ABSTRACTS

EAR

A new Method of the Operative Closing of Lasting Retro-Auricular Fistulas. A. DOBRZANSKI. *Acta Otolaryngologica*, 1948, 3-4, xxxvi.

An oval incision is made round the fistula, the skin is undercut and the periosteum attached to the fistula is mobilized so that the epithelial lining can be turned into the cavity. The periosteum is then sewn over the inturned skin-lined fistula and the external skin sewn together over the periosteum. This method fills the bony defect and fulfils the plastic principle of having both surfaces of a repaired defect covered with epithelium. The author has carried out this method in over thirty cases, many of which had relapsed after attempted repair by other methods. G. H. BATEMAN.

Passage of Trypan Blue into the Endolymphatic System of the Labyrinth H. C. ANDERSEN. *Acta Otolaryngologica*, 1948, 3-4, xxxvi.

By experiments on guinea pigs the author shows that trypan blue passes from the blood stream into the endolymphatic system and becomes concentrated in the saccus endolymphaticus, thus showing that there is a flow of endolymph towards the saccus and absorption from the saccus. G. H. BATEMAN.

Test Findings before and after Fenestration of the Labyrinth. EDWARD H. CAMPBELL and DOUGLAS MACFARLAN, Philadelphia. *Archives of Otolaryngology*, 1948, xlvii, 590.

In selecting the patient whom one may treat successfully by fenestration of the labyrinth, it is important that the deafness be carefully evaluated to determine as far as possible how much of the impairment is of the conductive type and how much is of the perceptive type. This can be done, in a large measure, by the following tests: (1) Audiometric tests of air conduction hearing. A careful study of the pure tone audiometric curves of deafened persons is helpful but not conclusive in estimating the amount of conductive and perceptive loss. (2) Audiometric tests of bone conduction hearing. Although the testing is occasionally confusing and misleading, on the whole it is of great value in estimating the type of deafness if properly done. Measured masking is essential, and it is important to check the air borne sound from a bone conduction receiver. (3) Tuning fork testing of bone conduction hearing. This type of testing can be of great value in estimating cochlear function if the many factors of error are recognized and guarded against. (4) Fatigue test: auditory fatigue does not show up in catarrhal deafness or early otosclerosis. (5) Gellé test: Here also are numerous factors of error, but the test can be of value in the hands of the experienced tester. (6) Loudness balance test. Matching of the loudnesses in the two ears by raising the intensity is impossible in the stage of otosclerosis considered operable. (7) Speech-hearing tests. In the differentiation of deafness these tests are of value, particularly that involving articulation interpretation. (8) Caloric test. The vestibular response to stimulation such as turning or water douching is helpful in estimating the functional activity of the inner ear mechanism.

Abstracts

In a study of the speech and the pure tone hearing improvement obtained by the fenestration operation, no definite correlation between the two could be discovered. The pure tone hearing may be better as compared with the speech hearing, or the opposite may be found. A study of the post-operative vertigo and fistula reactions of a large number of patients was made, and several observations were noted. The nystagmus following an operation was almost invariably directed to the non-fenestrated side. The majority of patients operated on showed an active response to the fistula test as performed by compressing the air of the auditory canal or by pressing a cotton-tipped applicator to the area of operation. The active post-operative fistula response is usually associated with the best hearing result. A good hearing result may be obtained in the absence of a positive reaction to the fistula test at any time after operation. There may be no post-operative improvement of hearing in the presence of an active fistula response. Adequate explanations of the varying labyrinthine reactions observed after operation are not available at the present time, and their full significance must await further study and experimentation. (Authors' Summary.)

Decompression Operation for Hydrops of the Endolymphatic Labyrinth in Ménière's Disease. JULIUS LEMPERT, New York. *Archives of Otolaryngology*, 1948, xlvii, 551.

