ABSTRACTS

EAR

On the Presence of Fissures and Canals in the Bony Walls of Air Cells. M WULFSON. (*Monatsschrift für Ohrenheilkunde*, 1937, lxxi, 800.)

In the walls of air cells (surrounding the inner ear and in the mastoid) fine fissures are often found, which may be differentiated from artificial cracks and perforating canals. According to the author, their origin is due to variations in air pressure.

The occurrence of fissures is favoured by diminished resistance of the bony walls. Thus, they are more commonly found in old people—a fact which also applies to cracks of the inner ear capsule. Reconstructive processes are often found in the walls of the air cells.

These fissures are of practical importance. In cases of injury to the skull, it is important to realize that all dehiscences in the cell walls are not due to trauma. Secondly, it will be remembered that O. Mayer drew attention to the relationship between fissures of the inner ear capsule and otosclerosis. These two conditions are found in the situations which are most exposed to mechanical strain.

The article is illustrated with five micro-photographs.

DEREK BROWN KELLY.

Streptococcal Dermatoses of the Ears. JAMES H. MITCHELL (Chicago). (*Jour. A.M.A.*, January 30th, 1937, cviii, 5.)

This article, though written by a dermatologist, is of considerable interest to ear surgeons. The object of the paper is to focus attention on the rôle played by streptococci in the production of dermatoses of the ear. Ten cases are reported in considerable detail. The lesions are commonly found in the external auditory canal, cavum and retro-auricular area, and may or may not be preceded by middle-ear suppuration. The patient gives a history of itching, which in time may become very troublesome. When seen early the skin is bright red and covered with clear serum. Soon the weeping subsides and is succeeded by a thin, white, flaky crust.

The diagnosis must be verified by laboratory methods. The presence or absence of fungi may readily be determined by microscopic examination. Sensitization to nickel can be determined by the patch test or a careful history. Microscopic demonstration of the streptococci in the serum or crusts is not difficult. Cultures can be successfully obtained only by special methods. At the beginning only staphylococci will be found but, later, they get thinned out to a degree which allows the delicate streptococci to grow. A

simple but very successful method of culture is the use of brain broth glucose medium in tubes at least twelve inches long.

Ammoniated mercury ointment, alone or combined with salicylic acid, is very helpful in clearing up the disease. X-ray exposures are also helpful.

The article is illustrated and has a bibliography.

ANGUS A. CAMPBELL.

The Surgical Treatment of Meningitis of Otitic and Nasal Origin. GEORGE E. SHAMBAUGH, Jun. (Chicago). (*Jour. A.M.A.*, February 27th, 1937, cviii, 9.)

The writer reports in considerable detail the recovery of five consecutive cases of meningitis, three of which were localized and two generalized. The earliest possible diagnosis of meningitis by spinal fluid examination should be made at the first suspicion of meningeal invasion, the cell count being the important consideration. A sharp differentiation must be made between localized and generalized meningitis. The former is characterized by normal sugar determination and increased cells, but no organisms in the smear or culture ; while in the latter there is an absence of spinal fluid sugar but organisms are present in the smear and culture. As long as the meningitis is localized, treatment should be confined to thorough surgical drainage of the focus in the ear or sinus without opening the dura. Once a generalized meningitis has developed, incision and drainage of the dura at, or near, the point of entry of the infection is advised. Repeated lumbar punctures are performed and intra-carotid administration of antiseptics may be tried. The prognosis of localized meningitis is good if it is promptly recognized and dealt with. The prognosis of generalized meningitis is usually poor but occasional recoveries do occur, especially from meningitis due to the streptococcus.

ANGUS A. CAMPBELL.

Pathological Changes in Ménière's Disease. WALTER E. DANDY (Baltimore). (*Jour. A.M.A.*, March 20th, 1937, cviii, 12.)

