ABSTRACTS

EAR

Nonvibratory Tinnitus: factors underlying Subaudible and Audible Irritations. E. P. FOWLER, M.D. (New York). *Arch. Otolaryng.*, 1948, xlvii, 29-36.

An instructive summary of the ætiology, investigation and management of Nonvibratory Tinnitus.

R. B. LUMSDEN.

Ménière's Disease. TERENCE CAWTHORNE (London). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 18.

Although paroxismal vertigo has been known and described since the early days of the Christian era, it is only within recent years that there has been a clear conception of the pathology. The essential mechanism of the disorder is an obstructive distention of the endolymphatic system, the fluid of which is derived from the stria vascularis and passes through the wall of the pars intermedia of the saccus endolymphaticus into the loose perisaccal connective tissue, where it is diluted by osmosis and reabsorbed into the blood stream. The histological changes which have been observed in the perisaccal connective tissue would be sufficient to interfere with this delicate mechanism, and as a result the endolymphatic system could not adjust itself to any sudden variation of tension.

It is unlikely that eustachian insufficiency or other middle-ear lesion plays much part in Ménière's disease, nor is there any real evidence of a traumatic factor. Variations in fluid metabolism may, however, play an important part.

In the series of 424 cases reviewed in this paper there were rather more male than female, and 75 per cent. occurred in the ages between 30 and 60. The main characteristic features were paroxismal vertigo, with nausea, vomiting, tinnitus and perceptive deafness always more marked on one side than the other, and absence of any central nervous system signs. There is a tendency to bouts of paroxismal attacks followed by periods of freedom. The attacks occur without apparent cause. Rather less than half the patients had some warning of an impending attack, alteration of character or intensity of tinnitus, increase in deafness, or fullness and discomfort in the ears being the commonest aura.

During the attacks which varied greatly in intensity and duration there was generally subjective sensation of movement, either of the patient or of surrounding objects. Nausea and vomiting were usual and deafness and tinnitus rarely absent.

Deafness was subject to variation especially early in the disease and such hearing as was retained lost much of its value owing to the marked discomfort due to distortion of loud sounds.

Spontaneous nystagmus was observed only during the acute attacks of vertigo, or immediately afterwards, but the caloric test described by Fitzgerald

and Hallpike rarely failed to show imbalance of the labyrinths, and in 10 per cent. of cases showed both peripheral organs to be affected.

Once the diagnosis has been made the first step is to reassure the patient as the psychosomatic aspect is often disproportionate. The majority of cases can be alleviated, although conservative treatment tends only to smother the attacks, rather than abolish them. Salt free diet with limitation of fluid intake is the most effective form of conservative treatment, while histamine injections sometimes give considerable benefit.

Patients whose attacks are not controlled by conservative measures and in whom only one labyrinth is affected are considered to be suitable cases for destruction of the end organ. In the author's hands this operation has resulted in 120 out of 135 cases being sufficiently improved to return to work. The objection that the operation destroys the hearing is more apparent than real as the remnant of hearing in the affected ear is so distorted as to be of little value and not worth saving.

A programme of rehabilitation follows the operation. Most patients can leave hospital within three weeks although some residual dizziness is to be expected and sustained physical exertion may produce undue fatigue. Despite this with few exceptions the patients are glad to return to work within two months of the operation.

GILROY GLASS.

Cerebral Œdema simulating Otogenous Temporal Lobe Abscess. A. and H. REISNER (Vienna). *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 18.

Three cases of suppurative mastoiditis are described in which signs and symptoms closely simulated those of cerebral abscess. At operation, an extradural abscess was found in two instances. The third was an acute exacerbation of an old chronic suppurative otitis. All three eventually recovered after operation and sulphonamide therapy.

The simulated cerebral abscess was assumed to be cerebral œdema and swelling due to a circumscribed encephalitis of toxic, non-bacterial origin arising from the suppurative process in middle ear and mastoid.