By effecting the complete degeneration of both the vestibular and the cochlear part of the endolymphatic labyrinth in a case of mon-aural Ménière's disease, and thus preventing the recurrence of endolymphatic hydrops, it should be possible permanently to relieve the patient of the vertigo, which is vestibular in origin and the tinnitus, which is most likely of cochlear origin. A treatment of Ménière's disease cannot be considered completely adequate unless it relieves both of these distressing symptoms. The author's attention was attracted by the clinical observation that when the external semicircular canal of the endolymphatic labyrinth was accidently destroyed or removed during the performance of the fenestration operation for clinical otosclerosis, the accident did not always result in a still further recession of the preoperatively impaired hearing. Such observation strengthened his belief that partial vestibular labyrinthectomy does not necessarily always result in degeneration of the entire endolymphatic system. However, not until he carefully studied histologically the internal ears of experimentally fenestrated rhesus monkeys was he convinced that destruction of the vestibular portion of the labyrinth, when performed under sterile precautions, did not result in degeneration of the rest of the endolymphatic labyrinth and of the organ of Corti.

It therefore became obvious that any technique expected to relieve both the vestibular and the cochlear symptoms must supply a reasonable basis for belief that the entire endolymphatic labyrinth will degenerate as a result thereof and thus render the recurrence of endolymphatic hydrops impossible. Furthermore, the degeneration of the endolymphatic labyrinth when accomplished through the technique employed, must not be the result of excessive post-operative inflammation or infection. The technique consists of: (1) decompression of the vestibular labyrinth by removal of the stapes with its

crura and footplate intact; (2) decompression of the cochlear labyrinth by introduction of an electrically driven round polishing burr into the round window niche, the membrane of the round window being removed and the round window proper enlarged. This procedure results in aseptic degeneration of the entire endolymphatic labyrinth and the organ of Corti. Of the ten patients who were operated on with this technique, nine were freed from both vertigo and tinnitus. One was freed of vertigo but not of tinnitus, though the intensity of the tinnitus, even in this case, was greatly diminished.

R. B. LUMSDEN.

Barrier Membrane of the Cochlear Aqueduct: Histological studies on the Patency of the Cochlear Aqueduct. JULES G. WALTNER, New York. *Archives of Otolaryngology*, 1948, xlvii, 656.

A membrane separating the lumen of the cochlear aqueduct from the perilymphatic space of the cochlea is demonstrated in human fetuses for the first time. This separating membrane, about 0·001 mm. or less in thickness, is demonstrated in adult human temporal bones. The name " barrier membrane of the cochlear aqueduct " is proposed for this structure. In cases of subarachnoid hæmorrhage a pathologic rupture of the barrier membrane caused by a sudden increase of pressure of the spinal fluid seems to precede the hæmorrhagic penetration of the cochlea. Blood may be present in the perilymphatic spaces of the cochlea even if the cochlear aqueduct is completely obliterated by bone. The fact that blood had been seen at the cochlear entrance of the aqueduct after subarachnoid hæmorrhage cannot be accepted as evidence of a physiological flowing of spinal fluid into the cochlea. Histological evidence points to a fluid exchange, if any, rather than to a direct flowing of spinal fluid into the cochlea. Additional experimental studies free of artefacts are necessary to clarify the question of patency of the cochlear aqueduct.

R. B. LUMSDEN.

Otogenous Meningitis. O. NOVOTNY, Vienna. *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 487.

Otitic meningitis is generally portrayed in the literature as a stormy illness with well-defined symptomatology. There exists also an insidious, slowly developing form of the disease which is occasionally described in individual cases. During a period of five years, 100 cases of otitic meningitis were admitted to the Vienna Ear Clinic. Of these, 66 presented a typical clinical picture with well-marked symptoms, and 19 died. In the remaining 34, however, the disease was attended by very slight symptoms, and was barely demonstrable clinically until a lumbar puncture was done. In fact, 13 patients might be described as almost symptom-free. There was no fever, the only reliable symptom being a dull headache, or a sensation of pressure in the head. These cases were mostly seen in an early stage of the illness, and only one died. This mild variety of meningitis is rarely seen in children, being essentially a disease of the fully-grown adult. Of the 34 cases, 23 were labyrinthine, 5 petrous, 3 post-operative, and 3 tympanic in origin. An early diagnosis is necessary for a favourable outcome. Treatment consists in operation followed by chemotherapy.