In previous reports the writer has shown that Ménière's disease and pseudo-Ménière's disease can be relieved by section of the auditory nerve, or equally well by section of the vestibular branch alone. Since this disease is not fatal, pathological material is exceedingly scarce. The present observations are based on a series of operations now reaching 170, in 160 patients, ten being bi-lateral. In 1933 the writer produced evidence to show that arterial contacts with the bare sensory route of the trigeminal nerve in the posterior cranial fossa were responsible for most cases of trigeminal neuralgia. The thought that similar lesions might account for Ménière's disease was the natural outgrowth of these disclosures. The vascular variations in the region of the auditory nerve are such that

one has difficulty in establishing the normal, but when the artery is more than half the size of the nerve, and is directly on it, it seems reasonable to suppose that it is affecting the hearing and producing dizzy attacks. Only a lesion in the higher sensory or motor neuron can induce any of these attacks, and the author believes that only lesions of the sensory root of the auditory nerve (vestibular division) can cause the disease.

Eight cases are reported in considerable detail. In these cases aneurysm of the basilar artery, and two tumours are known to have caused the disease, although the author feels the latter is rarely a cause of true Ménière's disease. A series of five large arterial loops, from the anterior inferior cerebellar artery in the lateral cistern, are thought to have produced the disease by strangling and compressing the nerve.

In the cases which came to operation during the past year, 10 per cent. showed contacts with large arteries. In addition, there were many vessels of smaller size which doubtless produced similar effects.

The article is freely illustrated and has a bibliography.

ANGUS A. CAMPBELL.

The Medical Treatment of Ménière's Syndrome. MADELAINE R. BROWN, M.D. (Boston, Mass.). (*Jour. A.M.A.*, April 3rd, 1937, cviii, 14.)

The writer stresses the fact that Ménière's is a definite syndrome and many unsuccessful attempts at medical treatment have been due to faulty diagnosis. The symptoms of deafness and tinnitus, at least before an attack, are the two most frequently overlooked, but are just as much part of the syndrome as vertigo and vomiting. Bárány's test is not very helpful, as many of these patients give normal reactions or may even have a dead labyrinth.

Twelve cases are reported in considerable detail. All were placed on a low sodium diet with the addition of ammonium chloride capsules, as recommended by Furstenberg. Under this régime, over periods ranging from six to twenty-two months, none of these patients suffered a severe attack, although mild dizziness and a feeling of fullness in the head remained. In four patients a lapse in therapy was followed by an attack. Two patients have been free from attacks although therapy was discontinued after three and twelve months, respectively.

ANGUS A. CAMPBELL.

Suppuration in the Cells of the Petrous Pyramid. OTTO MAYER (Wien). (*Zeitschrift für Hals-Nasen-und-Ohrenheilkunde*, April 22nd, 1937.)

In an introduction the writer makes it clear that he proposes to deal with the whole of the petrous temporal bone deep to and in

front of the semi-circular canals. He quotes the works of Lange, Uffenorde, Marx, Gradenigo, Haupmann, and Ramadier amongst others.

He goes deeply into the anatomy of the region and divides it into " posterior "—those parts at the base of the pyramid ; " anterior "—the point of the pyramid ; " medial "—those parts in relation to the posterior fossa of the skull ; " lateral "—those parts in relation to the mastoid antrum and air cells ; and " superior "—those parts in relation to the middle fossa.

The relation of important structures to these areas is described in detail. Figures are quoted from Bélinoff and Balan and Tato, of the pneumatization of this region, also the figures of Kraus and Tobeck. In the main, pneumatization is perilabyrinthine and cells are rarely present in the tip itself. Illustrations of many cross-sections show the grouping of the cells in the perilabyrinthine region. From his observations on the arrangement of the cells the author has decided that operative approach should be :—

(1) The medial chain, from the antrum. This group is the most commonly infected and most prone to complications, and can only be reached from behind, as laterally, removal of the labyrinth would be necessary.

(2) The upper chain may be reached either from behind the superior semicircular canal (but seldom), or through the subarcuate tract or, finally, through the attic.

(3) The lower chain is developed differently. One can approach them from behind through the antrum as far as the tip ; those under the labyrinth may be followed as far as the carotid. A high jugular bulb may be a difficulty and the facial nerve and cochlear aqueduct are also endangered.

(4) Those in front which end blindly may only be approached from the antrum, and peri-tubal cells only from the tube, and the pericarotid from the medial side.

These approaches are not merely theoretical, although in pathological cases the finding of the collections of pus is rendered easier by the breaking down of the tissues in the neighbourhood of the " empyema ". In a discussion on the pathological anatomy the author quotes numerous authorities and comes to the conclusion that, as with mastoiditis, petrositis is not necessarily a sequel to, but part of, middle-ear suppuration. Complications follow because resolution of inflammation may not be uniform and abscesses form in one or more cell groups. There is no anatomical justification for the suggestion of Gradenigo and others that pus in the tip of the pyramid is lymph or blood-borne. Age and sex probably play no important rôle in the ætiology.

