ABSTRACTS

EAR

Operations on the Temporal Bone carried out with the help of the Lens and the Microscope. GUNNAR HOLMGREN. (*Acta Oto-laryngologica*, Vol. iv., fasc. 4.)

Owing to the small dimensions of such middle-ear structures as the stapes, fenestræ, etc., it is impossible without the help of optical magnification to obtain the precision and security desirable in radical operations involving the tympanic cavity. For more than a year, therefore, the author, in performing the radical mastoid operation, has made use of a binocular lens with magnification of two diameters. The instrument is that devised by the ophthalmologist, Gullstrand, and is worn like a pair of spectacles, giving a stereoscopic picture at a distance of 25 cm. To use the instrument correctly some practice is required; a good light, such as that from a Nernst lamp, concentrated by a lens and reflected into the wound is also essential.

In order to attain a greater magnification a Zeiss binocular microscope has been used, with a magnification of nine diameters, a still higher power being sometimes employed. Small and delicate instruments have also been devised for operating under these conditions.

By the help of the microscope the mucoperiosteum of the tympanic cavity can be completely removed, carious bone can be eradicated from dangerous situations with precision and safety, the tensor tympani muscle and processus cochleariformis can be removed with ease, and the mobility of the stapes and of the membrane of the fenestra rotunda estimated with certainty. The microscope, besides, renders possible the exact performance of various delicate operations which have been suggested and occasionally practised in cases of chronic obstructive deafness, such as the removal of cicatricial tissue from the inner tympanic wall and the establishment of artificial fenestræ. THOMAS GUTHRIE.

Spontaneous Rupture of the Internal Carotid Artery, with Hæmorrhage from the Ear. Dr R. J. HUNTER. (*Laryngoscope*, Vol. xxxii., No. 9, p. 678.)

After reviewing the literature of rupture of the carotid artery the author describes a female patient, aged 45, suffering from lung tuberculosis and a history of five months' ear trouble. The right ear showed a purulent discharge and a swelling of the upper wall; no mastoid tenderness. About half an ounce of blood spurted from the ear while the patient was coughing. Sixteen hours later, hæmorrhage of about 8 ounces; twenty-four hours later, about a pint; six hours later, about 10 ounces; finally, in two hours, 7 ounces.

The patient became weak and died. The post-mortem showed the mastoid process a large abscess cavity, the anterior wall of the tympanum necrotic, but with no actual dehiscence. The internal carotid artery was ruptured at the first bend of the carotid canal, the perforation being 3 × 5 mm. The perforation was certainly caused by the inflammatory process. No attempt at ligature was made owing to the general condition of the patient. There is an ample bibliography. ANDREW CAMPBELL.

On the Condition of the Intact Vestibular Apparatus after the other side has been destroyed, with some Remarks on the Quantitative Estimation of Vestibular Excitability. Dr JOSEF SPIRA. (*Monatsschrift für Ohrenheilkunde und Laryngo-Rhinologie.*)

For the purposes of this investigation the author first tested the value of the Caloric Reaction, according to the method suggested by Kobrak, in fifty normal (or nearly normal) persons. He was thus able to confirm Kobrak's statement that in most cases a nystagmus could be induced by the use of 5 c.c. of water at a temperature of 26°. Experience has shown him that it is best to postpone directing the patient to turn his eyes to one side or the other until just before nystagmus can be expected, that is, in some twenty to thirty seconds; and he finds also that he can obtain accurate results by indicating the direction in which he wishes the patient to look with his finger held at about 1 metre distant, and has therefore given up the use of the instrument for this purpose (Blick-Fixator). This method was sufficient in most cases, but in some it was necessary (after a pause of ten minutes) to repeat the irrigation with water at a reduced temperature of 23°, or it might be 14°; and if with this no nystagmus was obtainable, he used 10 c.c. of water, varying the temperature as before, as might be required. On the whole he is inclined to agree with Kobrak that in a normal person a nystagmus can always be induced with 5 c.c. of water at 27°, though the duration of such nystagmus varies.

He then tested eighteen patients in whom one labyrinth was functionless from various reasons. In all these cases he was able to obtain, by the above method, a nystagmus directed towards the injured side, on irrigation of the sound ear; but in all of these a temperature considerably lower than 27° was found necessary.

The response of rotation was also tested with the usual expected results in these cases.

