ABSTRACTS

EAR

Cases of Sinus Thrombosis Treated at the Sabbatsberg Hospital, 1926-31. C. A. FRODING (Eskilstuna). (*Acta Oto-Laryngologica*, xix., fasc. 3.)

The relation between lateral sinus thrombosis and mastoiditis was recognized a hundred years ago. Hoopis called attention to this in 1826 and, later, Lebert with a more detailed description in 1856, but it was Zaufal who in 1884 first opened the thrombosed sinus and ligatured the internal jugular vein.

In spite of the great interest shown by otologists since that time, the questions most discussed but not yet settled are the indications for operation on the sinus, for total thrombectomy and for ligation of the jugular vein.

A number of authors (Gradenigo, Hansberg, and others) believe that symptoms of pyæmia call for immediate operation on the sinus. Others (Körner, Briegar, Heine) await the results of the mastoid operation before opening the sinus, and in the last four years S. H. Mygind has been advocating more conservative treatment and only rarely enters the sinus. (The article by S. H. Mygind appeared in the *Acta*, Vol. xvi., 1931, p. 474 and a résumé by the abstractor is to be found in the *British Journal of Laryngology*, June, 1932, Vol. xlvii., No. 6.)

Opinions differ as to the type and extent of the operation on the sinus, as they do concerning the indications for ligature of the jugular vein, and here again S. H. Mygind's views are conservative because he practises ligature only in very exceptional circumstances; in brief, Mygind believes that when the osteitis has been removed the thrombosis, if it has not progressed too far, shows a strong tendency to spontaneous healing. In order to illustrate his material from all points of view and make it, if possible, comparable with Mygind's at the Kommune Hospital in Copenhagen, Froding has separated his six year series of cases into four groups.

(*a*) Sinus thrombosis verified by operation.

(*b*) Perisinus abscess.

(*c*) Periphlebitis with pronounced areas of granulation on the sinus wall.

(*d*) Cases of (*b*) and (*c*) in which clinical signs of thrombosis were so great that the sinus had to be opened.

During the period under review sinus thrombosis was usually treated along the following lines :—

" In acute otitis with clinical symptoms of thrombosis, mastoidectomy was performed and the sinus laid bare. If the wall

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of the sinus looked entirely normal, no operation on the sinus was usually made, and expectant treatment was instituted. If additional clinical symptoms of thrombosis then appeared, or if the sinus wall at the first operation looked suspicious, an incision was made in it. When this was followed by only very slight bleeding or none at all, the jugular vein was ligatured, and the sinus bared further, to the second bend, and back until at least a few centimetres of the wall were free. Tampons were applied and the wall divided downwards and backwards until there was no doubt at all that the back of the thrombus had been reached. Gangrenous and decomposing sinus walls were extirpated, but complete thrombectomy was not done. No operation has been made on the bulbus for the past six years. In chronic otitis, a radical operation is performed and the sinus treated on the same principles as in the acute cases."

With regard to the frequency of sinus thrombosis, Haymann of Munich reports an average of one case in every 200 of otitis and Froding states that his own figures in cases *verified by operation* show a slightly higher frequency. Continuing the analysis of his cases he finds that sinus thrombosis is more frequent before the age of thirty but more fatal in later life. Cases were commoner in women, whereas this is the exception when compared with the records of other workers. The proportion of cases of acute otitis is high.

Recovery took place in 75% of the material under review, but there are twenty-five cases in a special group in which the sinus was opened and no thrombosis was found.

If these are added to the verified cases (61) there is a group of 86 cases most nearly comparable with Mygind's. Out of these 86 there were 19 deaths, showing a recovery percentage of 78 ($\pm$4·5) corresponding to Mygind's 71·3 ($\pm$4·5).

If all the examples of periphlebitis had been regarded as thrombosis the recovery would have been 90·7% ($\pm$2·0). Judging from his figures he believes that at the present time there is no reason to change the methods of treatment of sinus thrombosis carried out at the Sabbatsberg Hospital.

In conclusion, he discusses the value of the sign of respiratory contractions of the sinus wall and also the significance of the Queckenstedt test in lumbar puncture.

H. V. FORSTER.

Radiography in Acute Inflammations of the Mastoid. PEDRO REGULES and NICOLAS L. CAUBARRERE. (*Annales de Oto-Rino-Laringologia del Uruguay*, 1933, ii., 131.)