With regard to bacteriology, the same infections are found as in mastoiditis and the various types of streptococci predominate.

Abstracts

The special insidiousness of the streptococcus mucosus is not substantiated. A detailed account of the histological processes follows, and it is concluded :—

(1) That inflammation in the pyramid cells may be circumscribed (not because the infection was local from the first but because the intervening cells have in the meantime healed).

(2) That inflammation may be diffuse around the labyrinth.

(3) That it may lead to an abscess—

(*a*) either closed with no drainage to the middle ear, or

(*b*) open in so far as pus can leak into the middle ear.

(4) Abscesses can form in several cells at once.

(5) The inflammation may take on the character of a diffuse congestion with very little pus formation.

These processes may, like a mastoiditis, resolve spontaneously but more usually, unless relieved by operation, lead to severe complications.

Pus in this region may be suspected if there is continued middle-ear inflammation, pain and paralysis of the abducens. Variations of these are detailed and other less prominent symptoms may be associated with rise of temperature and general malaise (although the patient may feel quite well after the relief of pain), and blood examinations (a rapid increase in leucocytes should lead to suspicion of a thrombophlebitis) are helpful.

X-ray examination is of the greatest value and makes diagnosis more certain than in the case of mastoiditis, but the typical appearance is often, unfortunately, too late a manifestation.

A discussion on the course, termination, diagnosis and prognosis follows. Of therapeutic measures, operation offers the greatest hope either by indirect drainage through antrum and air-cells or direct drainage of the abscess itself. It is difficult to know how much should be done in the early stages and only at the operation itself can a proper judgment be made.

Procedures vary from a simple paracentesis, conservative mastoid, attico-craniotomy, various types of radical operation, to endocranial methods, translabyrinthine drainage and opening of the pyramidal process by exposure of and approach round the internal carotid, or from the neck or through the sphenoid.

With regard to indications for operation in general, and special operation in particular, the author concludes :—

That when to operate cannot be decided by any hard and fast rule. Guiding principles are :—

Early cases of Gradenigo's syndrome should be treated conservatively (even by paracentesis) as they have proved to have a favourable prognosis. Cases with long-continued free suppuration are also of good prognosis but a wide mastoidectomy should be performed. In cases of typical head pain a wider opening of the

skull must be decided only after an X-ray examination has shown unopened cells or a necrotic area with abcess formation. Where an abscess of the petrous tip has been suggested by X-ray examination a fistula should be carefully sought when the area is approached. If none is found, it is better to stop at this stage and wait. When, however, the middle-ear suppuration continues for four or five weeks in such a case and X-rays show an increase of destruction, it is unreasonable to wait longer. Approach may be subarcuate, but if X-ray shows a hard normal upper surface of the petrous it is better to go through the air-cells and remove the lower wall of the meatus. Granulations should be removed with a sharp spoon. If a fistula is found, it should be widened and a stay made at this second stage. An X-ray with a probe in the wound will show if the necrotic area has been reached. Most cases get well after this.

Much more difficult is the case where there is no suppuration in the air-cells.

Only when these safe and cautious methods have failed is the abscess itself to be directly sought in a third stage, but it must be remembered that all methods of approach are extremely dangerous to life, and it is to be feared that if the operation is too frequently performed the death rate will rise.

The abscess should be opened by one of the anatomical routes detailed in (4) above.

The difficulty in draining an abscess of the tip lies not only in the fact that the carotid lies like a wall in front of it, but also that the tip is directed forwards and medially, while the tube sinks laterally and backwards. The way through the nose and base of the skull and the translabyrinthine method are considered too dangerous.

A very full bibliography is given.

F. C. W. Capps.

Record of Operation of deep-seated Focus in Pyramidal Apex. Bernhard Langenbeck. (*Zeitschrift für Hals-Nasen-und-Ohrenheilkunde*, April 15th, 1937.)

A patient, thirty years old and three months pregnant, was admitted into hospital with a history of acute otitis media of the right ear of one month's duration.

