ABSTRACTS

EAR.

Brain Abscess as the Otologist's Problem. O. JASON DIXON (Kansas City, Mo.). (*Journ. Amer. Med. Assoc.*, Vol. xcvi., No. 7, 14th February 1931.)

Brain abscess is always fatal if not operated on, and it is frequently unrecognised until it is too late for surgical intervention. It is often the result of mastoid or sinus disease, and its management is just as much the responsibility of the nose and throat surgeon as is lateral sinus thrombosis or otitic meningitis. The brain abscess which is most amenable to treatment is the one which lies in close proximity to the mastoid or frontal sinus affected. The approach to these abscesses falls within the field of the nose and throat surgeon, and the drainage of the abscess is usually a minor part of the operation. The slow drainage of the abscess by a rubber catheter and the minimum of surgery is advised. The catheter is removed in from forty-eight to sixty hours. The average duration of an abscess is four and a half weeks. General symptoms are marked lethargy, sallow complexion, slow respiration, loss of appetite, constipation, subnormal temperature and constant progressive headache. Other general brain symptoms which are usually present are vertigo, sudden vomiting, slow cerebration, bradycardia, photophobia and, infrequently, optic neuritis. Localisation is difficult, although cranial nerve lesions play an important diagnostic part. Sometimes there may be an enormous amount of brain involvement with a total absence of localising symptoms. The leucocyte count is usually about 12,000. The cytological examination of the spinal fluid is important as a diagnostic aid. It should be borne in mind that every brain abscess in the primary stage is closely associated with a diffuse meningitis. Six illustrative cases are reported. In Case 5 the middle fossa was explored but no abscess was found. A rubber catheter drain was inserted and three days later the abscess discharged spontaneously through the drainage tube.

The article occupies eleven columns, is illustrated, has two tables and a bibliography. ANGUS A. CAMPBELL.

Secretion in the Tympanic Cavity with hermetic closure of the Eustachian Tube. A form of disease with characteristic symptoms and treatment. R. BÁRÁNY. (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 2-3.)

The author has met with five or six cases in which a completely blocked Eustachian tube has been associated with a malleus adherent to the promontory, and a scar covering the niche of the round window

and the head of the stapes. The hearing, which was extremely defective, underwent great and immediate improvement on incision of the scar which lay over the round window. By alternate suction and compression with a Siegle's speculum a quantity of serous fluid was removed through the incision. This fluid had clearly accumulated in the antrum and the mastoid cells in consequence of the separation by scar tissue of the posterior part of the tympanic cavity from the Eustachian tube. The improvement in the hearing appears to have been permanent in one case, but in all the others closure of the perforation and re-accumulation of fluid have been followed by return of the deafness. The establishment of a permanent opening in the scar has proved to be impossible, and the only solution of the difficulty in most cases may prove to be a radical mastoid operation. In the one case in which the improvement has persisted, closure of the incision was not followed by re-accumulation of the fluid.

THOMAS GUTHRIE.

Studies in Chemical Diagnosis of Cholesteatoma. Dr. MARIA BERNOVITS. (*Monatsschrift für Ohrenheilkunde*, August 1931.)

Urged by her chief, Professor Alex. Rejtö of Budapest, who has already carried out many investigations on this subject, the author gives the results of her own examination of the cholesterin content of the blood, in connection with cases of cholesteatoma. This research was divisible into:—

(1) Examination of the cholesterin content of blood in normal people.

(2) The influence on the same of foods rich in cholesterin, such as brain, liver, blood, and egg.

(3) The examination of the blood in cases of chronic middle-ear suppuration, *not* associated with cholesteatoma, and also of cases in which cholesteatoma was known to exist (and was further confirmed by operation).

(4) The subsequent examination of the cholesterin content of the blood after removal of the cholesteatoma and healing of the wound.

The results of these investigations are summarised as follows:—

(1) The normal cholesterin content of the blood serum varied from 130 to 170 mgrms. per cent.

