inhaled into the larynx, and extraordinary improvement in the condition of the larynx would follow cleansing of the nose.

Mr T. A. CLARKE had seen oral and nasal sepsis cause dysphagia of a spasmodic character.

Mr A. F. MACCALLAN recognised dental sepsis, tonsillar abscess, and intestinal sepsis as causes which induced a weakening of the patient's resistance manifested by certain signs in the eye. These patients had frequently normal vision, but changes were found in the eyes which pointed to the presence of sepsis somewhere.

Dr WILLIAM HILL said the rhinologist did not find in everyday practice that his patients were conspicuously suffering from respiratory affections, and he inferred from this that the conditions under discussion were not frequently the result of marked focal infection in the nose. He was still sceptical as to the part played by infections which were non-suppurative.

Mr CYRIL HORSFORD considered that a large number of gastro-intestinal and pulmonary cases depended directly upon nose and throat disease.

ABSTRACTS

THE EAR.

The Osiso as a Phonoscope for the Deaf. JOSEPH W. LEGG. (*The Laryngoscope*, August 1927.)

The oscillograph is an instrument capable of recording instantaneous values of electric currents and has been known for more than a generation. The Osiso is an extremely portable and highly efficient oscillograph. It is to the older forms of oscillographs what the kodak is to the old wet-plate cameras. The instrument was developed primarily for studying alternating currents in power lines. The Osiso is six inches wide, nine inches high and ten inches long. The whole outfit, including the motor-driven viewing attachment and the phonoscope distributor, weighs but 14 pounds. It has a multiple wave-distributor which makes it possible to project four waves of speech, side by side, so that no two waves conflict. The instrument is so constructed that the instructor can talk into one microphone and the deaf pupil into another, so that each may see both wave forms, apparently simultaneously, side by side.

The Osiso should make it possible for the deaf child to improve his speech, and possibly to learn to receive speech by sight over the telephone or radio. The deaf child can learn to reach and hold the exact pitch of the instructor's voice; expression, or emphasis, can be

taught as the deaf person can practise repeating the same sound indefinitely, since he can now observe any change in his voice waves.

J. S. FRASER.

Histology of Deaf-mutism following Scarlatinal Meningitis. G. RÜMBELI (Zürich). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xix., Heft. 2, p. 195.)

In most cases of scarlatinal deaf-mutism there is obvious and extensive change in the middle ear, the tympanogenic group. Siebenmann described the meningitic group in which the middle ear is unchanged but the structures of the internal ear are completely replaced by inflammatory and osseous tissue. There is a great dearth of descriptions of the latter group, and Rümbeli in Nager's laboratory has endeavoured to fill the gap by his report of the histology of two cases. The middle ears were normal, the inner ears completely changed, while the internal auditory meatuses contained no remains, even of the auditory nerve. The subjects were elderly people who had been completely deaf since scarlet-fever at the ages of 4 and 10 respectively.

JAMES DUNDAS-GRANT.

On the Treatment of Purulent Affections of the Inner Ear and Indications for Operation. GUSTAV ALEXANDER. (*Monatsschrift f. Ohren.*, 1927, vol. viii.)

Stimulated by references to this subject made by Ruttin and Zange, at the meeting of the German Throat, Nose and Ear Specialists in Vienna last June, Alexander has been drawn to emphasise, once more, his opinions on this subject under the following headings:—

> The Principal Surgical Characteristic of Purulent Internal Otitis; Serous Internal Otitis; Method of Operation on the Inner Ear; Indications as to treatment.

He does not consider purulent internal otitis a separate surgical complication of suppurative middle-ear disease, such as sinus thrombosis or abscess of the brain.

He agrees with Fisher that, on the average, the disability in 25 per cent. of Deaf Mute children is traceable to such purulent internal otitis, which cases must therefore largely have recovered under conservative treatment. He suggests that, for the most part, this extension of suppurative disease from the middle-ear to the inner ear must heal spontaneously.

Serous internal otitis is characterised by an acute onset, rapid course, and with recovery and restoration of function.

As to the method of operation on the inner ear, he considers minor

investigations without previous separation of the dura mater as either insufficient or unnecessary.