She complained of right-sided headache and giddiness. On examination, the patient's general state appeared very poor. Temperature 100° F. Pulse 102.

Right meatus full of pus ; infiltration of posterior meatal wall ; mastoid tender ; paresis of right abducens ; pupils and fundus oculi normal ; spontaneous nystagmus to the left.

X-ray photograph of mastoids showed only slight haziness on the right, while an X-ray of the pyramidal apices showed gross

structural changes in the right pyramidal apex where a cavity appeared to be present.

In the presence of abducens paralysis and neuralgia of the 5th nerve, it was essential to drain the pyramid.

Antrostomy was first performed and revealed pus under pressure after the cortex had been chiselled away. All the cells at the corner of the sino-dural angle were opened, also those around the bulb, without revealing any tract which led deeper. Therefore, a radical mastoid operation was done. No other indication of the spreading of infection was found, nor pus.

The anterior meatal wall was then removed and the mandibular joint exposed. By opening the mouth the joint was pushed well forward and the anterior wall of the tube was chiselled away. The tensor tympani muscle was then removed and, with a small chisel, the surgeon proceeded near the roof of the tube in front of the cochlea in an upwards and inwards direction. He thereby opened a cavity which was filled with granulations. Following the operation, the patient made a slow but uneventful recovery. She still had nystagmus for a long time and was completely deaf in her right ear, while, before the operation, there were still remnants of hearing.

The paresis of the abducens disappeared after two months. Drainage in this manner has been recommended before by Ralph Almour. (Kopetzky and Almour, *Ann. of Otol*, 1931, xl, 399.)

F. C. W. Capps.

NOSE AND ACCESSORY SINUSES

The Functional Structure of the Nasal Septum. A. Seršer (Zagreb). (*Acta Oto-Laryngologica*, May-June, 1937, xxv, 3.)

By means of his special method, Benninghoff succeeded in elucidating the functional structure of the bones of the face and skull. There is nothing in his work, however, about the rôle of the septum in the architectural structure of the skull. By observing the course of the lines of articulation on the septum one can assume certain static and mechanical neutral zones, and some which must serve as trajectories, which can readily be included in the mechanical structure of the upper jaw. The septum is not only a partition but also a supporting wall. The formative factors in the development of the septum and the nasal lumen are the functions of respiration and mastication. In consequence the form and function of the septum, too, must be subjected to these principles, and septal deformities arise as the result of abnormalities in development and disturbances in the function of the jaw.

[Author's summary.]

Pharynx

The article is illustrated by diagrams, X-ray pictures and photographs of the author's models. H. V. FORSTER.

Contribution to the Clinical Study of Papilloma of the Nasal Fossae. A. HALL (Stockholm). (*Acta Oto-Laryngologica*, May-June, 1937, XXV, 3.)

During the period 1918-36 nine cases of papilloma durum have passed through the Sabbatsberg Hospital. Of these, two cases extended to the accessory nasal sinuses. Two cases received X-ray treatment without noticeable improvement, and two cases, both with the papilloma extending into the accessory nasal sinuses, became malignant. One of these latter was treated successfully by electro-coagulation, the other received X-ray treatment only, as the patient refused operation. Papilloma durum has a marked tendency to relapse unless operated upon. Surgical treatment with electro-coagulation laying bare cartilage and bone and through the nose is advised. If the accessory nasal sinuses are also involved, transmaxillary operation is advised and has given good results. As in the case of papilloma of larynx, the solitary cases show a better prognosis than those in which the accessory nasal sinuses are involved. Papilloma durum must be regarded only as relatively benign, as there is always the risk of it becoming malignant. It ought to be removed as quickly and as radically as possible, and the patient should be examined at frequent intervals for the first few years after the operation.

[Author's summary.]

Diagrams, colour pictures and micro-photographs are shown.

H. V. FORSTER.

PHARYNX

A Needle in the Posterior Pharyngeal Wall. J. M. GREENWOOD. (*Lancet*, 1937, ii, 256.)