(2) The effect of giving patients foods rich in cholesterin was demonstrated, *e.g.*, in one case within a few hours of the commencement of such experiment, by raising the cholesterin content to 400 mgrms. per cent., between about which figure and 222 mgrms. per cent. the cholesterin content stood for some three days, when the reaction gradually declined.

(3) In patients with suppurative disease of the middle ear not associated with cholesteatoma, the percentage varied from 126 to 150, *i.e.* normal, whereas in cases of proved cholesteatoma, the percentage varied from 200 to 268.

(4) After removal of the cholesteatoma in one case, a percentage of 202 fell to 136. In another case a percentage of 262 fell to 167, and in a third case a percentage of 200 fell to 150.

From these results the author infers that the raised cholesterin content of the blood after removal of the cholesteatoma rapidly falls, and this indicates that the increased cholesterin content of the blood in cholesteatoma is caused by re-absorption of cholesterin, and that the cholesteatoma does not develop as a result of an increased cholesterin content of the blood.

The author suggests that the practical value of this research is that the degree of the cholesterin content of the blood also indicates the degree of bone destruction, and that thus patients in whom a high cholesterin content can be demonstrated should at once be submitted to operation; whilst in cases in which the cholesterin percentage is small a conservative attitude may be adopted. ALEX. R. TWEEDIE.

Experimental Researches on Ionotherapeutic Impregnation of the Temporal Bone. M. LANDRY (Rheims). (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 1.)

The work of Friel and Salisbury Sharpe on ionisation in middle-ear suppuration is referred to, together with that of Viggo Schmidt in cholesteatoma; mention is made of earlier work by urologists.

The writer devised experiments to see whether the passage of ions through the intact drumhead into the middle ear could be shown, and this was satisfactorily proved on the cadaver.

Experiments were also carried out to discover if ions could pass by the same route into the petrous temporal. Live rabbits, including controls, were used and magnesium chloride was employed for ionisation. Urine and fæces were collected and examined quantitatively for the element in phosphatic form, and the animals were eventually killed and the temporal bones analysed quantitatively for magnesium. A control animal which had not been ionised was dealt with in the same way. It was noticed, among other things, that the elimination of magnesium in the ionised animals was retarded.

The following are the writer's conclusions:—

1. That the application of ionotherapy in the treatment of chronic middle ear and internal ear lesions is justified by experience, and that the established facts agree with the encouraging clinical results obtained.

2. That this particular type of therapy shares in the general advantages of the ionisation method as follows:—

(*a*) Intense impregnation of the chosen organ to a degree infinitely superior to that obtained by ingestion or by any other route.

(*b*) The retarded elimination of the medicament prolongs the desired therapeutic action.

3. That, for magnesium in particular, the facts recorded by Papillon (cited for Delbet) appear to be verified, and that magnesium in excess in the organism is fixed in bony tissue.

Finally, from a point of view of general interest one discovers that the liver is an organ particularly powerful in accumulating magnesium, and that the elimination of this element appears to take place *viâ* both fæces and urine. H. V. FORSTER.

Auditory Nerve Responses in the Reptile. ERNEST GLEN WEVER and CHAS. W. BRAY (Princetown). (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 1.)

The authors have previously described the results of an investigation of the action currents set up in the auditory nerve through stimulation of the ear by sound. The auditory nerve was exposed in the region where it leaves the internal auditory meatus and enters the medulla oblongata, an electrode was placed in contact with the nerve with a second inactive electrode in neighbouring indifferent tissue. The nerve currents thus picked up were led through a vacuum-tube amplifier to a telephone receiver.

These experiments were carried out on mammals, but at about the same time Foa and Peroni published results of somewhat similar experiments on the giant sea tortoise (*Thalassochelys caretta*). These observers, however, had taken readings from the facial nerve.

The authors of this article now also report experiments extended to the reptile, using the common painted terrapin (*Chrysemys picta*), and have shown that "the responses occurring in the nerve represent faithfully the frequency of the stimulating sound. Responses were obtained to all tones from 120 to about 1000 cycles per second. Experimental checks were made to show that the responses were exactly auditory in nature, thus guarding against the possibility of artifact." H. V. FORSTER.