The detailed symptomatology in each case is described and compared, both with each other, and, as regards differential diagnosis, with that of brain abscess. Finally the question of the origin of cerebral œdema is discussed.

DEREK BROWN KELLY.

Factors in Otosclerotic Deafness. F. MISKOLCZY-FODOR (Budapest). *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 27.

Hearing and tuning fork tests show that the increase in air conduction after fenestration is accompanied by an improvement in bone conduction. The only other condition in which similar parallel alterations in AC and BC are encountered, is perception deafness. It must be assumed, therefore, that fenestration benefits a reversible inner-ear process.

The author's findings support the " decompression " theory, and explain the fact that the attainable improvement in hearing has no connection with the size of the fenestra or with the prolongation of bone conduction.

If the operation benefits an inner-ear lesion in the early stages of the disease,

then a combined middle-ear and inner-ear deafness must already be present. This, with other findings, strengthens the view that the inner-ear lesion plays an important role in otosclerosis, and sets in much earlier than is hitherto believed. It remains for a long time clinically latent, and hidden by the dominating symptoms of conduction impairment. The slowly progressing perception deafness gradually overshadows the conduction lesion, finally leading to the second stage of the disease, namely clinically demonstrable labyrinth atrophy.

DEREK BROWN KELLY.

NOSE

Plastic Repair of the obstructing Nasal Septum. SAMUEL FOMON, M.D. (New York); J. G. GILBERT, M.D. (New York); A. G. SILVER, M.D. (New York); V. R. Syracuse, M.D. (New York). *Arch. Otolaryng.*, 1948, xlvii, 7-20.

Generally speaking, a better result will be obtained if the rhinoplasty and the septal correction are done in separate operative stages three or more weeks apart. Inasmuch as the final outcome of the operation depends in a measure on the healing qualities of the tissues, the smaller amount of trauma inflicted by dividing the stages speaks for less reparative reaction and a better anatomic and physiologic result.

As to the order of sequence, the old teaching advocated that the rhinoplasty precede the submucous resection on the grounds that the septum supported the nose and that if the submucous resection were done first a subsequent removal of a hump might open into the resected area and result in saddling. New concepts of the structural anatomy of the septum have proved this assumption fallacious, and to-day the submucous resection is done first since it permits an easier osteotomy and a more symmetric alinement of the pyramid. But there are occasions when it is impossible to restore breathing without simultaneously correcting the external deformity and the deviated septum. For instance, if there is a long nose with a caudal displacement of the septum, resection of the lower part of the septum to shorten the nose automatically eliminates the deflection. And in cases in which the deviated septum is a part of an S-shaped or deflected nasal pyramid, it would be impossible to place the septum in the sagittal plane without an accompanying rhinoplasty.

R. B. LUMSDEN.

Nasal hæmorrhage: studies of Ascorbic Acid, Prothrombin and Vitamin K. H. NEIVERT, M.D. (New York); RECHA ENGELBERG, PH.D. (New York); L. A. PIRK, PH.D. (Nutley, N.J.). *Arch. Otolaryng.*, 1948, xlvii, 37-45.

The extremely high incidence of ascorbic acid and prothrombin deficiency in a series of 104 consecutive cases of epistaxis and the gratifying clinical results attending the administration of ascorbic acid and/or a vitamin K-like substance in some of these cases suggest that vitamins C and K have a definite place in the management of nasal hæmorrhage.

R. B. LUMSDEN.

Abstracts

Subdural Empyema secondary to Frontal Sinusitis. FRANK M. ANDERSON (Los Angeles). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 5.

Subdural empyema is a not uncommon complication of frontal sinusitis, but is more commonly discovered at autopsy than during life. The mechanism of origin varies, but is most commonly due to spreading thrombosis of the perforating veins. Direct spread by perforation of the dura mater must be uncommon.