In this paper of forty-eight pages, illustrated by seventy-four photographs and key diagrams (most of them excellent) the authors discuss the diagnostic and prognostic value of radiography in acute

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mastoiditis. Their special object has been to decide when a "clinical mastoiditis becomes a surgical mastoiditis".

They summarize their conclusions as follows:—

(1) The various clinical forms of acute otitis media can sometimes present radiographic changes in the mastoid. Among these changes those of the masked or latent mastoiditis are the most prominent, and these must be estimated at their true value.

(2) In an acute mastoiditis progressing to destruction of bone, infection follows two paths, that of the mucous membrane and that of the inter-cellular partitions. In their pure forms these two types of invasion give different radiographic images, and these the authors describe and illustrate.

(3) Sometimes there is no relation between the radiographic image, the clinical appearances and the operative findings. Thus, there may be a doubtful clinical picture, a positive skiagram and yet no destruction is found at operation. Sometimes the opposite is the case. The authors believe that such mistakes can be avoided by taking a series of skiagrams at different times.

F. W. WATKYN-THOMAS.

NOSE AND ACCESSORY SINUSES

Clinical Observations on Nasal Hæmorrhage. DUNBAR ROY. (*Annals of O.R.L.*, 1933, xlii., 1117.)

Following a brief review of the causes and more common treatments of epistaxis (in which he condemns packing) the author suggests the use of the animal membrane introduced by Dr. Cargyle and known by his name. Briefly, its method of use is to cover the bleeding point, which has been touched with a 4% solution of nitrate of silver, with a piece of membrane just large enough to cover it. If, at the end of twenty-four hours, the membrane is loose or has disappeared, a fresh piece of membrane may be applied. Whilst most useful in hæmorrhage from the anterior septum, it may also be used in hæmorrhage from other parts of the nose. The rationale of its use is that it prevents any scab formation, with subsequent bleeding when the scab is freed, and the results in the author's hands have been excellent.

E. J. GILROY GLASS.

Tissue Cultures of a Human Nasal Polyp. TORSTEN SKOOG (Lund). (*Acta Oto-Laryngologica*, xix., fasc. 3.)

The writer refers to the pioneer work of the Nobel Prize winner, Alexis Carrel, in the field of tissue culture and, without attempting to give a detailed historical review of modern tissue culture technique, calls attention to the extraordinarily complete handbook of Albert Fischer (1930).

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During recent years Kelemen has done work of this kind in the field of oto-laryngology, using tonsil tissue and, while such experiments were in progress at Lund, nasal polyps were also used. It is the results of these latter investigations which form the basis of the present report.

The material taken was a pedunculated polyp growing from the lower border of the middle turbinate in a thirty-three year old woman with no other evidençe of nasal or accessory sinus pathology. The polyp was removed by the anæsthesia obtained by painting a ring of cocaine around the pedicle of the polyp.

In order that tissue cells may develop outside the organism, it is of vital importance they should have access to a supporting substance in which they can grow. If planted in a fluid medium they die quickly. In the Carrel method the supporting substance consists of the fibrin which forms when plasma coagulates. The plasma is usually taken from the type of animal from which the tissue is to be cultured. Chicken plasma is very suitable, as it forms an excellent coagulum, but the coagulum of human plasma breaks up very easily.

In these experiments, therefore, a mixture of human plasma and the plasma obtained from chicken embryos was used.

After fourteen days the cultures were divided into three groups:

In Group A the same supply of serum was continued (serum from the patient who had had the nasal polyp).

For Group B—serum from a healthy individual of the same age and blood group as Group A.

For Group C—serum from a patient of a different blood group of the same age, but with a markedly atrophic nasal mucous membrane.

In cultures in Group C an inhibition of growth was observed which the writer thinks might be explained by a constitutional tendency responsible for the relation between atrophy of the nasal mucosa and the growth-inhibiting properties of the serum from the patient in question.

The article is well illustrated by micro-photographs and diagrams.

H. V. Forster.

Neuralgia of the Vidian Nerve caused by a Fire-arm Projectile. Mario Ottonio de Rezende. (*Revista Oto-Laryngologica de S. Paulo*, 1933, i., 445.)

In this case a revolver bullet, entering at the lower right orbital margin, lodged in the sphenoidal sinus on the same side. The wound healed without trouble except for some nasal hæmorrhage, but the patient suffered from neuralgia, severe and continuous with exacerbations. The pain was principally referred to the eyeball, root of the nose, and outwards and backwards to the pinna.