A New Test mainly for determining the presence of Ankylosis of the Stapes at the Oval Window. FREDERIC FEDERICI (Genoa). (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 1.)

In cases of deafness believed to be due to a lesion of the conduction apparatus, the question of fixation of the stapes in the oval window has claimed the special attention of otologists. This kind of lesion could

take place from chronic inflammations of the tympanic mucosa, from adhesions between the stapes and the oval window, or calcification of the annular ligament (Manassé), but it finds its highest expression in the special metaplastic osteitis of otosclerosis.

In describing Gellé's test, the criticisms of certain writers are explained, along with the practical difficulties in applying it, and the modifications of Escat and Bonnier are mentioned. Other diagnostic manœuvres described are the mastoido-facio-palpebral reflex of Escat and that of Merelli using a tambour.

In 1928, Decigna described an observation which he called the "pneumo-tympanic experiment." When the prongs of a vibrating Ut contre octave tuning fork applied close to the external meatus have ceased to be heard, then the sound continues to be heard if the base of the fork is applied to the tragus to occlude the canal. The writer has modified the test by applying the base of the fork first to the mastoid and then, when it has ceased to be heard in this situation, to the tragus.

In the normal ear when using a L. A. (96 D. V.) fork, the difference between bone and tragus conduction is 21/22 seconds, and for the Ut (128 D. V.) 18/20 seconds. The writer has carried out this manœuvre in 209 cases with various affections of the hearing apparatus, and the results in each variety of these diseases are tabulated. The cases of otosclerosis tested are 48 in number, and in this condition without exception the difference between bone conduction at the mastoid and conduction at the tragus in the manner described is vastly reduced, or cancelled altogether, or even converted in a few cases to an advantage on the side of bone conduction. H. V. FORSTER.

NOSE AND ACCESSORY SINUSES.

Experimental Examination of a baker whose nose was hypersensitive to various kinds of Flour. Proof of the susceptibility of the Epi-mucosa to the Allergen. Desensitisation by means of Nasal (Intra-mucosal) Injections of Flour Extracts. ERICK URBACH and CAMILLO WIETHE. (*Münch. Med. Wochenschrift*, Nr. 35, Jahr. 78.)

Clinical and experimental observations carried out on a baker who was readily sensitised by rye-flour allowed the authors to arrive at certain conclusions as to the means of determining the allergen, its site of incidence ("Angriffspunkt"), and, by deduction, the means of carrying out a specific desensitisation. In order to decide if the site of allergic incidence was epi-mucosal or muco-vascular, the adrenalin and alypin tests were employed. In the patient cited, the nasal mucosa was first rendered ischæmic by spraying with 1 per cent.

adrenalin solution. The insufflation of rye-flour on the shrunken mucosa resulted in violent sneezing and rhinorrhœa. On a subsequent occasion the mucosa was sprayed with 20 per cent. alypin solution until all tactile sensation was abolished. The insufflation of rye-flour was now found to produce no irritating effect, although the mucosa was visibly injected on inspection. By these two opposite but complementary tests it was possible to prove the existence of a primary epi-mucosal allergy in this case.

The mucosal allergies rank with the dermal allergies not only as regards the different sites of incidence of the allergen, but also with regard to the fact that the allergen can cause a reaction, both primarily on the shocked organ, and also secondarily from a remote site of incidence. In the case in question, temporary desensitisation was obtained by both oral and nasal use of specific kinds of propeptones and permanent desensitisation by intranasal mucosal injections of flour extracts in increasing concentration. The necessity of carrying out a nasal test in rhino-pathological conditions of an allergic nature is pointed out. This would not apply in cases in which the shocked organ and the site of incidence are not identical, as, for example, rhino-pathological conditions, asthma, etc., caused by defects of nutrition. In such cases the test is made by the oral administration of the allergen, since the primary site of incidence is intestinal. For cases of allergy of the mucosal vessels of the upper air passages the authors use the term "secondary mucoso-vascular sensitisation," in contradistinction to those cases which react to specific irritation of the mucosal epithelium, which they term "epi-mucosal sensitisation."