The article is summarised in the following table:—

Diagnosis.	Treatment.	Unfavourable sequelæ due to misleading indications.
I. Serous Internal Otitis.	Conservative.	.....
II*a*. Purulent Internal Paraotitis.		
II*b*. Purulent Internal Periotitis, with or without fistula, with certain remnants of hearing and complete retention of labyrinth reflex. (That is with attacks of giddiness, and, if a fistula is present, fistular symptoms.)	Immediate radical operation on the middle-ear. The patient should submit to immediate operation, otherwise conditions supervene in which one cannot operate; (III*a*. and *b*.) or complications occur; (IV*a*.) and risk to life.	.....
III*a*. Purulent Internal Periotitis, with or without fistula, with remnants of hearing but with decreased labyrinth reflexes. (No definite giddy attacks, fistula symptom either absent or only occasionally present.)	First, conservative treatment with rest in bed (from 6 to 8 weeks), with most careful palliative treatment of the middle ear, and at the end of this time radical operation of the middle ear.	With the clinical condition in Column 1 the treatment recommended is as described in Column 2; if such period of rest be not observed and a middle-ear operation undertaken at once, in all probability a fatal meningitis will be induced. An inner ear operation in addition, without waiting this period, becomes useless. However, if such period of rest be observed, then the middle-ear operation should be sufficient.
III*b*. Uncomplicated Diffuse Purulent Internal Otitis.		
IV*a*. Diffuse Purulent Internal Otitis with complications.	Immediate inner and middle ear operation at the same sitting.	.....
IV*b*. Diffuse Purulent Internal Otitis with Meningitis.	In early cases seen not more than 48 hours after the onset of the deafness, there is a prospect of preservation of the hearing with drainage of the inner ear and opening of the external semicircular canal.	.....

ALEX. R. TWEEDIE.

Diagnosis and Differential Diagnosis of the Otogenous Brain Abscess. ROBERT LUND, Copenhagen. (*Acta Oto-Laryngologica*, Vol. xi., Fasc. 3.)

This article corresponds to two lectures delivered at the competition for professorship in oto-laryngology at the University of Copenhagen.

Of late, several otological clinics have reported statistics showing a mortality in otogenous brain abscess of 75 to 80 per cent. In the oto-laryngological clinic of the Municipal Hospital of Copenhagen, 10 only out of 54 cases recovered. This high mortality is explained

by the difficulty of early diagnosis. Otogenous brain abscess is nearly always localised near to the suppurating middle-ear and mastoid, *i.e.*, the cerebellar hemisphere or temporal lobe of the same side. In most instances abscess of the temporal lobe takes place by direct contact infection, and is first localised to the gyrus fusiformis and gyrus tertius, later spreading medially and anteriorly. Frequently there is a definite abscess capsule, but equally often none at all, the species and virulence of the infecting germs determining this variation. In a few cases an abscess is formed without the dura mater being involved in the inflammatory process, and in such cases is probably brought about by infection along vessels perforating the roof of the cavum tympani and dura mater.

Cerebellar abscess, as with temporal lobe abscess, develops most commonly from a contact infection either—

(1) in front of or behind the lateral sinus;
(2) through a thrombosed sinus;
(3) through the labyrinth.

The inflammation spreads medially along the medullary radiations to the brain stem.

A brain abscess may in acute middle-ear suppuration become manifest after the tympanic membrane has healed, but is quite a rare occurrence with a normal tympanic membrane. The great majority of them are secondary to chronic middle-ear suppuration. Out of ten cases only one followed the acute condition; further, half of all otogenous brain abscesses are due to a cholesteatomatous middle-ear lesion.

Concerning the diagnosis of brain abscess, development proceeds in four stages not always sharply defined—initial, latent, manifest, and terminal.

The symptoms may be subdivided as follows:—

1. *General Symptoms.* — Debility; sallow complexion; anorexia, emaciation; constipation; fever, eventually chills.

2. *General Brain Symptoms.*—Headaches, tenderness on percussion; vertigo, nausea, sudden vomiting; slow cerebration; optic neuritis, bradycardia, photophobia.

Cranial Nerve Lesions.

