

ABSTRACTS

EAR

Rubella Congenital Inner-Ear Deafness in Tasmania. B. HILLER, Hobart.
Medical Journal of Australia, 1949, ii, 277.

Much work has been done on the subject of rubella in pregnancy and congenital inner-ear deafness since, in 1941, N.A. Gregg published, in Australia, his article establishing the fact that cases of congenital cataract were resulting from rubella occurring in the mother during the first four months of pregnancy, and subsequently the recognition that congenital inner-ear deafness as well as cardiac and other defects might be due to the same cause. Hiller has made a careful study of forty-two congenitally deaf children in the Tasmanian Institute for the Blind and Deaf. The deafness in thirty-two cases was due to rubella occurring in the mother in the early months of pregnancy (most of them in the third month), and the other ten were classed as non-rubella inner-ear deafness cases. An analysis of the degrees of deafness and of the types of audiometric curves of various groups of children was made, and it was found that the average degree of deafness in the rubella-deaf group was, on the whole, less than that in the non-rubella cases. The general tendency was for the hearing loss in the rubella cases to be least for the low tones and to increase slowly and steadily, octave by octave, as the sound frequency or pitch rises, until 2048 cycles are reached; at this point, in a number of cases, there was a tendency for the loss to decrease as the pitch rises, but in many of them the tendency to increasing loss continued. As a result, all the composite audiograms of rubella deafness subjects showed in the two higher pitches an increasing tendency for the readings to spread out, up and down the vertical lines indicating the number of cycles per second. Hiller found that the rubella-deaf children born in 1941 had a greater average hearing loss than those born in 1938. The non-rubella congenital inner-ear deafness cases were analysed, and the author advances reasons for believing that a proportion of cases so classified at present may have resulted from rubella infection in the mother in early pregnancy. Hiller puts forward the suggestion that the clue to the causal factor in congenital inner-ear deafness may lie in the audiogram, and that the deafness of patients with typical inner-ear deafness is probably of hereditary origin.

R. SCOTT STEVENSON.

Aureomycin in Penicillin-resistant Acute Otitis Media. M. THUMIM, Middletown, Conn. *Laryngoscope*, 1949, lix, 1133.

The author observes that the aetiological organism of acute otitis media is almost always sensitive to penicillin; however, on occasion one sees a case in which penicillin is not effective and in such a case culture of the discharge should be made and sensitivity to the various antibiotics determined. He records the case of a girl aged 15 with an acute otitis media; a myringectomy was done and

Abstracts

300,000 units of procaine penicillin given daily, but at the end of two weeks there was still profuse discharge and no signs of abatement. Within three days after the beginning of treatment with aureomycin (500 mgr. followed by 250 mgr. at four-hourly intervals for two days, then 500 mgr. four-hourly for another 24 hours), the lesion resolved itself.

R. SCOTT STEVENSON.

The Perilymph. JULIUS LEMPERT, New York, E. G. WEVER, and MERLE LAWRENCE, Princeton, and P. E. MELTZER, Boston. *Archives of Otolaryngology*, 1949, 1, 377.

The authors point out that in the fenestration operation for otosclerosis, fluid never escapes from the perilymph space beyond the bony margins of the newly created fenestra into the mastoid wound. In the earlier form of the operation for the relief of vertigo in Ménière's disease the semicircular canal was opened, and this opening of the semicircular canal failed in every instance to produce any visible escape of perilymph; in the later form of Lempert's decompression operation, the stapes and the round window membrane are removed instead, and as soon as this is done the perilymph escapes freely. The perilymph space of the semicircular canals and the vestibule is pervaded by a fibrous trabecular system, a meshwork of delicate connective tissue that extends from the perilymphatic endosteum-lined walls to the enclosed endolymphatic labyrinth and is complete with arteries and veins. This meshwork entraps the perilymphatic fluid like the tissue of a sponge, and effectively prevents any free and continuous flow. On the other hand, the cisterna perilymphatica just beyond the footplate of the stapes, the scala vestibuli and the scala tympani of the cochlea are devoid of a trabecular network; the perilymph there is unobstructed and it flows out freely when the oval and round windows are opened. An increase of perilymphatic pressure up to 50 mm. of mercury has no effect on transmission of sound vibration through the middle ear and the cochlear fluid; the authors observe further that this increase of fluid pressure does not interfere with the functioning of the sensory cells of the organ of Corti. Since no evidence of deafness was found as a result of an increase of perilymph pressure, relief of deafness cannot be expected from a reduction of such pressure. The improvement of hearing that follows fenestration of the vestibular labyrinth is not a result of a reduction of fluid pressure, but must be accounted for in some other way.

R. SCOTT STEVENSON.

Delayed Meningitis following Fracture of the Temporal Bone. C. JEMMI. *L'Oto-Rino-Laringologia Italiana*, 1948, xvii, 15.

The author describes two cases of fracture involving the petrous bone and complicated by infection and meningitis. One recovered after operation on the mastoid process, exposing the line of fracture, removing a large hæmatoma and administering sulphonamide. The second one had a fulminating purulent meningitis and did not recover.

The author recalls that clinical and anatomo-pathological investigation have determined that the repair of fractures of the bone of the skull is fibrous and there is no bony union. This fibrous union is not very resistant to infection.