J. B. HORGAN.

Congenital Fistulae and Dermoid Cysts on the dorsum of the Nose. B. S. VERMEULEN (Gröningen). (*Acta Oto-Laryngologica*, Vol. xiv., Fasc. 1.)

The author describes two cases of dermoid cysts with fistulae on the dorsum of the nose.

The first was in a boy of three years of age, the second in one of twelve years. The larger part of the cyst in each case was situated at the level of the lower border of the nasal bones; in the younger boy, a prolongation proceeded downwards towards the nasal tip but did not form a fistula there. In the older child, however, a fistula was present at the nasal tip, a prolongation also passing to the side of the root of the nose near the inner canthus.

Both cases were cured by excision, but in the second case an injection of lipiodol allowed the condition to be traced clearly by X-rays, and at operation an injection of 1 per cent. methylene blue into the fistula made the operation much easier to carry out.

H. V. FORSTER.

Larynx

LARYNX.

Tuberculosis of the Larynx simulating Chronic Catarrhal Laryngitis. Professor S. CITELLI. (*Archivio Italiano di Otologia*, June 1931.)

Professor Citelli has described a number of cases of hoarseness in which laryngeal examination revealed thickening and redness of the laryngeal mucosa and particularly of the vocal cords. There was no ulceration, no undue proliferation, and no œdema, but in some cases there appeared to be some paralysis of the internal tensor muscles with a failure in complete adduction of the cords.

Examination of the chest and sputum of these cases on a first (and sometimes subsequent) occasion resulted in entirely negative findings, and the cases were considered to be purely catarrhal. In due course, however, definite signs appeared in the chest, and in most of the cases tubercle bacilli were found in the sputum on later examination. The laryngeal appearances then tended to change to the more typical ones of infiltration and ulceration.

These cases of apparently chronic catarrhal laryngitis should be kept under observation, as a certain number of them are certainly tuberculous in origin and the true nature of the disease will be manifested in the chest and in the larynx at a fairly short interval.

F. C. ORMEROD.

Cysts of the Larynx. J. TERRACOL. (*Les Annales d'Oto-Laryngologie*, November 1931.)

There are two anatomical varieties of laryngeal cysts: one strictly laryngeal, and the other cervico-laryngeal. The pathology of each variety is different. Two cases of each variety are described in detail. In the first case, that of a man of 72, the mirror showed two bluish, smooth, rounded, sessile swellings; one on the posterior part of the left aryteno-epiglottidean fold, and the other on the right ventricular band. These were removed by laryngo-fissure, and the histological points are described. The second case was that of a man who had had gradually increasing hoarseness for five years. There was a firm swelling in the anterior part of the neck, which appeared to form part of the thyroid cartilage. Laryngeal examination showed a large bluish swelling completely masking the vocal cords. The tumour was attached over the external swelling and removed in two portions: one solid extra-laryngeal, and the other cystic intra-laryngeal. The histological points are again defined.

The author points out that, whereas in the first case the cyst was caused by a glandular retention due to obliteration of the excretory canal, either by inflammatory reaction or by the inclusion of a foreign particle, in the second case the cyst was branchial; the laryngeal part being simple, and the cervical part malignant. Two photomicrographs accompany the text.

M. VLASTO.

Abstracts

PHARYNX.

Notes concerning anomalies of development of the second Branchial Cleft. Professor Dr. ANT. PŘECECHTĚL. (*O.L. Slavica*, Vol. iii., Fasc. 4, 1391.)

The author describes the anomalies of development found in four generations of the same family, in which the father and mother were cousins. The anomalies were: Deformities of the middle and internal ears, branchial cleft fistulae (both internal and external) and cysts, alterations of weight at birth, and in two cases a tendency to keloid formation. Transmission was by the male.