The author describes the case of a woman, aged 63, who collapsed in the street. The next day she complained of pricking in the throat and difficulty in swallowing, but nothing could be seen. An X-ray photograph showed a needle lying horizontally on a level with the disc between the third and fourth cervical vertebrae. The patient had no recollection of having swallowed the needle, but was sewing the day before, when she fainted on hearing bad news. She might have had the needle in her mouth at the time. A few days later her symptoms disappeared, but more than a month later she developed a lump in the left side of the neck. The X-ray showed this to contain the needle and it was removed through a small incision. It was an ordinary round-bodied sewing needle, one inch and a quarter long. MACLEOD YEARSLEY.

Abstracts

LARYNX

The Vascularization of the free edge of the Vocal Cord. DOTT. GIORGIO ROSSI. (*L'Oto-rino-laringologia Italiana*, February, 1937.)

The author has investigated this question because he believes that a knowledge of the blood supply of the vocal cords may explain some problems in pathology. He has made histological preparations of a number of vocal cords from patients whose larynxes appeared normal. He has made longitudinal sections of the left cords and transverse sections of the right cords.

He has drawn the following conclusions. In the adult, contrary to general teaching, there is an abundant vascular supply along the free margins. The richest supply is in the middle third and over the vocal processes of the arytenoid. The blood-vessels are comparatively scanty in the anterior third of the cord. The large capillaries are situated between the epithelial layer and the connective tissue. In persons of the same age and of the same sex there are always differences in the vascularization and its relation to the papillae, but the vascular supply is always richest in the middle third and on its superior aspect.

In the child there is very abundant vascular supply in the arytenoid region ; and the capillary network, always very superficial, is very extensive in comparison with that in adults.

The capillaries, in both children and adults, find their way between the epithelial cells right to the surface, they have no connective tissue and are therefore capillaries of the epithelium.

F. C. ORMEROD.

Tuberculosis of the Larynx and Pneumothorax. DOTT. CESARE BACCARANI. (*L'Oto-rino-laringologia Italiana*, February, 1937.)

The author states that up to a few years ago tuberculosis of the larynx was considered a contra-indication to the induction of an artificial pneumothorax. Of recent years, however, it has come to be recognized that the presence of lesions in the larynx should not prevent such treatment being applied and, in fact, the larynx as well as the lungs responds to this form of collapse therapy.

The author gives short histories of twenty cases of severe pulmonary phthisis with laryngeal involvement. All had artificial pneumothorax, and of the twenty, seven died, four were worse, two were stationary and seven were definitely improved. The majority of the cases were of the infiltrative type and in many of them the interarytenoid region was involved. In some cases there was œdema and ulceration.

In most of the cases there was a definite improvement in the larynx and this was partly due to the reduction in the amount of cough following the collapse of one lung.

The author considers that phthisical patients with laryngeal involvement have a much graver prognosis than others and they should have much more rigorous treatment.

With collapse therapy, improvement in a reasonable number of laryngeal cases may be expected.

F. C. ORMEROD.

BRONCHUS

Bronchography in cases of Foreign Body. DR. EELCO HUIZINGA (Groningen). (*Zeitschrift für Hals-Nasen-und-Ohrenheilkunde,* April 15th, 1937.)

The author surveys 156 cases of foreign bodies in the deeper air passages ; 134 were localized in the bronchi and could only have been traced by radiological examination. In most cases there was obstruction to respiration. In the Netherlands these foreign bodies are mostly of vegetable origin, chiefly peanuts, and most of the cases are in young children.

Usually there are many contra-indications for bronchography. This examination should be given greater consideration when, after extraction of the bulk of the foreign body, smaller pieces are found to lie deeper ; in other cases, too, it can be of great use.

Examination of thirty children after extraction of a vegetable foreign body showed dilatation of the bronchus in 50 per cent.

These dilatations are sometimes lasting, while in others recovery is complete. These changes can occur in a very short time.

Some very good photographic reproductions of X-rays with and without lipiodol are included.

F. C. W. CAPPS.

MISCELLANEOUS

Diphtheria and Tonsillectomy. C. H. WAESER. (*Hals- u.s.w. Arzt,* 1937, xxviii, 282-6.)

Obstinate " carriers " of the diphtheria organism can usually be cured by tonsillectomy. In fatal cases of diphtheria with extensive muscle paralyses, the presence of diphtheria bacilli in the tonsil crypts has often been demonstrated *post mortem* (see references).