The author considers that it is fair to suggest from these investigations, though he admits the number of cases on which his remarks are based are small, that, with unilateral destruction of one labyrinth (the causal agency of which is unimportant) the response of the

sound ear to caloric stimulus is in certain cases at any rate depreciated; the cause of this is unknown, probably it is to be chiefly referred to some central lesion. He trusts that other investigations on the same lines may tend to solve the problem.

ALEX. R. TWEEDIE.

The Prevention of Nausea following Vestibular Stimulation. HEINRICH FISCHER and ERNST WODAK. (*Münch. Med. Wochenschrift.*, Nr. 11, Jahr. 69.)

The writers have successfully overcome the nausea and its attendant ills which often succeed vestibular stimulation by ensuring a faultless fixation of the patient's head. This can be best achieved by fixing a metal receptacle containing some warm "Stent's Composition" to an upright from the examination chair and getting the patient to bite into same. In this manner it is possible to obtain a perfect immobility of the patient's head.

JAMES B. HORGAN.

The Caloric Labyrinth Tests with Minimal Stimuli. N. D. DÉMÉTRIADES and PH. MAYER. (*Monats. f. Ohrenh.*, Year 56, No. 6, 1922.)

This article is based on the results of the examination of 150 patients, according to the method of Kobrak, with 5 c.c. of water at from 13 to 15° C., the stream being directed towards the postero-superior part of the wall of the external meatus, so as to avoid, as much as possible, direct pressure on the tympanic membrane. In the hot water reaction, water at from 38 to 45° was used. The procedure was as follows:—

A note was first made as to the presence of compression nystagmus, and five minutes allowed to elapse before testing the caloric reaction with the 5 c.c. of water at 13°. In a few cases only was it found necessary to employ a further similar amount at 25 to 30°, and if, after two minutes, no reaction with the latter was obtained then a still greater quantity of water at the same temperature was used. Between testing the two ears some five to ten minutes' pause was made. The following points were noted:—

1. The nystagmus.
2. The effect of the position of the head on the nystagmus.
3. The pointing test in the shoulder-joint.
4. The falling reaction.
5. The sensation of giddiness.

As a control, fifteen people with healthy ears were tested. In these it was found that on the average, after 3 c.c. of water at 13°, nystagmus of the first grade was induced in from 25 to 40 seconds, and lasting from 40 to 90 seconds; whilst nystagmus of the second

grade appeared in from 15 to 30 seconds, with the use of 5 c.c. of water, which lasted 60 to 120 seconds.

No giddiness, falling reaction, or by-pointing occurred in any of these cases.

An account then follows of particular pathological cases with critical remarks. The article terminates with the following conclusions:—

1. The compression test only seldom affords a trustworthy result, but is then of great clinical value.
2. It is important always to use water at the same temperature—13 to 15° being recommended.
3. The optimum position of the head can be advantageously combined with the method of Kobrak.
4. The hot caloric test gives uncertain results, and is unnecessary for purposes of diagnosis.
5. In normal cases 5 c.c. of water at 13 to 15° induces a nystagmus in from 15 to 30 seconds, which lasts from 60 to 120 seconds.
6. Neither giddiness, by-pointing, or falling reaction is induced by this method.
7. In cases of chronic suppurative otitis media the induction period is reduced, but the duration of the nystagmus, in most cases, is normal.
8. No effect may be induced in cases of inner ear disease by Kobrak's method, but a reaction is obtained by larger amounts of water.
9. The duration of the latent period is dependent on both the extra- and intra-labyrinth condition.
10. Cases of even advanced extra-labyrinth lesions react to Kobrak's method.
11. The duration of the latent period is dependent on the excitability of the peripheral sense organs; the duration of the nystagmus on the sensibility of the central nervous system.
12. The hyper-excitability of the peripheral sense organs is usually associated with a central hyper-sensibility or normal sensibility, as is also a hypo-excitability of the peripheral sense organs, commonly found in connection with a central hypo-sensibility.
13. Slight hyper-excitability of the labyrinth is characterised by a shortening of the latent period (under ten seconds) and the occurrence of giddiness, falling reaction, and by-pointing; whilst more advanced cases show a still shorter latent period and marked lengthening of the duration of the nystagmus. Slight labyrinth hypo-excitability conversely is characterised by a shortened duration of the nystagmus, whilst still slighter degrees of excitability are evidenced by the shortened

duration of nystagmus, and marked lengthening of the latent period.

14. The horizontal-rotatory nystagmus induced by the caloric test can only be transformed into a horizontal nystagmus, by inclining the head towards the shoulder of the side being tested, in 50 per cent. of cases. Alteration of the direction of the nystagmus can only very seldom be affected with certainty.