This particular paper is devoted to the anomalies of development of the second branchial cleft, which were—

External fistulae . .	5 (3 bilateral, 2 unilateral)
Internal fistulae . .	1
Cysts	1

From observations on these cases the author concludes that the levels of the fistulae or cysts vary greatly, but they always lie anterior to the sterno-mastoid muscle. The use of a probe or injection of radio-opaque fluid and a subsequent X-ray are of little value in the determination of the length of a fistula, and no operation short of complete extirpation will cure the condition.

E. J. GILROY GLASS.

Surgical Anatomy of the Tonsil and Tonsillar Fossa. ANDRÉ VIÉLA. (*Les Annales d'Oto-Laryngologie*, November 1931).

This article, illustrated by numerous schematic drawings, gives a detailed anatomical survey of the tonsils with their relation to surrounding structures. Particular attention is paid to the capsule and to the plane of cleavage between the tonsil and the tonsillar fossa.

M. VLASTO.

Tonsillectomy, Schick Immunity and Diphtheria Carriers. Prof. S. F. DUDLEY. (*Lancet*, 1931, ii. 1398.)

The author concludes that in a semi-isolated community:—

1. The total carrier-rate for diphtheria bacilli, among boys who had been operated upon for tonsils and adenoids, was half that in a control group.

2. There was, however, no significant difference in the carrier-rate for toxigenic diphtheria bacilli; tonsillectomy had apparently only lowered the incidence of virulent infections.

3. The frequency of positive Schick reactions was twice as great in the control as in the tonsillectomised group.

4. The Schick susceptible out-group, whose tonsils had been removed, were more easily immunised artificially than other Schick susceptible groups.

5. Evidence is brought forward in favour of the view that tonsillectomy does not, in itself, stimulate the production of diphtheria antitoxin, but in some way accelerates latent immunisation by the diphtheria bacilli of the environment. MACLEOD YEARSLEY.

Diphtheria Immunity and Tonsillectomy. A. H. G. BURTON and A. R. BALMAIN. (*Lancet*, 1931, ii. 1401.)

The authors investigated 682 children at Ilford, who had been Schick-tested in relation to the effect of previous tonsillectomy on diphtheria immunity. One hundred and ninety children (27.6 per cent.) had had previous tonsillectomy, and the relationship studied was—Age; proportion of children Schick-positive and Schick-negative; artificial immunisation; family grouping. The results of the enquiry justify the conclusion that previous tonsillectomy has no influence on the production of immunity to diphtheria in children living in a residential non-rural, non-congested area. MACLEOD YEARSLEY.

A Method of Unilocular Injection in Tonsillectomy. HANS KEY-ÅBERG (Linkoping, Sweden). (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 1.)

The writer recalls two serious complications associated with local anæsthetic injections for tonsillectomy at a Swedish clinic some years ago. Novocaine was used in these cases and collapse occurred, ending fatally in one of them.

He discusses the possible causes of these accidents, which he believes may have taken place through direct injection of the solution into a vein, and thinks it possible to avoid them in future and yet produce satisfactory anæsthesia by injecting the local anæsthetic by one puncture only.

This should be carried out at a point 1 to 1.5 cm. to the outer side of the free border of the anterior pillar of the fauces and at the level of the upper border of the tonsil. The injection of 0.5 per cent. Novocaine being given as superficially as possible.

By using 0.3 per cent. of methylene blue in the 0.5 per cent. solution of Novocaine it is shown that the fluid becomes properly distributed, and he claims that the dye acts favourably as regards after-pain, hæmostasis and antisepsis. Several drawings, some of which are in colour, are shown to illustrate the method.

H. V. FORSTER.

Abstracts

MISCELLANEOUS.

The Indispensable Uses of Narcotics in the practice of Oto-Laryngology. ROBERT SONNENSCHEIN (Chicago). (*Journ. Amer. Med. Assoc.*, 18th April 1931, Vol. xcvi., No. 16.)