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Examination showed nothing except the scar of entry and some diminution of sensitivity to tactile and painful stimuli over the area of distribution of the middle division of the trigeminal nerve. Skiagrams showed that the bullet had been broken up in its course; one fragment lay near the infra-orbital foramen, the main mass lay in the right sphenoidal sinus.

The spheno-palatine ganglion was anæsthetized by the pterygo-maxillary route, the posterior ethmoidal nerve by deep injection (3 cm.) at the internal orbital angle, and the mucosa of the nasal wall and septum locally. The posterior ethmoidal cells were exenterated, and then resection of the posterior part of the septum gave good access to the fragment, which was removed. The neuralgia was completely cured.

The writer concludes with a commentary on the case, especially in reference to the work of Greenfield Sluder and H. H. Vail.

F. W. Watkyn-Thomas.

TONSIL AND PHARYNX

Effects of Tonsillectomy on Antitoxic Immunity to Diphtheria in a Rural Population. W. A. Brice. (*Lancet*, 1934, i., 790.)

The author, investigating a "rural" population of 6,400 at Pullman, Washington, U.S.A., gave the Schick test to 232 school-children, aged from 6 to 15. Of the tonsillectomized, sixty-eight (62%) were Schick-positive. Of those with intact tonsils, eighty-four (69%) were positive. Since small numbers are dealt with, the author does not regard this difference in percentage as significant. Tonsillectomy does not appear to immunize children of this rural and much isolated community, in which only seven cases of diphtheria have appeared in the last eight years, and no case was noted for two years prior to the beginning of the tests. The proportion of Schick-positives in both groups remained practically on a level through all age groups. As regards the tonsillectomy factor, the children do not appear to be acquiring immunity to diphtheria as they grow older, which is contrary to the findings of Zingher and others.

Macleod Yearsley.

Tonsillectomy Results. Svend Heiberg (Copenhagen). (*Acta Oto-Laryngologica*, xix., fasc. 2.)

Three hundred and two patients who have undergone tonsillectomy have been examined afterwards by the aid of question forms, which in 197 instances were answered. Period of observation: three to ten years.

(1) Of 146 patients with relapsing, acute tonsillitis, 81% were free from symptoms after the operation and 15% improved. The

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condition of some patients was quite unchanged, despite a successful operation.

(2) Of sixty-five patients with peritonsillar abscesses, 94% were cured, 4% improved and 2% unchanged.

(3) Of twenty-three patients who prior to the operation had had from one to three attacks of rheumatic fever, one had had a relapse, whereas the others had been well.

(4) In ten patients with chronic rheumatoid polyarthritis there had been an improvement in half the number, whereas half were unchanged.

(5) Eight out of ten patients in whose case heart trouble had been diagnosed (in most cases in conjunction with rheumatic fever), had not presented any heart symptoms after tonsillectomy.

(6) In twenty-three patients with indefinite throat and general symptoms, a satisfactory result had been recorded in only about half the number.

(7) A comparison between the presence of symptoms of pharyngitis and laryngitis before and after the operation indicated that operated patients are scarcely more liable to these attacks than non-operated patients.

(8) Thirty-one patients indicated a depreciation, eighteen an improvement of the singing voice after the operation, whereas ninety-nine stated that it was unchanged. When an operation is performed very conservatively, and systematic singing exercises are employed after the operation, it may certainly be expected that there will be no depreciation of the singing voice, even among singers, and that in some cases it may even be improved.

(9) Twenty-seven patients indicated swallowing troubles (tendency to get fluids " down the wrong way "). These cases do not seem to bear any relation to changes in the voice.

(10) Out of 282 patients operated upon there has been only one death, from post-operative hæmorrhage and double pneumonia, in a patient with severe chronic nephritis.

(11) In 13% of the operated patients there had been post-operative hæmorrhage (5% being slight and 8% severe).

(12) After more than half of the operations there was a rise of temperature, which was only slight in the great majority of cases : in 4% there had been more marked rises of temperature, usually accompanied by one or more serious complications in the form of pulmonary trouble, severe hæmorrhage, or severe inflammation in the throat.

(13) In 2% of the patients there had been marked, post-operative phlegmonous reaction in the throat : in all of these cases the reactions disappeared in the course of some days.

[Author's Summary.] H. V. FORSTER.

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MISCELLANEOUS

Oto-Laryngological Conditions wrongly attributed to an Enlarged Thymus. H. M. JANSE. (*Annals of O.R.L.*, 1933, xlii., 1110.)

