tinnitus Aurium and Secondary Otalgia. BARNARD C. TROWBRIDGE, Kansas City, Mo. *Arch. Otolaryng., Chicago,* 1949, l, 200.

On the basis of histological, anatomical and clinical observations, experiments in injection of the tympanum to eliminate tympano-sympathetic tinnitus have been carried on by the author during the past seven years. While in pharmacological classification, ethylmorphine hydrochloride is an analgesic, it also exhibits anaesthetic characteristics when injected into the tympanum. This drug has, in the author's opinion, proved to be effective in the treatment of tinnitus and secondary otalgia because of its combined anaesthetic and analgesic qualities. The therapeutic effect of the drug injected into the tympanum results from its analgesic action on the tympanic plexus and from its rehabilitating action on the tissue of the middle ear, by stimulation of vascular circulation and the subsequent absorption of interstitial fibrosis.

If good results are to be obtained, the author insists, the cases for injection must be properly selected. Materials and methods are described. Of a series of 20 cases selected for injection of the tympanum to alleviate tinnitus or otalgia, good results were obtained in the majority. All the patients were ambulatory and continued their usual daily routine without interference from the injections.

R. B. LUMSDEN.

The Otologic Effects of Streptomycin Therapy. LINDEN J. WALLNER, Chicago. *Ann. Otol., Rhin. and Laryng.,* 1949, lviii, 111.

This is a report of the results of ear examinations done on 93 patients receiving streptomycin at Hines Hospital. They are divided into two groups according to dosage: Group 1 received 2 gm. per 24 hours for four months, Group 2 received 1 gm. per day. Audiograms and caloric tests were done before, during and after treatment. One patient with anuria suffered almost total loss of hearing, but no other patient was found to have any hearing loss

from the drug. Of the 53 patients in Group 1, 42 noticed subjective symptoms of dizziness, staggering gait or visual disturbances, and 25 had objective evidence of depressed or absent vestibular function. Of the 40 in Group 2, 18 complained of subjective symptoms, and 13 had depressed or absent caloric responses. No return of function was noted later in those without response. They also continued to have subjective complaints, trouble in walking in the dark and dizziness, although these symptoms diminished. These patients were grateful for the improvement in their general condition and did not seem to feel that vestibular disturbances were too high a price to pay for it. (Author's Summary.)

NOSE

Evaluation of Aerosol-Negative Pressure Therapy. EDUARDO R. PONS, Jr., WALTER M. GLASS and BETTINA GARTHWAITE, New York. *Journal Amer. Med. Assoc.*, 1949, cxxxix, 766.

The results are presented of 68 cases of chronic purulent sinusitis with aerosol-negative pressure therapy, once daily, with and without antibiotics. The apparatus used was a simplified one developed by Barach, consisting of a glass nebulizer, trap, and olive-tipped nose-pieces connected to the source of oxygen or compressed air by means of rubber tubing into which a glass venturi tube is inserted. Oxygen or air is forced into the nebulizer, producing the aerosol which flows into and fills the nasal cavities. In the ordinary case of chronic purulent sinusitis, antibiotic therapy given once daily appears to have no superiority over accepted methods of treatment. This method, however, is the treatment of choice in cases of long-standing sinus disease in patients who have had repeated sinus irrigations and extensive surgical treatment with poor response. In twelve patients with predominantly allergic factors, no significant improvement was noted. The article has a bibliography, one drawing and four tables.

ANGUS A. CAMPBELL.

Penicillin Aerosol Therapy in Sinusitis. FRANK J. HYNES, New York. *Ann. Otol., Rhin. and Laryng.*, 1949, lviii, 189.

The author's results in treating sinusitis in children have been in some cases spectacular. Shrinkage by a simple nasal spray, and clearing of the nose by suction, should be carried out before using aerosol. Occasionally good results are obtained in chronic sinusitis; but the value in acute sinusitis, acute rhinitis and allergic rhinitis has been doubtful.

E. J. GILROY GLASS.

Non-diagnosed maxillary sinusitis. ANTON BUCH, Hjørring, Denmark. *Acta Otolaryngologica*, 1949, Supp. lxxvii.

Unilateral or bilateral maxillary sinusitis was found in 8 per cent. of cases in routine examinations of 4,682 patients not suspected of sinusitis, most of them examined on discharge from one or other of the departments of the Central Hospital after some other disease. The reason why sinusitis was not diagnosed was in 25 per cent. of cases because it was not accompanied by symptoms, and 32 per cent. had symptoms which might as well have been

due to the main disorder. The remaining 41 per cent. displayed symptoms which must be supposed to be attributable to sinusitis ; but it was characteristic of the non-diagnosed cases that the symptom, headache, which most frequently causes a patient with sinusitis to consult a doctor, was present in but few cases, while nasal discharge and obstruction, which, according to the author, cause only a minority of patients with sinusitis to seek medical advice, were frequently present. More than 50 per cent. of the patients with no symptoms did not appear for treatment, but many of those who had symptoms were full of their main complaint after they had recovered from the sinusitis. The non-diagnosed cases of sinusitis included all categories of acute and chronic cases.

R. Scott Stevenson.

LARYNX

Chondroma and Chondrosarcoma of the Larynx. Melvin R. Link, New York. *Ann. Otol., Rhin. and Laryng.*, 1949, lviii, 70.

Cartilaginous neoplasms of the laryngeal cartilages are comparatively rare. Two cases, chondroma and chondrosarcoma, are presented and discussed from the standpoint of site, pathology, symptoms, diagnosis, and treatment. In discussion on microscopic differentiation between benign and malignant cartilaginous tumours, Lichenstein and Jaffee believe that a cartilage tumour should no longer be regarded as benign if, when viable and not heavily calcified areas are examined, it shows even in scattered fields (1) many cells with plump nuclei, (2) more than an occasional cell with two such nuclei, and especially (3) any giant cell with large single or multiple nuclei or with clumps of chromatin. The only treatment for these neoplasms is surgical excision and in general the same as that for any tumour. It is essential to remove every fragment of the tumour with a fairly wide margin in order to avoid recurrence. (Author's Summary.)