The article contributes some very valuable data towards the standardisation of the cold caloric test, but unfortunately no mention seems to be made of the rate or pressure at which the irrigation was conducted. ALEX. R. TWEEDIE.

PHARYNX AND NASOPHARYNX.

The Bacteria of the Tonsils and Adenoids. NELLIE WALL, M.Sc., M.B. (*Brit. Med. Journ.*, 25th November 1922.)

The results are tabulated of the examination of the tonsils removed from children under sixteen years of age, at an out-patient department and at school clinics, the methods of culture being given in detail.

Tubercle bacilli were found in 2.5 per cent., and in the positive cases there was neither clinical evidence nor history of tuberculosis.

Streptococci and *Micrococcus catarrhalis* were the most constant organisms, both on the surface and in the depths of the crypts, and were each present in over 95 per cent. of cases.

Staphylococcus — aureus and *albus — Micrococcus flavus* and pneumococcus were each represented in over 50 per cent., while *B. influenza*, meningococcus, and *B. coli* were present in 10 per cent. T. RITCHIE RODGER.

Quantitative Bacteriology of the Tonsils. H. D. CAYLOR, M.D., and GEORGE F. DICK, M.D., Chicago (*Journ. Amer. Med. Assoc.*, Vol. xxviii., No. 8, 25th February 1922).

An investigation of the significance of the number of bacteria present in the interior of the tonsil was made, and an endeavour to determine more accurately the sort of tonsils that are a menace to health, and those comparatively harmless. This was used as an index to the degree of pathological change in the gland.

A table is given showing the relation of bacterial counts to the size, weight, and pathological change in the tonsils, the type of organism predominating, and the presence of disease in other parts of the body. The table shows that the tonsils from patients who complained of recurring sore throat, or who had at the time of operation enlarged cervical glands contained from two to twenty times as many bacteria per gram as those without the clinical history.

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There is no apparent relation between the number of bacteria per gram of tonsil and the type of organism predominating on the plates, nor is there any apparent relationship between types of bacteria and the clinical condition of the patients or pathological condition of the tonsils. Those showing the highest bacterial contents per weight were the relatively small tonsils in which chronic inflammatory changes had occurred.

The Authors' conclusions are as follows:—The results of this work indicate that tonsils should not be regarded as harmless because they are small. It is often impossible to express pus from smaller tonsils, because drainage of the crypts is prevented by fibrous tissue. The total bacterial content, as well as the number of bacteria per gram, may be much greater than that of large tonsils.

Quantitative is of more aid than is qualitative bacteriology in determining the condition of tonsils that have been removed and in determining their possible relation to disease elsewhere.

PERRY GOLDSMITH.

Radium Treatment of Diseased Tonsils. CARL F. ROBINSON. (*Amer. Journ. of Roentgenology*, Sept. 1922.)

A series of 75 cases of enlarged and diseased tonsils was treated by radium.

In small children, a 50-mgrm. tube screened with 0.4 silver, 1 mm. brass, and 1 mm. rubber was applied externally over the tonsil for six to ten hours. Thirty cases were treated and 25 were cured.

The needle method was used in 25 cases. It consists in the introduction of two 12.5 mgrm. radium needles into the centre of each tonsil. Those are left in position for two to four hours. The radium applicator, by which the element is held directly against the tonsil, was employed in 20 cases. The writer strongly recommends this method of treatment on account of its safety, simplicity, and painlessness. DOUGLAS GUTHRIE.

Roentgen Ray Treatment of Chronically Infected Tonsils and Adenoids. C. G. WATERS, P. B. MACCREADY, and C. H. HITCHCOCK. (*Amer. Journ. of Roentgenology*, August 1922.)

This paper is based upon the cases treated by roentgenotherapy. There was a decrease in the size of the tonsils, especially in the large cellular variety, and when the symptoms are due to the hypertrophy alone the results were good.

X-ray treatment of tonsils and adenoids may be useful when surgical interference is contra-indicated.

The cure of tonsillar sepsis cannot, however, be achieved by this method of treatment, the tonsils remaining infected and their bacterial flora unchanged. DOUGLAS GUTHRIE.

Pharynx and Nasopharynx

The Treatment of Peritonsillitis. HEINZ DAHMANN. (*Münch. Med. Wochenschrift.*, Nr. 11, Jahr. 69.)