3. *Local Brain Symptoms.*—If the abscess is in the temporal lobe there are focal symptoms such as aphasia and remote symptoms elicited from the internal capsule, *e.g.*, contra-lateral convulsions, and muscular pareses, or when the abscess is in the cerebellum there are again focal symptoms—the cerebellar syndrome of disturbed muscular tonus with its numerous subdivisions, and also vertigo. Then there are remote

symptoms elicited from the medulla oblongata and pons—nystagmus, pyramidal tract lesions, respiratory disturbances, and so on.

The symptoms, however, do not always agree with the location of the abscess. When a temporal abscess is suspected a cerebellar may be found and *vice versâ*, and the difficulties of diagnosis are increased by the possibility of other otogenous intracranial complications with which a brain abscess not infrequently occurs.

In the second lecture the author takes up the differential diagnosis between otogenous brain abscess and other otogenous and non-otogenous diseases; *e.g.*, between otogenous brain abscess and meningitis, epidural and subdural abscess, sinus thrombosis, non-abscess-forming encephalitis; between cerebellar abscess and a labyrinth lesion, and finally, between otogenous brain abscess and intracranial affections not secondary to middle-ear disease.

For the exploration of brain abscess the author attaches great importance to the method of needle puncture through the unopened dura mater, and considers as a great improvement Lemaître's method of drainage for cerebral abscess, *i.e.*, with rubber drains increasing in size each day from the finest which can be passed into the track of the needle puncture up to one with a diameter of one centimetre.

H. V. FORSTER.

Results of the Operative Treatment of Thrombosis of the Lateral Sinus at the Sabbatsberg Clinic during the last ten years (1916-1925). E. BERGGREN, Stockholm. (*Acta Oto-Laryngologica*, Vol. xi., Fasc. 3.)

At the Sabbatsberg clinic it is the usual practice after excision of the external wall of the sinus not to interfere with the thrombus. The jugular vein is ligatured in all cases. No intervention is carried out upon the jugular bulb. With this method there have been obtained during latter years such good results that the author does not see any reason to abandon the above technique and prefers it to interventions of a more radical nature such as are carried out at certain Scandinavian clinics.

H. V. FORSTER.

THE PHARYNX.

The Double Pathology of Vincent's Angina. Frequent Failure to recognise the Primary Lesion. E. ESCAT. (*L'Oto-Rhino-Laryngologie Internationale*, June 1927.)

Secondary infection of an ulcerative lesion with the organisms of Vincent's angina has long been recognised, as the author points out in giving references to the literature. In the author's opinion, however, Vincent's angina is always secondary to some preceding lesion.

In many cases the primary focus will be obvious, acute follicular tonsillitis, gingivitis of the last molar or a chancre of the tonsil; in others only a very careful search with good illumination will demonstrate a primary cause, which is often found to be a small simple ulcer in a tonsillar crypt. Secondary infections of simple inflammatory lesions may be found in the larynx, trachea, nasopharynx or nose, where it is often mistaken for nasal diphtheria.

Experimental inoculations have shown that inoculation with the organisms of Vincent's angina is always negative on a healthy mucous membrane and is positive when the mucous membrane has been excoriated and infection with the usual mouth organisms has occurred.

The practical conclusions are, that while the usual treatment will cure both infections when the primary infection is a simple one, such as in gingivitis, the failure to recognise an underlying syphilitic or tuberculous infection may lead to disaster. Of 60 cases of Vincent's angina treated by the author, in 17 cases the infection was superimposed on a syphilitic infection and in 1 on a tuberculous infection. It is therefore not surprising that a positive Wassermann reaction is sometimes found in cases of Vincent's angina. C. GILL-CAREY.

THE ŒSOPHAGUS.

A Case of Idiopathic Dilatation of the Œsophagus or Cardiospasm. F. A. C. SCRIMGER. (*The Canadian Med. Assoc. Journ.*, Vol. xvii., p. 1518, Dec. 1927.)

The chief points of interest in this paper deal with the surgical treatment of a pronounced case of cardiospasm of five years' duration in which dilatation had been employed but without even temporary relief.