The condition of enlarged thymus is one not uncommonly diagnosed to account for stridor during life, or sudden death under anæsthesia. A laryngological examination of many of these cases, however, would demonstrate that the obstruction was elsewhere, a folded epiglottis, enlarged arytenoids, or flabby ventricular bands. An X-ray examination is no proof of a pathologically enlarged thymus, as some increase of shadow is found in 40% of normal infants at least, and the X-ray study is apt to give false impressions owing to the variation of the shadow in the different phases of the cardiac and respiratory cycles. Too frequently deaths occurring during the administration of the anæsthetic are the responsibility of the anæsthetist rather than of the enlarged thymus.

Six cases are quoted, all of which had been diagnosed as enlarged thymus, whereas the condition causing the stridor was intralaryngeal.

E. J. GILROY GLASS.

Pseudo-Ephedrine in Asthma. G. W. BRAY and L. J. WITTS. (*Lancet*, 1934, i., 788.)

The authors have, at the instance of the Medical Research Committee, carried out comparative clinical tests of the therapeutic value of ephedrine and pseudo-ephedrine in asthma. They state that pseudo-ephedrine given by mouth was more efficacious than ephedrine in lessening the frequency of attacks of asthma in childhood. It is less efficacious than ephedrine in relieving the actual asthmatic paroxysm in adults. It is less toxic than ephedrine, but may produce the same unpleasant side issues in large doses. Pseudo-ephedrine is worthy of further trial in the treatment of asthma in childhood, and in the treatment of adults who are unable to tolerate ephedrine. Neither ephedrine nor pseudo-ephedrine is as effective as injections of adrenalin in the treatment of the asthmatic attack.

MACLEOD YEARSLEY.

The Blood-Brain Barrier in Infectious Diseases: its permeability to Toxins in Relation to their Electrical Charges. U. FRIEDEMANN and A. ELKELES. (*Lancet*, 1934, i., April, 7 and 14.)

The authors' conclusions may be summarized as follows: The blood-brain barrier is localized in the walls of the cerebral capillaries and its permeability coincides with that of the cerebral capillaries. Four methods of experiments with toxins were used; artificial perfusion of the brain; auxoneurotropic effect; comparative termination of the lethal dose of the toxin by the intravenous and the

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intrathecal route ; and identification of the toxin in the brain after intravenous injection. The conclusion reached is that the blood-barrier is permeable to cobra venom and lamb-dysentery toxin, and impermeable to diphtheria, botulisms and tetanus toxins. The property of the toxins of vibrion Nasik and vibrion El-Tor are not sufficiently known. Amongst the toxins investigated, the ability to pass the barrier is related to electrical charge. Diphtheria, tetanus and botulinus toxins which do not pass the barrier carry a negative charge at the pH of the blood. Lamb-dysentery toxin is neutral, and cobra toxin carries a positive charge at the pH of the blood. The authors' experiments suggest that the electrical charge of toxins has a bearing on the problem of the incubation period. The two toxins which are neither neutral nor carry a positive charge have no incubation period. The fact that diphtheria toxin does not act on the brain considerably changes the conceptions on the pathogenesis of infectious diseases. In the authors' opinion vaso-motor collapse is due to the action of diphtheria toxin on the vascular system and its peripheral nerves, and the way is now open for more intimate investigation of toxic action on cells, and it is probable that this way may lead to new and fundamental conceptions, since the pathological changes of the vascular system have now become the central problem in the pathogenesis of diphtheria.

MACLEOD YEARSLEY.

Potent Formol Toxoid as a Diphtheria Prophylactic and the Interpretation of the Moloney Test. E. A. UNDERWOOD. (*Lancet*, 1934, i., 678.)

The author gives his experiences of Toxoid-antitoxin mixture (T.A.M.) in Leeds. Formol toxoids of Lf. 20 and upwards per c.cm. were tested on a child population in which the natural immunity to diphtheria is very low. Generally three doses of toxoid, each of 1 c.cm. were given at fortnightly intervals, the average dose of formol toxoid per case varying from 55 to 78 Lf. units. The induction of immunity was rapid ; 84 to 96% of the various groups of children were Schick-negative within four weeks, and 90 to 100% within eight weeks. Individuals who are likely to react unfavourably to injection with toxoids of these values can usually be picked out by the Moloney test. A positive Moloney reaction should, however, be interpreted more strictly to mean any reaction at all of an inflammatory nature at the injection site, when read at forty-eight hours. An " M-delayed " reaction is also described ; it is suggested that it is of some significance. Few cases showed unpleasant symptoms after the injection of formol toxoid. These symptoms were transient and mild in nature.