DEREK BROWN KELLY.

Abstracts

The Origin and Histology of Brain Abscess. F. KREJCI. *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 521.

After a short historical survey, and some observations on non-suppurative encephalitis, the histological findings in fifteen cases of brain abscess are discussed. The first alterations occur in the subarachnoid space. Purulent infiltration affects either the perivascular lymph sheaths of the pial veins, or causes a direct thrombo-phlebitis of these vessels. There are thus two ways in which the brain substance may become affected. In the first, from destruction of the vessels from perivascular infiltration and from the rupture of veins not yet thrombosed, multiple hæmorrhagic abscesses are formed. In the second, the inflammatory thrombo-phlebitis causes destruction of the brain substance by the formation of small, non-hæmorrhagic abscesses. The capsule is the result of the organism's resistance to the inflammation, and its formation depends on the character of the pyogenic process (whether exudative or proliferative), on the nature of the organism, and the age of the disease. At first, the capsule is formed by the quickly reacting vascular connective tissue. In a five month's old abscess, the glial vessels take part in the building of the wall. Treatment therefore in the early stages consists in dealing with the primary focus, decompression, and dehydrating measures, together with chemotherapy. This gives the capsule time to form. Various methods of dealing with the encapsulated abscess give good results ; that of searching for and draining through the port of entry seems the most sound anatomically. DEREK BROWN KELLY.

New Bone Formation in the Scala Tympani in Tuberculous Labyrinthitis. O. NOVOTNY. *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 551.

New bone formation in the scala tympani of the cochlea is very rare. It occurs exceptionally in otosclerosis of the cochlear capsule, in tuberculosis, lues, and tumour of the inner ear. A detailed account is given of the histological findings in a four-year-old boy who died from generalized tuberculosis. The new bone formation was here considered to be caused by an irritating substance (toxin) diffusing through the round window. Alterations in pressure in the inner ear accounted for the girder-like structure. The article is illustrated with a micro-photograph. DEREK BROWN KELLY.

Transactions of the Tenth Northern Otolaryngological Congress. (Stockholm), June 12th-14th, 1947. *Acta Otolaryngologica. Supplementum*, lxxiv, 1948.

Present day Surgery of Otosclerosis. G. HOLMGREN. The author reviews the present position of otosclerosis surgery and in the light of his vast experience comments on the present trends. It is an interesting review which, however, produces nothing new.

The Popper Operation for Otosclerosis. ROBERT LUND. The author reviews thirty cases of otosclerosis operated on by this method. He is so far satisfied with his results. He discusses the technique of the operation and mentions various modifications.

Fifty Cases of Otosclerosis Operations. E. LANGE. The author discusses his results in fifty cases operated on by Lempert's method. He has improved 64 per cent. of his cases.

Studies on the effect on the Air Conduction and Bone Conduction from changes in the Meatal pressure in normal and Otosclerotic Subjects. HELMER RASMUSSEN.

This investigation shows normal and otosclerotic hearing reactions to changes in meatal pressure and shows how this varies with the frequency of the stimulating tones. He draws conclusions with respect to the physiology of bone conduction hearing. It is rather hard to understand because the author uses the term " intensity " to indicate the patient's reaction to a tone. Loudness would be a better term to use.

Some Investigations of Beats and Attempts of Application in Clinical Audiometry. HAKON JORGENSEN. This investigation has shown that beats can be produced by a subliminal stimulating sound provided the other stimulating sound is supraliminal. Beats can also be produced by bone conduction of one sound and air conduction of the other. Thus a new method of finding the bone conduction threshold can be developed. The author has come to the conclusion that only monaural beats exist and that the binaural beats reported by other observers are due to defects in the apparatus. This is an interesting scientific paper without at present much clinical application.