In considering the need for narcotics in oto-laryngology the cases are separated into two groups:—those in which narcotics are indispensable and those in which their administration is highly desirable but not indispensable. Intra-nasal work, intra-laryngeal manipulations and operations under local anæsthesia all require cocaine. For bronchoscopy it is essential when local anæsthesia is used, except possibly in children. Because of its toxicity, substitutes such as procaine-hydrochloride, butyn and similar preparations are advised, especially in tonsillectomy. Morphine and scopolamine are very desirable but not entirely indispensable as pre-operative measures in cases such as mastoiditis and radical operations on the nasal sinuses or on the larynx. A permanent committee for the study of the toxic effects of local anæsthesia has been formed under the auspices of the council on Pharmacy and Chemistry of the American Medical Association, with the author as secretary. This committee reports 43 deaths and the data obtained is published for the benefit of the medical profession. The committee feel that a number of patients have an idiosyncrasy to and show toxic symptoms from small amounts of cocaine. ANGUS A. CAMPBELL.

Cancer of the Lip. Report of Eighty-eight Cases from the Steiner Clinic. CALVIN B. STEWART. (*Surgery, Gynæcology and Obstetrics*, October 1931, Vol. liii., No. 4.)

This is a report on 88 cases of cancer of the lip occurring during the five years ending January 1930 among 55,000 cases of malignant disease.

The cases are divided into three groups:—

(1) Those in which the lesion is confined to the lip.
(2) Those in which definite, but movable, glands are present in the neck.
(3) Advanced cases in which the jaw is affected, or the cervical glands are inoperable.

The primary lesion in all the groups is treated by radium and can be destroyed without deformity. When possible, the glands are removed by block dissection, radium emanation being left in questionable areas; when the glands are inoperable, they are sterilised by radium implants.

The numbers still alive in each group are given, it being too early to report end-results. S. BERNSTEIN.

Miscellaneous

Atrophy of the Upper Air Passages. (*Histo-pathological Investigations.*) A. MINKOVSKY. (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 4.)

Atrophic conditions of the mucous membrane of the nose, naso-pharynx and larynx have been investigated for a long period by many workers, almost all of whom have laid stress on the difficulty of determining by microscopic examination the earliest signs of these changes. Recent researches by Runge, Lautenschläger and others have thrown some light on the matter by showing that in atrophic rhinitis the initial change consists of an abundant infiltration of round cells in the sub-epithelial layer and an accompanying metaplasia of the epithelial covering. Bone changes have usually been regarded as secondary and confined to a late stage of the disease. Recent work by Wojatschek, Albrecht and others has also established beyond doubt the importance of the hereditary factor, and has shown that some of the essential factors for the development of the disease must be sought for in embryonic life.

The author's material for investigation consisted of 70 post-mortem room bodies in which rhinoscopy had revealed the presence of atrophy of the nasal mucous membrane. Microscopic examination was made of portions of the inferior turbinals and of the mucous membrane of the nasopharynx, oro-pharynx, ventricular bands, vocal cords, subglottic region of the larynx and the trachea. The following were the author's conclusions:—

1. The atrophic changes in the nose may be divided into two distinct types according as the changes affect especially (*a*) the epithelium and glands of the mucous membrane, or (*b*) the bony skeleton, which sometimes shows marked atrophy in association with only slight alteration of the overlying mucous membrane.
2. The characteristic sign of atrophy of the pharyngeal mucous membrane is sub-epithelial infiltration.
3. The degenerative changes observed in the muscle fibres of the true and false cords serve as indicators of the degree of atrophy.
4. The atrophic process develops independently in the different parts of the upper air passages, and the degree of development in one part does not correspond to that in neighbouring parts.
5. Atrophy in the upper air passages consists essentially of a chronic inflammatory process with subsequent replacement of the normal elements of the mucous membrane by connective tissue.
6. Hereditary predisposition evidently plays an outstanding rôle, by providing a cell constitution unable to withstand adverse conditions.

THOMAS GUTHRIE.