Œsophagus

and may readily be penetrated by organisms from an acute or chronic suppurative process in the middle-ear tract. This risk persists for many months or even years and such a case cannot be considered closed until after the lapse of several years. The medical-legal aspect of this delayed risk is important as responsibility for intracranial complication of a fracture will also remain for many years.

In addition to the gross macroscopic fractures there are the microscopic and usually multiple fractures. These may form a track for the passage of infection from middle ear to meninges or may by their production of much fibrous tissue cause degeneration of the nervous elements and give rise to perceptive deafness.

When the microscopic fractures occur in older people transversely across the cochlea they cause total perceptive deafness. This explains why elderly people, who suffer an injury to the head which is not dangerous, are left with total deafness in one or both ears and retain normal vestibular function.

F. C. ORMEROD.

Vestibular stimulation and the Olfactory Threshold. M. IENGO. *Archivii Italiani di Laringologia*, 1949, lvii, 23.

It is a clinical experience that the sense of smell is augmented during attacks of vertigo. The author records that a patient suffering from Ménière's syndrome was made aware of the approach of an attack when the smell of tobacco on her husband's clothes became unusually repellant. Those who are seasick also become increasingly aware of the various typical smells of a ship. The author carried out a series of tests on fifteen subjects—all healthy individuals between eighteen and forty years of age. He measured the threshold of the olfactory sense before and immediately after caloric stimulation of the labyrinth. This was done by means of an Elsberg's olfactometer, which measures the minimum amount of air, impregnated with an olfactory substance, which is required to produce the sensation of smell. He uses in three sets of experiments, coffee which only stimulates the 1st nerve, thyme and guaiacum which also stimulate the sensory fibres of the trigeminal. The labyrinth was stimulated by water at 22° Centigrade.

He found that the threshold was lowered in thirteen cases, unchanged in one and raised in one other. These two showed signs of some active catarrhal disease in the middle ear and the vestibular responses were somewhat less than expected. The author claims that this phenomenon is due to changes taking place in the cranial neuro-vegetative system.

The author mentions a number of other syndromes which are due to the disharmony of the sympathetic and the trigeminal nerves and of the nerves of the special sense organs.

F. C. ORMEROD.

ŒSOPHAGUS

The Short Œsophagus. J. BASIL RENNIE, FRANK T. LAND and S. D. SCOTT PARK, Glasgow. *British Medical Journal*, 1949, ii, 1443.

Although the association of gastric hernia with shortening of the œsophagus is no new conception, it is far from widely appreciated that it can produce a variety of symptoms simulating carcinoma of the œsophagus, peptic ulceration

Abstracts

of stomach or duodenum, cholelithiasis, and even disease of the coronary arteries. Over a period of ten years the authors found dysphagia in twenty-six patients to be due to simple ulcer or stricture of the lower end of the gullet, accompanied by x-ray appearances of gastric hiatal hernia and shortening of the œsophagus. Over the same period cancer in the lower third and achalasia caused dysphagia in eighty and thirty-one instances respectively. The diagnosis was not often considered, and proof was obtained only by radiology, using a special technique with, on occasion, œsophagoscopy and biopsy. Dysphagia and ulcer pain developed during the later months of pregnancy in five patients and immediately following abdominal operation in three. In five patients there were no œsophageal symptoms—three were admitted because of massive hæmatemesis, one because of anæmia, and the fifth gave a long history of pain and flatulence for which her gall-bladder had been removed without relief. Congenital or "acquired" weakness of the œsophageal ring is common, allowing of a small sliding hiatal hernia without symptoms. It is considered that only in a minority of people does œsophageal ulcer develop. A rise of intra-abdominal pressure in pregnancy would seem to be one factor concerned. Œsophageal ulcer was not encountered in the absence of hiatal hernia and short œsophagus. (Author's summary.)

NOSE

Iontophoresis of Pyribenzamine in Allergic Rhinitis. THEODORE A. AARON, Edmonton, Alberta. *Canadian Medical Association Journal*, 1949, lxi, 301.

The response to treatment of cases of allergic rhinitis by the oral administration of antihistaminic drugs has not been complete in all cases and this is probably due to the relatively low level of the drugs in the tissues. Ions of drugs in solution placed on the skin or mucous membranes may be introduced into the tissues by the method of ionization. It has been shown that pyribenzamine hydrochloride can be deposited in the skin by means of ionization and can inhibit histamine whealing for at least twenty-four hours after its introduction. It was, therefore thought that ionization with pyribenzamine hydrochloride might help in the treatment of allergic rhinitis.

With 5 per cent. pyribenzamine hydrochloride in aqueous solution, a current of 3 milliampères was used for a period of five minutes. The author has treated, in all, eight cases of allergic rhinitis by this method. Five cases of hay fever due to ragweed sensitivity experienced relief for periods of one to four days, in three of these, control treatment with normal saline afforded no such relief. One case of allergic perennial rhinitis was relieved for over seven days; another, with polypi also, for only three hours. In a single case of vasomotor rhinitis, the symptoms were accentuated by the treatment.

Despite the very short-lived symptomatic relief in this very small series, the author concludes that "it is probable that better relief may be afforded by using a higher concentration of pyribenzamine in the aqueous solution and by a longer period of exposure to the iontophoresis. It is intended to evaluate this method with a further series of cases."

J. CHALMERS BALLANTYNE.