The operation performed was an extra-mucosal incision of the muscles of the œsophagus and cardiac end of the stomach. The dissection is described whereby the upper surface of the liver was exposed, and the coronary ligament incised until the left lobe could be pressed out of the way. The cardiac end of the stomach was thus brought into view. The peritoneum over the lower end of the œsophagus was incised and the œsophagus freed until the dilated portion came into view. The serosa and muscularis of the stomach were incised and the muscular coat over the normal portion of the œsophagus was gradually lifted from the submucosa, and torn open, exposing the submucosa of the lower inch and a half of the œsophagus, and the proximal inch of the stomach. The stomach tube was passed down, entering freely, covered only by mucosa and submucosa. Recovery was uneventful. About a year later, the patient was well and taking all ordinary foods. A. BROWN KELLY.

The Œsophagus

Clinical Signs and Different Endoscopic Appearances of Cancer of the Œsophagus at the Early Stage. J. GUISEZ. (*Bulletin d'Oto-Rhino-Laryngologie*, Sept. 1927.)

The writer claims that it is actually possible to make a certain diagnosis of cancer of the œsophagus in its early stage, when treatment of the lesion, still confined to the walls of the organ, holds out by the application of radium a very fair prospect of cure.

The first warning is almost invariably given when on swallowing rapidly a rather large mouthful of solid food, *e.g.* bread or meat, the patient experienced a sensation as of an arrest of the bolus during its descent, so much so that he feels obliged to swallow mouthfuls of water to make it pass onwards. The trouble may pass off for several meals afterwards but invariably recurs and always on swallowing solid food, never when taking liquids or semi-solids. No other lesion of the œsophagus presents such a characteristic initial symptom. Besides this there are two other signs of great value, viz., a whitish or sometimes blackish exudate on the two sides of the median line and on the base of the tongue, always present in cancer of the superior extremity of the œsophagus, and secondly the presence of small blood-stained striæ in the expectoration.

Similarly endoscopy, although the appearances of early cancer may vary, gives certain almost infallible signs, viz., the tendency to ready bleeding of the growth, and the fixed and infiltrated aspect of the base of the implantation. L. GRAHAM BROWN.

Radium Treatment in Carcinoma of the Œsophagus. Dr H. DAHMANN. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, Band 16, Nov. 1927, pp. 178-192, with 5 illustrations, 16 references.)

The author reviews the various ways in which radium can be used in cancer of the œsophagus. In patients who have already had gastrostomy done, the radium may be brought to the tumour by means of a swallowed silk thread which is pulled out at the gastrostomy opening. The instruments for placing the radium carriers into the œsophagus do not seem to differ essentially from those used in this country.

When the radium carrier is of the long, flexible type containing two or more capsules with radium element, then the distance between the capsules must be adjusted in such a way that there is a maximum radiation effect on the growth even where the intervals between the capsules occur. This point is explained by means of diagrams which show "lines of isodosis" surrounding the radium in its metallic filtering capsule.

There is still much difference of opinion as to the most suitable dose of radiation in this special region. The dose is generally expressed in terms of time, *i.e.* time of exposure, the maximum

radiation effect being assumed while the radium is in contact with the growth. Two parts of the œsophagus are said to be particularly dangerous, due to the close approximation of the pleura (*a*) on the *left* side just above the arch of the aorta, for about 2 cm. (*b*) on the *right* side lower down, viz., just above the cardiac opening over an area which is about 6 cm. long.

When the breaking-down of the tumour is too rapid the pleural cavity may be penetrated; this causes a septic infection, which as a rule ends fatally. In illustration of this point two clinical cases are described.

As a general rule, with suitable radium element and filtration the time of exposure should not exceed six or seven hours. We need no longer fear that too small doses of radiation cause a stimulation of the growth, as this view is said to have been abandoned by most authorities. In many German clinics frequent small exposures are given rather than long exposures at less frequent intervals.

The dosage which is adopted also depends on certain histological characters of the tumour, particularly on the relative preponderance of fibrous tissue and cancer cells. The author suggests that at the *first* œsophagoscopy one should excise a piece of the growth and insert the radium at the same time. A frozen section is made at once, and according to the structure the dose (*i.e.* length of exposure) is determined. If the neoplasm is situated in the "danger zone," as defined above, it is particularly important to use comparatively short exposures. J. A. KEEN.