On the Occurrence of Non-diagnosed Maxillary Sinusitis. ANTON BUCH. The author gives a number of interesting figures on the occurrence of disease in the antrum in patients with no complaint suggesting sinus infection. Eight per cent. of 4,682 patients examined proved to have sinus infection. He also gives figures indicating the significance of radiological antrum opacities. These figures are of great interest and value to the rhinologist.

The Prognosis of Nerve Grafting and Nerve Suture in Peripheral Facial Palsies. KARSTEN KETTEL. The author has done fifty operations on the facial nerve in the last eight years and he reviews these cases. He asks certain questions about nerve grafting and answers them in the light of his experience. He concludes that operation performed without undue delay should result in resoration of function with certainty, and that conservative treatment will result in poor function in 60 per cent. of cases and in 100 per cent. of cases in which continuity of the nerve was broken. G. H. BATEMAN.

PHARYNX

Control of Post-Tonsillectomy and Post-Adenoidectomy Hæmorrhage. V. W. MCLAURIN, Baton Rouge, La. *Laryngoscope*, December, 1948, lviii, 1,315.

The use of double-strength posterior pituitary solution for the control of hæmorrhage after the removal of tonsils and adenoids has been previously described by J. W. McLaurin (*Arch. Otolaryng.*, June, 1944, xxxix, 536). Administration is intramuscular and fractional, adults receiving a total dosage of 15 minims (1 c.cm.). The first two doses, of 5 minims each, are given at fifteen-minute intervals; the third dose, given fifteen minutes after the second, consists of the remainder of the 15 minims. The total dosage for children under six years of age is 12 minims (0·73 c.cm.); each injection consists of 4 minims, and the interval between doses is fifteen minutes. The single difference between the technique originally reported and that now in use is that any clot that may be present is now left undisturbed; removal is unnecessary, since it is squeezed off as the constrictor effect of the drug comes into operation.

R. SCOTT STEVENSON.

Abstracts

Elongated Styloid process: further Observations and a new System. WATT W. EAGLE, Durham, N.C. *Archives of Otolaryngology*, 1948, xlvii, 630.

The established syndrome of an elongated styloid process, the syndrome which is typical, is reviewed. An atypical syndrome, referable to involvement of the external or the internal carotid artery, is presented for consideration. The symptoms, the diagnosis and the treatment of both syndromes are discussed. The intra-oral surgical technique for shortening the elongated styloid process is described. Complications are reported as minimal, and the intra-oral surgical approach is thought to be ideal for excellent and permanent results. (Author's Summary.)

ŒSOPHAGUS

Spontaneous Perforation of the Œsophagus: surgical repair with Recovery. J. SCHOLEFIELD, West Middlesex Hospital, Isleworth. *British Medical Journal*, February 26th, 1949, i, 348.

This condition has been the subject of a number of papers, chiefly dealing with single case reports, and it is probable that it is not so uncommon as is supposed. Scholefield records two cases, the second of which represents the third recovery that can be found in the literature. The first patient had always enjoyed good health, and on the previous day he had a bout of vomiting followed by severe pain in the lower chest and lumbar regions—the only explanation he could give for the vomiting was a large mid-day meal of sausage pie. The patient died on the day of admission to hospital, about twenty-two hours after the onset of his illness, and before death surgical emphysema had involved the whole of the upper part of the body and had closed both eyes. Necropsy revealed a linear rupture 2·5 cm. long on the anterior aspect of the œsophagus 8·75 cm. from the cardia; the rest of the necropsy was negative.