The complication is commoner in acute frontal sinusitis than in the chronic form. As a rule the course of the disease is short, survival being a few days only if the condition is not recognized and treated. The signs of subdural infection follow almost imperceptibly on those of acute sinusitis. Irritability, frontal or general headache with malaise and fever, are followed by lethargy and gradually increasing stupor within a few hours or days. Later lateralizing and localizing signs become evident, hemiparesis (generally contra-lateral) flaccid of spastic in type, and Jacksonian epilepsy occur and the picture of the untreated case passes on to that of established meningitis.

The differential diagnosis is from cerebral abscess, in which the symptoms are milder and slower in development; from thrombosis of the superior longitudinal sinus in which the symptoms tend to be bilateral the temperature of " septic " type and meningeal symptoms less; from meningitis in which the onset is generally more gradual and the cerebrospinal fluid has a higher cell count; and from extradural abscess in which the patient is much less critically ill.

There is only one treatment—prompt and adequate drainage. The author recommends placing burr holes strategically round the affected area to facilitate irrigation and the instillation of penicillin. The record of three cases is given, two of which died.

GILROY GLASS.

The Histologic effect of repeated application of certain Nose Drops to the Nasal Mucous Membrane of Rabbits. ROBERT E. RYAN (Rochester, Minn.). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 46.

The effect of the prolonged use of certain commercial nose drops is to produce a condition of chronic nasal congestion in the human subject. The object of this investigation is to reproduce the same conditions experimentally and observe the histologic changes produced. Two commercial preparations widely used in the U.S.A. were chosen.

The first preparation contained dl-desoxyephedrine hydrochlor 0·125 per cent. Sodium sulphathiazole 1·25 per cent. and Sodium sulphadiazine 1·25 per cent. in a stabilized aqueous base. Preparation two contained 2-naphthylmethylimidazoline Hydrochloride 1 per cent. in an isotonic aqueous solution. This is an organic vaso-constrictor having a similar but more prolonged action to epinephrine.

With the first preparation ciliae were absent after the fifth day. Dilatation of vessels was observed on the third day and persisted for some weeks. Scattered inflammatory cells were observed early, increased in number till the fourth week then gradually disappeared.

Epithelial damage occurred by the fifth day, passing through a stage of œdema to degeneration and final replacement by stratified epithelium. A muco-cellular exudate appeared in the first week and persisted till the ninth week.

With the second preparation the disappearance of ciliae was the first change noted and did not occur till the eighth day. Dilatation of vessels occurred early. After forty days the vessels were constricted and showed some sclerosis.

Epithelial damage commenced after a week and progressed till the fifth week when the degenerative changes were so marked that the mucosa bore little resemblance to normal nasal mucosa. By the tenth week the surface epithelium had changed completely from ciliated to stratified type.

As the clinical changes in the nasal mucosa of rabbits are not dissimilar to those observed in the human, it is reasonable to assume that the histologic changes may be parallel.

GILROY GLASS.

The use of Streptomycin in the treatment of Diffuse External Otitis. B. H. SENTURIA and R. H. BROH-KAHN. *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 81.

A type of diffuse otitis externa believed due to pseudomonas organisms is described (pseudomonas are defined as gramme-negative motile rods growing well on ordinary nutrient media and producing a characteristic water soluble, chloroform soluble greenish pigment).

Treatment of this type of otitis externa with streptomycin in strengths of 250 microgrammes and 1·0 mgr. per gramme of ointment base was no more effective than use of the ointment base alone. Use in a strength of 5·0 mgr. per gramme gave promising and beneficial results. In a control with simple cleansing and drying of the ear canal no beneficial results were obtained.

GILROY GLASS.

The Classification and treatment of patients with Chronic Nasal Symptoms. EDWARD D. KING (Hollywood). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 70.

Sinus disease is less frequent than might be thought from the number of patients who complain of headache, nasal obstruction and dripping in the throat. These symptoms are generally, and frequently wrongly, attributed to sinus infection, whereas in many cases they are manifestations of allergy.