Radium Implantation in Œsophageal Cancer. JOSEPH MUIR. (*Laryngoscope*, Vol. xxxvii., p. 660, September 1927.)

Cancer of the œsophagus is generally regarded as the most hopelessly incurable of malignant lesions. None of the forms of treatment which have proved successful in combating cancer elsewhere in the body have heretofore been possible of application to the œsophagus. Radium has been even less beneficial than surgery. Three prime drawbacks to this use of radium have always existed: first, the difficulty of placing it accurately; second, the practical impossibility of maintaining it in position long enough to be effectual, and third, the great danger of burning the tissues, which will induce sloughing and fistula into the mediastinum—invariably a fatal accident.

To obviate these difficulties the author has elaborated a technique of radium implantation through a specially designed œsophagoscope which can be readily carried out by anyone experienced in the use of this type of instrument. The field of operation is illuminated and an implanter passed through the tube, so that each radon seed may be placed in full view, and the entire lesion accurately mapped out and evenly implanted. The radioactive centre employed is a removable

platinum radon seed, which offers the double advantage of being so screened that it will not induce necrosis, and the possibility of removal by means of an attached thread so that no foreign bodies are left in the tissue after the contained radium emanation has entirely decayed. The entire procedure is facilitated if done under the fluoroscope, though this is not absolutely essential.

The results in the small series of cases so far treated by this method have been highly gratifying, and although no permanent results can be reported before the lapse of five years, the author feels that the method merits a wide trial, even if it proves to do no more than prolong lives which otherwise will be very shortly terminated.

AUTHOR'S ABSTRACT.

Treatment of Carcinoma of the Œsophagus based on 100 *Cases and* 18 *Post-mortem Reports.* H. S. SOUTTAR. (*British Journal of Surgery*, July 1927.)

In 4 per cent. of the cases of malignant disease, the growth is situated in the œsophagus. The annual mortality from cancer of the œsophagus is roughly 1600, of which 1200 are males. It is essentially a disease of elderly men. More than 80 per cent. occur at or below the level of the bifurcation of the trachea. In women it occurs more or less uniformly at any age over 40 and the level of its occurrence is more uniformly distributed. It is usually a squamous epithelioma. All forms spread by lymphatics and tend to grow round the œsophagus, producing stenosis. It may remain localised to one part of the wall. Multiple nodules are sometimes seen. The commonest termination is perforation into the respiratory system. Secondary deposits appear in lymph glands along the œsophagus. Secondary deposits at a distance are unusual. This is explained by the fact that the region is highly vascular and is surrounded by vital structures and the primary growth in these circumstances destroys the individual before there is any opportunity for the development of secondary deposits. Souttar's experience points definitely to the conclusion that carcinoma of the œsophagus is a disease of high malignancy, and that symptoms appear so late that radical removal excepting in unique cases is a pathological impossibility. This conclusion is supported by the reports of 18 post-mortems. Those cases all show very extensive disease and yet an average duration of symptoms of only 4.7 months.

Symptoms of carcinoma of the œsophagus are gone into fully. Two part X-ray examination is advised—by screen and by film. For œsophagoscopy, Souttar uses his own tubes which have been specially designed so that it is always possible to use the largest tube which can be passed on the patient and the shortest which can reach the stricture.

Details are given about passing the œsophagoscope. The various

appearances seen are described and illustrated. Dilatation of the stricture is described and also the instruments used. Illustrations show a flexible sound on a fine wire over which a novel type of dilator is passed when the stricture has been fully dilated. The dilators are short cylindrical rods of aluminium, graduated sizes being used. Dilatation alone may give relief. For cases in which it does not, Souttar has devised a tube formed of a coil of German-silver wire. The cone-shaped upper end of this tube rests on the top of the stricture. The tube is very flexible and well tolerated on this account. The method of inserting a suitably sized tube, threaded on an introducer, is described and the instruments used are illustrated.

The method is applicable to strictures in all situations excepting the cervical œsophagus, where irritation of the trachea prevents toleration. Where the growth is soft and there is the chance of early passage of the tube through it, Souttar first inserts a rubber cone which rests on the top of the growth and through this cone he passes the tube. The manipulation is by no means easy. Sometimes the tube is displaced upwards by vomiting or by coughing, but it can be replaced.