The second patient, a woman aged 63, was admitted to hospital with a diagnosis of "query, perforated peptic ulcer". On the previous day, after a heavy meal of tinned meat, cheese and milk, she had vomited twice, rapidly followed by agonizing pain starting in the region of the upper part of the sternum and rapidly spreading to the epigastrium. On examination, there was rigidity of the whole anterior abdominal wall, with pronounced tenderness in the epigastrium, and surgical emphysema was present over the upper sternum. A diagnosis of ruptured œsophagus was suggested, and in spite of the patient being *in extremis*, exploratory thoracotomy was carried out. A small vertical linear tear 2·5 cm. in length was found on the right posterior wall of the œsophagus just above the diaphragmatic orifice; this was rapidly closed with interrupted fine cat-gut sutures, and the posterior mediastinum and pleural cavity was cleansed so far as possible. Shock was treated by plasma, fluid requirements met by intravenous glucose-saline, and infection controlled by systemic penicillin and sulphamezathine. Normal diet was rapidly resumed and the patient made an excellent recovery.

R. SCOTT STEVENSON.

NOSE

Frontal Sinusitis. G. W. MOREY, Lincoln. *British Medical Journal*, February 26th, 1949, i, 350.

The author reports a case of fulminating frontal sinusitis, treated by penicillin (100,000 units three-hourly) and sulphamezathine. On the third day

after admission to hospital he had two epileptiform convulsions and several attacks resembling petit mal, so the frontal sinus was opened externally by a wide exposure; pus was seen to be oozing through the posterior wall, so this was removed, when pus gushed out and the dura was found covered with granulations. A tube was passed down the fronto-nasal duct and another sewn in the angle of the incision, which was closed. Penicillin was instilled through the tubes (200,000 units three-hourly) and also given intramuscularly (100,000 units three-hourly), and a full course of sulphamezathine was given. Bacteriological examination of the pus was negative—" Gram-positive bacilli, very degenerated." The patient made an uninterrupted recovery.

R. SCOTT STEVENSON.

Nasal Carriers and Streptococcal Tonsillitis. G. T. COOK and D. MUNRO-ASHMAN, Oxford. *British Medical Journal*, February 26th, 1949, i, 345.

The authors discuss an outbreak of streptococcal tonsillitis at a school of 340 boys housed in five separate buildings, each with its own sleeping accommodation and common-rooms. In all, 57 boys were attacked with acute tonsillitis—37 in the Easter and 20 in the summer term of 1948. Not all the dormitories were heavily attacked (in one no case occurred), although the spacing of the beds, general ventilation, and ages of the boys in each was similar. During the eighteen days when most of the cases occurred nasal carriers were associated with each of the three dormitories most heavily attacked and were not detected in the others. The first case in each of these dormitories was subsequently identified as a nasal carrier, and it was only after this boy's return to the dormitory that other cases occurred. In fact, a heavy nasal carrier was present in each of these dormitories during the time all except one of the boys became ill. Experience of this and other epidemics has shown the frequent association of heavy nasal carriers with outbreaks of streptococcal tonsillitis in residential schools. It is important that nasal as well as throat swabs should be obtained from all cases, however mild; heavy nasal carriers should be treated until their swabs are negative. This is especially necessary with the single case or in the early stages of an outbreak before widespread contamination of the environment and the build-up of a carrier rate has occurred.

R. SCOTT STEVENSON.

MISCELLANEOUS

On Osteomyelitis in the Cervical Vertebrae following Adenoidectomy. NILS G. RICHTNER. *Acta Otolaryngologica*, 1948, 3-4, xxxvi.

The author describes a case of osteomyelitis of the cervical vertebrae following removal of adenoids in a two year old boy. Death was caused by anterior dislocation of the atlas and crushing of the spinal cord by the axis. The abnormal symptoms began on the fourteenth day after operation and death occurred five weeks after operation. The author quotes two other cases reported in the literature by Buscher in 1927 and Oppikofer in 1934 and discusses the causes and treatment of this complication of adenoidectomy.

G. H. BATEMAN.