With these observations in mind, it appeared a natural step to assume that patients suffering from diphtheritic paralyses might be helped by tonsillectomy or adeno-tonsillectomy in the convalescent

stage. The author performed tonsillectomy in many patients suffering from obstinate post-diphtheritic paralyses, e.g. of soft palate, of accommodation, of various groups of arm and leg muscles, with invariable success. The symptoms cleared up rapidly after the operation.

In one patient, a boy, the heart muscle was severely damaged by the diphtheria toxin and clinically the case was looked upon as hopeless. As a desperate measure the author, in consultation with the physician in charge of the case, decided on tonsillectomy and removal of adenoids. The operation was rapidly carried out, but the patient died from cardiac failure a few minutes after operation. This was an exceptional case, but the possibility of sudden heart failure must be borne in mind.

J. A. KEEN.

Logopædic Problems in Palestine. E. ASCHER. (*Monatsschrift für Ohrenheilkunde*, 1937, lxxi, 856.)

The author describes the difficulties of teaching the official speech—modern Hebrew—to children of various nationalities, whose native tongues differ widely in phonetics, articulation and speech-melody. The compulsion to live in a land of many tongues, and to learn quickly a new and difficult language such as modern Hebrew, results in a curious example of speech psychology. Hebrew, being a very old language, is not always capable of dealing with modern thought and expression. If the language has not been completely mastered in all its details, the use of primitive expressions acts in a retrograde manner and gives rise to a primitive process of thought. Word amnesia, and the use of paraphrases as in a stutterer, have been observed.

The increase in the number of immigrants into Palestine has resulted in a shortage of teachers. Some of the teachers speak badly themselves, and this increases the difficulties of the learner. Another problem is the fact that children hear Hebrew during the day at school, but at home are surrounded by relatives speaking a totally different language.

DEREK BROWN KELLY.

Hæmorrhage of Internal Jugular Vein as a Complication of Pharyngeal Inflammation. DR. VON HOFFMAN (Karolina Hospital for Children, Vienna). (*Zeitschrift für Hals-Nasen-und-Ohren-heilkunde*, February, 1937.)

The author describes three cases in which the jugular vein became eroded. The first one followed a retropharyngeal abscess in a child of one year. The second occurred after cervical adenitis in a child of seven with scarlet fever. The third after tonsillitis

and lymphadenitis in a child of four years. All the cases were children and all of them died. This complication is a rare one and occurs mainly in children.

There are no clinical signs of an impending erosion, but suspicion is aroused if the temperature rises in spite of local improvement.

Therapy must be surgical, wide opening of the area and ligature of the jugular vein when necessary.

In the first case there was a hæmorrhage from the throat and the child was too ill for surgical interference. In the second the neck was opened in the line of the sternomastoid and the erosion in the vein was found after some difficulty. Ligature was performed. In the third case, incision along the sternomastoid revealed a mass of fresh blood clot.

F. C. W. CAPPS.

Efficacy of various Medicaments in the Treatment of Vincent's Stomatitis. G. W. FARRELL and W. A. MCNICHOLS (Dixon, Illinois). (*Jour. A.M.A.*, February 20th, 1937, cviii, 8.)

This article is based on a study of 704 institutional and 90 private cases in which there were many complications and six deaths.

Clinically the disease was characterized by pain and swelling of the gums, hyperæmia and fœtid odour of the breath. The gums were often covered with a grey pseudomembrane, removal of which produced severe bleeding. Sloughing and characteristic punched out ulcers soon appeared. Saliva was thick, ropy and excessive. The patients were listless, irritable, and in most cases refused food. The temperature ranged from 97 to 103° F. at no fixed period or time. In the severe cases there was marked diarrhœa accompanied by dehydration and considerable loss of weight.

The disease must be differentiated from syphilis, diphtheria, malignancy and, less frequently, from scurvy, pernicious anæmia, leukæmia and bismuth or mercurial stomatitis. This differentiation was accomplished by smears, examination of the blood and biopsy.

Complications were found in the pharynx, larynx, bronchi, lungs and middle ears.

Various treatments were used, including arsenic, chromic acid, glycerin, aniline dyes, benzoin and ultraviolet rays, but most benefit was obtained from full strength hydrogen peroxide used as often as every two hours. Six syphilitic patients who were under treatment with arsenic intravenously developed the disease and the writers feel arsenical preparations are of little value in Vincent's disease.

ANGUS A. CAMPBELL.