With few exceptions the patients are able next day to swallow liquids and soft foods with perfect facility. From the statistics of his cases the author thinks that intubation is safer than gastrostomy and that it affords a longer expectation of life. "From the patient's point of view two methods could scarcely be in greater contrast. After gastrostomy he is an invalid, kept alive by artificial feeding and debarred from the exercise of a function without which life is not worth living. After a successful intubation by this method he can eat and drink almost like a normal man, he can enjoy a meal with his family, and there is nothing objective to remind himself or his family of his disease." NICOL RANKIN.

Carcinoma of the Œsophagus: Treatment by Diathermy. A. J. WRIGHT. (*British Journal of Surgery*, July 1927.)

In cases of carcinoma of the œsophagus the author doubts if removal of the growth by open operation will ever become an established method.

Gastrostomy leaves the patient in a wretched condition. Dilatation and intubation (Souttar) does give a reasonable degree of comfort. Radium frequently produces alleviation.

The very great utility of diathermy in cases of malignant growth in the mouth and pharynx led the author to try to adapt its use to malignant disease of the œsophagus. After using his method for over two years he feels justified in encouraging others to try it.

Chloroform general anæsthesia is used, hyoscine and atropine having been injected. Twenty minutes before operation the patient is made to swallow 20 min. of adrenalin in $\frac{1}{2}$ oz. of water. This

diminishes hæmorrhage when the growth is touched. As large an œsophagoscope as possible is used, with suction tube inserted down it as required. The special electrode employed is based on the bougies designed by Chevalier Jackson, and consists of an insulated handle and shaft to the end of which various terminals can be screwed. These terminals consist of (1) a disc 7 mm. in diameter; (2) a small spike; (3) a gum-elastic bougie end, with, at its base, a conical metal ring which forms the actual terminal. The bougie electrode is made in three sizes of 10, 15 and 20 French catheter gauge. Illustrations of all those terminals are given, also an illustration showing the bougie electrode passed beyond the growth preparatory to switching on the current and applying treatment by traction of the electrode through the growth from its lower to its upper limit.

This is the method employed by the author for cases where there is more or less complete annular stricture. He finds it a great deal more satisfactory than attempting destruction of the growth from above downwards. It was for this type of case that the bougie electrode was devised. Smaller growths or isolated nodules are touched under vision with the other types of terminals.

Sloughs separate in about ten days. Intubation can be done after that interval if desired. A month should be allowed to elapse before reapplying diathermy. The whole operation can be done in a few minutes and shock is very slight. The author employs diathermy in all cases which are not desperate.

A pathological report by Geoffrey Hadfield is given at the end of the paper. It is on a case where death occurred in a patient from heart failure. A single diathermy had been done to an extensive fungating growth of the œsophagus seventeen days before. In the œsophagus no stenosis was found at the area of diathermy, the general level of the ulcerated surface being that of the mucous membrane below and above it. The diathermy had destroyed the mass of growth seen during life projecting into the tube. Its effect on the muscle underlying the growth had been to cause a wide-spread inflammatory reaction, but whilst in some places the growth infiltrating the muscle had been but slightly affected, in others it had been almost "snowed under" by inflammatory cells. NICOL RANKIN.

MISCELLANEOUS.

Nose and Throat Observations in Examination of Patients with Bronchial Asthma. PHILIP S. STOUT. (*Journ. Amer. Med. Assoc.*, Vol. lxxxix., No. 11, 10th September 1927.)

The author has observed that in a series of cases whose ages ranged from six to sixty years, there was suppuration of the antrum in 20 per cent., of the ethmoid in 16 per cent., and the frontal in 10 per cent.

Of these patients, drainage of the sinuses caused marked improvement of the asthma in 22 per cent. and moderate improvement in 40 per cent.; 24 per cent. of the patients had polypi, and after removal there was a marked improvement in only 11 per cent., a slight improvement in 74 per cent., while the remainder showed no improvement. Sixty per cent. of the patients showed diseased tonsils; 35 per cent. had had them removed, with slight improvement in 34 per cent. of the cases, which the author feels to be somewhat in favour of removal of the tonsils.