An accurate history is invaluable. Allergic conditions may follow an acute respiratory infection, but more frequently the onset is insidious. Patients with a sinus infection can generally state the onset, and will frequently give a history of repeated attacks, generally unilateral. Confirmatory evidence of allergy may be found in either the personal or the family history.

Smears from either nose or pharynx may be of the utmost value in arriving at a diagnosis. Pus cells will be found in sinusitis, eosinophilia in allergy. Radiological examination should be routine. Clouding of a sinus does not necessarily mean infection, the conclusive proof is irrigation.

Abstracts

If a diagnosis of allergy is made, the rhinologist may have to consider operative procedures. While proper aeration and breathing are essential, and obviously such gross obstructions as polypi should be removed, every means of treatment should be exhausted before advising the patient that a simple submucous resection will solve the problem.

Too much reliance should not be placed on the skin tests. A survey of environment is essential, and the possibility of an allergy due to the use of nose drops must never be forgotten. The offending protein may only be found by a process of elimination.

GILROY GLASS.

Congenital Choanal Atresia. A new surgical approach. WILLIAM K. WRIGHT, G. E. SHAMBAUGH (Junior) and LOIS GREEN. *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 120.

A case is reported of unilateral choanal atresia in a girl aged 23. Features of the case were, protrusion of the lateral nasal wall medially at its posterior part, elevation of the floor of the nostril posteriorly to a level 1 cm. above the level of the opposite side, lateral deviation of the posterior part of the septum to the affected side, and a medial displacement of the lateral wall of the nasopharynx on the obstructed side, so that the eustachian tube orifice was almost in the mid-line.

Operation was conducted under local anæsthesia by blocking the second division of the trigeminal nerve in the posterior palatine canal. Access was through the usual Caldwell-Luc route. On opening into the nasal cavity through the inferior meatus a thick hard bony ledge was found projecting medially level with the posterior wall of the antrum. Just before this ridge made contact with the septum there was a shallow blind trough. When the posterior part of the septum was resected this ledge was found to project little farther than the lateral wall of the nasopharynx. It was not disturbed. A large rubber tube was passed through the anterior nares and the perforation made in the septum nasi to the nasopharynx. At the end of six months the patient's breathing was considered satisfactory.

GILROY GLASS.

TONSIL

The question of Prothrombinopenic Hæmorrhage from Post-Tonsillectomy use of chewing gum containing Acetylsalicylic Acid. G. S. LIVINGSTON, M.D. (Chicago); EDWARD R. NEARY, M.D. (NEWARK, N.J.). *Arch. Otolaryng.* 1948, xlvii, 1-6.

There is no indication that the routine post-tonsillectomy use of chewing gum containing acetylsalicylic acid may give rise to prothrombinopenic hæmorrhage or that such use of this gum has any adverse effect on blood prothrombin.

R. B. LUMSDEN.

Larynx

LARYNX

Laryngeal Polypoid Granuloma following Intratracheal Anæsthesia. HAROLD S. TUFT, and SIMON H. RATNER (Pittsburgh). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 187.

and

Granuloma of the Larynx. A late complication of Endotracheal Anæsthesia. LEWIS W. BARTON (Albany). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 191.

The above two papers are recording the occurrence of granuloma of the larynx following endotracheal anæsthesia. The recommendation is made that the larynx should be examined following any endotracheal anæsthetic, and if any abrasions are seen the patient should be placed on voice rest and receive appropriate treatment. Periodic examination should be carried out until the lesion has healed.

GILROY GLASS.

MISCELLANEOUS

Chemical Meningitis following use of Tyrothricin: A clinical and experimental study. F. J. OTENASEK, M.D. (Baltimore); D. FAIRMAN, M.D. (Baltimore). *Arch. Otolaryng.*, 1948, xlvii, 21-28.