MACLEOD YEARSLEY.

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Miscellaneous

Hydatid Cyst of the Thyroid Gland. DR. NAVARRO (Cordoba). (*Revista Española y Americana de Laringologia*, August, 1933, 345.)

The patient was a married woman of twenty-two, three months pregnant. For five years she had noticed a lump like a nut on the right side at the root of the neck. For a year it had been growing rapidly, and since then she had tremors, dyspnœa on effort, change in the voice, and frequent cough. The pregnancy had aggravated these symptoms and caused vomiting. On the right side, in the situation of the right lobe of the thyroid gland there was a round tumour the size of a large orange, which extended down behind the clavicle and moved with the larynx on swallowing. The glottis was markedly oblique and there was a recurrent paralysis of the right cord. The only sign of hyperthyroidism was a digital tremor. The tumour was removed under local anæsthesia by an incision along the anterior border of the sterno-mastoid extending down to the clavicle with a horizontal extension from the lower end across the middle line. The author prefers this to the incision of Kocher. The tumour consisted of two parts, one with a fleshy reddish texture characteristic of normal thyroid tissue, forming a cup over the other part, which was thought to be a colloid cyst. It was noticed that it was not included in the thyroid mass but appeared to be attached to it, although it was inside the capsule. When incised, clear fluid escaped instead of the colloid material expected. Histological examination of the cyst wall by Professor Saldaña confirmed the diagnosis of hydatid cyst. Examination of the blood on the day following the operation showed 5% of eosinophiles. Lieutaud discovered such a cyst in 1754 but very few were described in the following century because they were only discovered either by chance, at autopsy, or because they burst into the trachea. Now that operations on goitres are frequent more have been reported, especially from the Argentine, where both goitres and hydatid cysts are common.

L. COLLEDGE.

Some Remarks on Tuberculosis of the Salivary Glands. JEAN FEUZ. (*Les Annales d'Oto-Laryngologie*, January, 1934.)

A detailed description of the clinical record of a case of tuberculous infection of the parotid gland is the author's introduction to his subject. The condition first manifested itself as a slight swelling in the left pre-auricular region. The increase of the tumefaction was quite slow and entirely painless. When fluctuation became apparent, the question arose, was the cold abscess due to a suppurative adenitis or to a suppurative parotitis ? The point was cleared up by injecting a radio-opaque liquid through Stenson's duct and noting the radiological findings.

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Tuberculosis of the salivary glands is very rare. The possible explanation of this fact is discussed. There are two clinical forms of the disease: by far the commoner is a general induration of the affected gland. The other is a localized suppuration. The differential diagnosis is discussed. Salivary lithiasis is obviously a condition which would have to be ruled out, but the clinical history of the latter is very characteristic. Tumour, salivary cyst, gumma and actinomycosis would have to be considered, but the greatest difficulty in diagnosis is the determination as to whether the suppuration is of salivary or lymphatic gland origin. Treatment is discussed, and the author is in favour of physical methods of treatment as opposed to surgery.

M. VLASTO.

Tubular Adenoma of the Soft Palate treated by Electro-Surgery. ANTONIO PRUDENTE and HOMERO CORDEIRO. (*Revista Oto-Laryngologica de S. Paulo*, 1933, i., 456.)

The case reported is that of a man aged 29, who for four years had noticed a small slowly growing mass on the soft palate. It was painless and did not interfere with speech or swallowing.

On examination a small red, rounded mass about the size of an almond with an embossed surface was found on the soft palate about 1 cm. to the right of the base of the uvula. It was sessile, firm, and not tender. It did not bleed when touched. The Wassermann reaction was negative.

A small piece was removed for examination; and was described by Professor Donati as a tubular adenoma.

Under local anæsthesia by injection of 1% novocaine, the writers removed the tumour by diathermy. The "Penetro-Therm Duplex" machine was used. The tumour was first delimited with the diathermy knife and then removed with the diathermic snare without any palatal perforation. Healing was complete in three weeks; there was no resulting deformity of the palate except a little distortion of the uvula, which did not cause the patient any inconvenience.

The writers point out the great rarity of such a tumour in this position. They discuss the differential diagnosis (lipoma, papilloma, fibroma, dermoid "mixed tumour" and carcinoma) and emphasize the importance of early and thorough removal as a precaution against the possibility of a tumour of this kind becoming malignant.

F. W. WATKYN-THOMAS.

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