ANGUS A. CAMPBELL.

On Late Recurrences in Carcinoma. J. KAYSER. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, Band xvi., November 1927.)

Dr Kayser describes a case of laryngeal cancer where a hemilaryngectomy was done by Professor Gluck twenty years ago. After this long interval, during which the patient was quite free from symptoms, there arose a local recurrence; this was treated by radium, but the patient died and the "recurrence" could be fully studied.

This case serves to introduce a general discussion on "late recurrences" (Spätrezidive); they are defined as *local* recurrences of the original tumour which occur more than three years after an apparently radical removal.

There is an attempt to answer the difficult questions:

(a) whether these late recurrences are a development of cells which belong to the original tumour and which have remained dormant in the scar tissue? or

(b) whether it is a question of a new disease process?

Thiersch, an authority who is much quoted, assumes that wherever a tumour has once occurred, there exists a "local predisposition" towards tumour formation; this predisposition continues all through life. On this hypothesis a fresh tumour identical with the earlier one may arise after any length of time. The author favours Thiersch's views.

The other school of pathologists maintain that cancer cells may remain alive in the scar tissue up to 20 years or more and start a fresh growth. This view is difficult to reconcile with the fact that the cells of malignant tumours are admittedly less resistant than normal tissue cells to all forms of injury (*e.g.* X-ray, radium). Also most tissue cells have only a certain span of life, after which they are replaced. It follows that long survival of isolated groups of cells is very unlikely.

The article further contains an analysis of statistics concerning carcinoma of the larynx and numerous references. J. A. KEEN.

Miscellaneous

The Sphenopalatine Ganglion. A. I. FELDMANN and M. F. IVANITZKY, Moscow. (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xix., Heft 4, p. 353.)

The authors have made elaborate investigations into the anatomy of the sphenopalatine ganglion. By means of corrosion preparations models, greatly magnified, have been used to illustrate the topography of the fossa, and transparent preparations show the injected blood supply to the ganglion. By the use of Röntgen rays they have made a great number of measurements in order to determine from adjacent points the distance of the anterior opening of the pterygoid canal, which corresponds to the position of the sphenopalatine ganglion.

The pterygopalatine fossa forms the continuation of the zygomatic fossa. It has no external wall. The anterior wall forms the posterior surface of the superior maxilla, while its posterior wall is formed by the anterior surface of the pterygoid process of the sphenoid bone. The palate bone constitutes its medial wall, and the floor of the fossa is formed by the inferior surface of the sphenoid bone.

The fossa communicates with the orbit and the cranial cavity (directly through the foramen rotundum and indirectly through the sphenopalatine foramen and Vidian canal). The configuration of the fossa depends on the degree of pneumatisation of the adjacent air-containing cavities. Its measurements are as follows:—antero-posterior 6.2 mm., transverse 9.1 mm., infero-superior 18.3 mm. The ganglion is not infrequently implicated in the fairly common affections of its neighbouring cavities, sphenoidal sinus, maxillary antrum and ethmoidal cells.

The blood supply to the ganglion is from the terminal branches of the internal maxillary artery, and these are distributed chiefly on the anterior surface of the ganglion. The nasal branches of this artery enter the nose by curving over the inferior border of the sphenopalatine foramen where they can be easily injured in attempts to reach the ganglion from the nasal cavity; the branches to the mouth course down the pterygopalatine canal and these may likewise be injured with ensuing damage to the nerve in attempting to introduce the needle into the canal from the mouth.

The existing methods of inducing anæsthesia of the ganglion are through the orbit, the nose, the mouth and the external methods over and below the malar bone. The orbital route is dangerous (a slight deviation of the needle can cause an injury to vital organs in the orbit).

The nasal and oral methods do not guarantee the aseptic technique essential to the operation; moreover, the dangers of interference with the blood supply around the ganglion must be coped with, and in 3 per cent. of skulls the pterygopalatine canal is impenetrable.