The treatment advocated by Dahmann may be summarised as follows. In all cases conservative treatment is tried in the first instance. In the likelihood of pus being present, an exploratory puncture is made with a trocar and cannula. If pus is present, and if the abscess cavity extends well forwards, it is opened through the anterior faucial pillar, provided that an early tonsillectomy is not in question, and that it is the patient's first attack of peritonsillitis.

If the abscess lies in the proximity of the upper pole of the tonsil, if the anterior pillar has been incised on several previous occasions, and if an early tonsillectomy is undesired or contra-indicated, the abscess is opened via the supra-tonsillar fossa.

The upper pole of the tonsil is in all cases freed or luxated from the tonsil fossa. This manœuvre is also carried out in those cases of primary peritonsillitis in which it is intended to perform a subsequent tonsillectomy. JAMES B. HORGAN.

The Clinical Importance of Ossification of the Stylohyoid Ligament. BENJAMIN LIPSHUTZ, M.D., Philadelphia. (*Journ. Amer. Med. Assoc.*, Vol. lxxix., No. 24, 9th Dec. 1922.)

Attention is directed to the possibility of this condition producing pharyngeal distress when the process is longer than normal and medially directed. It then lies in intimate relation to the faucial tonsil. One must remember the existence of the sub-pharyngeal cartilage of Luschka which occurs not only in the lateral wall of the oropharynx somewhat below and behind the tonsil, but also in the tonsil itself. Luschka's cartilage is hyaline in type embedded in a capsule of white fibrous tissue, and is believed to be a vestige of the third post-aural arch. PERCY GOLDSMITH.

LARYNX.

On the Form and Dimensions of the Ventricle of Morgagni. Dr S. BELINOFF. (*Monats. f. Ohrenh.*, Year 56, No. 6.)

The Author has investigated the anatomy of this part of the Larynx in 56 cases, by means of plaster of Paris casts taken after death in patients, who had died from various causes.

After a short historical and critical review he summarises his conclusions in the following remarks:—

1. The variations of the Ventricle of Morgagni, both in shape and size are numerous, and cannot be accurately shown by sections.

2. Casts give a more accurate result, for which purpose plaster of Paris is preferable. Some better material, however, should be found since even this does not reach all the ramifications of the ventricle.

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3. The Ventricle of Morgagni is larger than is generally represented in literature. It can best be compared to a three-sided pyramid. The upper and lower walls have already been recognised, but the lateral wall has never yet been described. The casts show that this wall is usually present and averages a height of 8 mm.

ALEXANDER TWEEDIE.

Diathermy Cautery Puncture in Tuberculous Laryngitis. A. HOFVENDAHL. (*Acta Oto-laryngologica*, Vol. iv., fasc. 3.)

As compared with the galvano-cautery, surgical diathermy offers the following advantages:—(1) The depth and direction of the effect can be controlled by regulation of the strength of the current, and by selection and adjustment of the indifferent electrode. (2) The coagulation of tissue is much more extensive than by the electro-cautery. (3) The protecting epithelium may remain uninjured when an electrode is used only the terminal portion of which is active, the proximal portion which lies in the epithelium being insulated. (4) The destructive effect is so widespread that a single puncture may suffice and frequent repetition is not required. (5) In infiltrations on the posterior wall the puncture, being free from pain, can be carried out with exactitude to the required depth. (6) The annoying smoke associated with the galvano-cautery is entirely absent in diathermy. The treatment is free from pain after efficient cocainisation, and subsequent pain and swelling of the surrounding tissue are slight.

THOMAS GUTHRIE.

Intra-tracheal Struma. E. WÜRSTER. (*Münch. Med. Wochenschrift.* Nr. 38, Jahr. 69.)

This is the twenty-seventh case recorded in literature.

The affection may be due either to an invasion of the tracheal lumen by a portion of the thyroid gland or to the dispersal of embryonic rests in this region. The tumour usually grows from the anterior wall between the cricoid and the upper four tracheal rings, it is always encapsulated and is covered by movable mucous membrane. Malignant degeneration has only once been observed.

A suspicion that such a tumour exists should be aroused if the dyspnœa present is out of proportion to the size of an existing external struma. The diagnosis is confirmed by the use of the laryngoscopic mirror. A lateral radiograph affords valuable information.

If symptoms of stenosis exist the tumour should be removed by tracheotomy after the division of its covering mucosa. In severe cases a preliminary low tracheotomy is unavoidable.

JAMES B. HORGAN.