Two cases are reported in which chemical meningitis developed after a nasal sinus had been irrigated with a suspension of tyrothricin. The pathologic process was recreated in animal experiments, which are described. The profound changes noted are sufficient to raise a note of caution as to whether suspensions of tyrothricin should continue to be used for irrigating sinus cavities that are in close proximity to the subarachnoid spaces.

R. B. LUMSDEN.

Some present day concepts of Headache. JOSEPH H. HERSH (New York). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 98.

A review of 1,000 cases of headache revealed that the commonest causes in the order of frequency were: vasomotor rhinitis, myositis cervicalis, mechanical nasal obstruction, paranasal sinusitis and neuro-psychiatric disorders. Less frequent causes were the vascular cephalgias, ophthalmic, pharyngeal, dental and cervical spinal disturbances.

Vasomotor rhinitis was diagnosed 552 times but could be designated as the prime cause of headaches in only 282 instances.

Myositis cervicalis was found 630 times and was regarded as the prime cause in 241 instances. In 470 patients, vasomotor rhinitis and myositis cervicalis were associated. Despite this frequency, the two may or may not be attributed to the same ætiological factor. Thus they may both be manifestations of a physical allergy, but an understanding of the mechanism of the reactions of the cervical muscles indicates that the myositis may be a secondary reflex from a headache caused by the vasomotor rhinitis.

The importance of recognizing the presence of an indurative myositis and the vicious cycle of headaches for which it may be responsible has been pointed out. It has been indicated that this cycle may be responsible for the continuation of a headache long after the prime cause has been corrected.

Abstracts

Mechanical nasal obstructions were discovered in 274 patients. In 90 they were believed to be primarily responsible for the headaches when combined with the normal vasomotor variations of the nasal mucosa.

Paranasal sinusitis did not prove to be as common a cause of headache as presumptive diagnosis would indicate. Its existence was substantiated in only 117 patients and the results of treatment were excellent.

Neuropsychiatric disorders were uncovered in 141 cases. Anxiety states and post-traumatic syndrome predominated. Treatment was unsatisfactory.

Ophthalmic disturbances were discovered in 35 cases and were primary causative factors in eleven patients.

Although the vascular cephalgias were presumptive diagnoses in fully 33 per cent. of the referred cases, confirmation was made in only 22 patients. Migraine is a definite symptom complex and the term should not be applied to any headache because it is associated with nausea and vomiting. (Author's summary.)

GILROY GLASS.

The treatment of certain specific types of Headache with Histamine. FRENCH K. HANSEL (St. Louis), 1947, lvi, 152.

In 1939 and 1941 Horton described a headache syndrome to which they gave the name histamine cephalgia. Patients affected are mostly in the later decades of life. The headache is unilateral, commences suddenly and may even awake the patient at night. It seldom lasts more than an hour and terminates suddenly. There is associated lacrimation and congestion of the eye, rhinorrhœa or nasal congestion, and even swelling of the temporal vessels on the affected side. The distribution of the pain conforms to the ramifications of the external carotid artery and not the distribution of any nerve. One of the most characteristic features is the occurrence of the headache at night. Although most patients may have pain either by day or at night, in some there are only night attacks. Nausea, vomiting and visual disturbances do not occur.

The author has encountered 32 cases of this syndrome, and describes 5 typical cases in detail. He found that small doses of histamine varying from 0·1 of 1 : 1,000,000 solution to 0·5 c.c. 1 : 100,000 solution given every two to three days were effective in maintaining relief of symptoms. This was supplemented with sublingual administration of 1 to 2 drops of 1 : 10,000 solution once or twice daily. When the patient became entirely free from symptoms all treatment was discontinued, but it was found that a certain number of patients required maintenance dosage.

Of the 32 cases treated 29 had satisfactory results. (This dosage was rather less than the original recommendation of Horton.)

GILROY GLASS.

Acoustic Neuritis associated with Keratitis. DONALD K. LEWIS (Boston). *Ann. Otol., Rhin. and Laryng.*, 1947, lvi, 194.