Amyloid Tumours of the Larynx, Trachea or Bronchi : A report of 15 cases. David B. Stark and Gordon B. New, Rochester, Minn. *Ann. Otol., Rhin. and Laryng.*, 1949, lviii, 117.

The clinical features of 15 cases, in which the pathological diagnosis was amyloid tumour of the larynx, trachea or bronchi, are reviewed. The pathological features considered characteristic of the tumours are occurrence of the homogeneous amyloid material mainly in the form of flakes or concentric-layered masses, and a characteristic reaction of the amyloid material with one or more of the so-called amyloid stains. No concomitant disease considered of etiological significance was noted. The presenting signs and symptoms of amyloid tumour are dependent on the size and location of the lesion. Classification of the tumours into the localized tumour-forming variety and the diffuse infiltrating variety is of significance in determination of the type of treatment to be employed and the prognosis after treatment. The localized tumour was surgically removed, with an excellent functional result. The diffuse lesion involving the subglottic region and the upper part of the trachea was removed with immediate grafting of the resultant denuded area. A permanent tracheostoma was avoided, and the functional results were excellent.

The functional results obtained by treatment of the diffuse lesion involving the glottis proper were not as satisfactory. The prognosis as to life was excellent, with the possible exception of those patients who had endobronchial lesions. The disease tended to be self-limiting. (Authors' Summary.)

MISCELLANEOUS

Congenital Defects following Maternal Rubella. STUART ABEL and THEODORE VAN DELLEN, Chicago. *Journal Amer. Med. Assoc.*, 1949, cxl, 1210.

The writers have reviewed the literature on this subject, especially the work done by Gregg of Australia in 1941. In the present article a survey of 84 babies was made to establish the incidence of normal and abnormal infants following maternal rubella, with reference to the trimester in which the disease was acquired and its specific defects in the abnormal infant. The principal congenital anomalies noted were: heart disease 19, cataracts 17, deafness 14, mental deficiency 7, malformed teeth 5. Eighty-seven per cent. of the babies born of mothers having rubella in the first trimester were abnormal, forty-two per cent. in the second, and none in the third. The high percentage of abnormal children whose mothers had rubella in the first trimester is significant of a correlation between congenital defects and maternal rubella. All prospective parents should be acquainted with the background of the problem and given an opportunity to share the decision of a therapeutic abortion. The article has two tables and a bibliography.

ANGUS A. CAMPBELL.

Bulbar Poliomyelitis. THOMAS C. GALLOWAY, Evanston, Illinois, and MARTIN H. SEIFERT, Wilmette, Illinois. *Journal Amer. Med. Assoc.*, 1949, cxli, 1.

During the past two and a half years the writers have treated fifteen cases of bulbar poliomyelitis; six cases required tracheotomy; there were no deaths. Even brief periods of anoxia may produce immediate and lasting effects. Anoxia and carbon dioxide accumulation due to difficulty in swallowing, with secretional obstruction, are responsible for most of the central effects in bulbar poliomyelitis. A competent oto-laryngologist should be a member of the poliomyelitis team and should examine the patient early to see that the airway is clear. Intubation is only a temporary measure. Even if clinicians and patients dread tracheotomy it should be performed when there is progressive anoxia with secretion in the upper airway, pronounced restlessness, stupor, a bilateral paralysis of the vocal cords, rapidly progressive bulbar symptoms, and grave signs of vasomotor failure. The article is illustrated and has a bibliography.

ANGUS A. CAMPBELL.

Angiosarcoma. JOSEPH M. KINKADE, Tucson, Ariz. *Ann. Otol., Rhin. and Laryng.*, 1949, lviii, 159.

The literature on angiosarcoma beginning with the year 1934 is reviewed. At the present time, it is impossible to compile a reliably complete list of published cases, as a number of different terms have been used in order to

classify identical or at least similar pathological entities. The histological diagnosis of " angiosarcoma " encounters considerable difficulties, and even more specialized terms have been used in the description of microscopic findings. For the purpose of a statistical tabulation from which conclusions about incidence and clinical features of the disease may be drawn, a more comprehensive term is required ; to this end the use of the expression " mesenchymoma of prevalently vascular appearance " is proposed. The present review of the literature leads to the impression that angiosarcoma is probably more frequently encountered than had previously been assumed. (Author's Summary.)

Acute laryngo-tracheo-bronchitis treated with chloromycetin. A. MONCRIEFF and S. D. V. WELLER, London. *Lancet*, 1949, ii, 749.

Laryngo-tracheo-bronchitis is one of the most alarming emergencies in children. There is some evidence that it is caused by a virus, and while other acute affections of the respiratory tract usually yield to chemotherapy, this one has so far been uninfluenced by such treatment. Attacking children between the ages of six months and three years, with a sudden onset, the infection leads rapidly to a critical state, often necessitating tracheotomy and bronchoscopic suction. Of six children, all ill enough to require surgical intervention, treated at the Hospital for Sick Children, Great Ormond Street, since December, 1947, four died. On the admission of the seventh case, Dr. Cathie suggested the trial of chloromycetin, and the result seemed to be dramatic, the state of the child changing rapidly from one of extreme seriousness to one of easy convalescence. All other adjuvant measures were used—oxygen tent, tracheotomy and bronchoscopic suction. Chloromycetin was given by mouth in 0·25 g. doses three times a day for four days, starting a few hours after the tracheotomy.

R. SCOTT STEVENSON.