Three cases are presented of a syndrome consisting of an VIIIth nerve neuritis in conjunction with interstitial keratitis. Both the keratitis and the

acoustic neuritis as well as the time relationship between them, differed considerably from that of congenital syphilis. The disease progressed over a period of six to seven months to a complete bilateral loss of function in the acoustic and the static labyrinths. The ætiology was not determined, and the possibility of a virus infection was not eliminated. Superior cervical sympathetic ganglionectomy, done early in the course of the disease on one patient, was without benefit. (Author's summary.)

GILROY GLASS.

Endocranial complications in chronic Meso-tympanic Otitis. B. KECHT (Linz). *Monatsschrift für Ohrenheilkunde,* 1948, lxxxii, 49.

The statistical investigations of Bezold and others suggest that chronic meso-tympanic otitis is a comparatively benign disease, and seldom attended by intracranial complications. In his search of the literature, the author finds that from 1921 to 1942, only 15 such cases have been reported. To these he adds five of his own observation.

Three developed suppurative meningitis, the labyrinth being the port of entry for the infection in two. One had an epidural abscess with serous encephalo-meningitis affecting the left temporal lobe (aphasia) and medulla (vestibular symptoms). The fifth case suffered from a cerebellar abscess. The latter, and the two patients with labyrinthine meningitis died. The cause of death in one was a circumscribed, serous, cystic arachnoiditis of the lateral cistern; this being a late sequela of a healed suppurative lepto-meningitis.

In two instances, the complication attended an acute exacerbation, and in one an acute recurrence of an old otitis.

The influence of the season of the year, climate and locality is discussed.

The degree of mastoid pneumatization has no effect on the liability to complication development, but affects the nature thereof. In sclerotic mastoid, the labyrinth tends to become infected, whereas in cellular processes, the structures lying more posteriorly tend to become involved.

In the second part of the paper, the causes, clinical course and treatment of the " acute otogenous retrolabyrinth complex " are discussed. This symptom complex may be caused either by an allergic inflammation, for which the name ' meningitis serosa " is given, or by adhesions in the arachnoid, causing obstruction to the circulation of cerebrospinal fluid with the usual sequelae. The latter condition is referred to as " arachnoiditis circumscripta ". It is possible that the use of sulphonamides may favour the development of this complication.

The symptoms are those of cerebellar abscess, and the differential diagnosis, which may be very difficult is detailed.

Treatment of the allergic form consists in the removal of the causal septic focus, reduction of fluid intake, and the administration of dextrose, calcium and pyramidon. Post-meningitic arachnoiditis may demand cisternal puncture, inflation with air, and drainage of cerebrospinal fluid according to Meurman. If the ostium of the fourth ventrical is closed, the posterior cranial fossa must be laid wide open.

DEREK BROWN KELLY.

Abstracts

On the applicability of Ventriculo- and Encephalography in Oto-rhinology O. NOVOTNY (Vienna). *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii 101.

The use of contrast media (ventriculo-, encephalo-, and arteriography) in the localization of brain tumours is now common in neuro-surgery. Little use of the method has been made in oto-rhinology. This paper sets out the experiences gained in the Ear Clinic of the University of Vienna. It contains nine case reports and is illustrated with diagrams and X-ray pictures.

The use of air as a contrast medium in the acute stage of a brain abscess may be useful for localization, but is extremely dangerous. In view of the possible development of acute diffuse swelling of the brain, it should only be employed when other methods of localization have failed, and one is prepared to carry out immediate operation. Proof puncture of the brain is preferred as being less hazardous.

In the latent stage of brain abscess, however, or in obscure cerebral conditions without pressure signs, injection of air is a relatively harmless diagnostic method. It is specially indicated when fleeting initial cerebral symptoms suggest a developing endocranial complication in the absence of definite clinical signs.

DEREK BROWN KELLY.

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