The authors next proceed to describe their "external route," which they consider as being aseptic and comparatively simple. The technique of the puncture is as follows. One takes a straight needle 7-8 cm. long with a curved end. At the proximal end of the needle there is a pointer which indicates the direction of the curve. In order that the opening of the needle may be protected against obstruction, it is placed laterally, close to the end of the needle. The puncture is made below the anterior end of the zygomatic arch. The needle is directed inwards, forwards, and downwards (the tuberosity of the maxilla acting as a useful guide) for a distance of 52 mm. to which 5-7 mm. are added for thickness of the soft parts. The direction of the point of the needle is regulated by the indicator, and it must be during the whole of the manipulation in such a position that the convexity of the needle is directed forwards and the concavity backwards. When the arch glides over the tuberosity of the maxilla the needle reaches the pterygoid canal and presses against it.

J. P. STEWART.

Electro-coagulation Snares in Tonsil and Intranasal Surgery. HOLLENDER and COTTLE, Chicago. (*Surgery, Gynæcology and Obstetrics*, January 1927.)

The authors state that surgical diathermy is being used rather extensively as a substitute for tonsil enucleation, but that the method is inferior to surgical removal as the operation is often incomplete, and may be too extensive. In removing tonsil stumps, however, it is an ideal method.

They describe tonsil enucleation by surgical diathermy by means of a modification of the Beck-Schenck tonsillotomy, in which the snare wire is used as the diathermy electrode. The tonsil is thrust through the ring of the instrument in the usual way and the snare tightened. The current is then turned on for a half to one second and off as soon as the snare wire loses tension. It is then tightened again, and so on till the tonsil is free.

Practically no hæmorrhage occurs and there has been less local reaction than after surgical removal. Healing occurs in the usual time.

Microscopic examination of the tonsils so removed shows coagulation necrosis at the site of operation to a depth of two or three cells only.

The authors have used the diathermy snare in the removal of nasal polypi with good results, and advocate it for removal of small malignant growths in the nose.

S. ADAMS.

Miscellaneous

Primary Thyroidectomy for Exophthalmic Goitre. ARNOLD S. JACKSON, Madison, Wisconsin. (*Surgery, Gynæcology and Obstetrics*, March 1927.)

The author reports 120 consecutive cases, with one death. Of these cases, 33 on admission had a pulse-rate of 120 per minute or over, and only 8 had a pulse-rate of 140 or over.

He discusses the changes that have taken place in the mortality of the operation, and regards the decrease as primarily due to earlier reference to the surgeon, and the use of iodine in the form of Lugols solution, before and after operation, which by removing the symptoms of toxæmia allows local anæsthesia to be used entirely.

In this series 35 per cent. only of the patients required treatment in hospital, a fortnight at most, and generally not more than a week prior to operation. He does not operate on any patient until they can walk without assistance.

The basal metabolic rate is tested in all cases, and no case showing a rate of 50+ or over is considered suitable for operation. After the use of iodine the basal metabolic rate has averaged a fall of +16 per cent.

One patient only in the series, a boy of nine years, required a general anæsthetic.

The operation consisted in the removal of both lobes and isthmus of the thyroid with the exception of a small piece of the posterior surface of both lobes to safeguard the recurrent laryngeal nerves and the parathyroids. After operation large doses of iodine are given, ten drops every half hour for six doses, and four thereafter till the following morning. Each day the dosage is decreased ten drops. Post-operative complications consisted of severe occasional reactions, due to lack of care in the use of iodine, and the one death in the series was due to no iodine being given for ten hours after operation. Tracheitis has occurred, and one case of post-operative pneumonia. In three cases temporary involvement of one recurrent laryngeal nerve occurred.

There have been no cases of post-operative tetany, but one case of post-operative myxœdema.

Ninety-two per cent. of the patients report themselves as cured.

S. ADAMS.

Lung Abscess. HENRY C. BALLON, Montreal. (*Surgery, Gynæcology, and Obstetrics*, January 1927.)

In an investigation the author found that ninety-four cases of lung abscess had occurred in the Royal Victoria Hospital, Montreal, during the past sixteen years.

Of these, 20 followed operations about the mouth and throat:—1 after a plastic operation on nose and mouth; 8 after tonsillectomy; 11 after teeth extraction.

The relative infrequency of a demonstrable cavity with fluid level by the usual X-ray examination is noted, and he finds lipiodol injection by the bronchoscopic method of much value in diagnosing abscess near the hilum of the lung and also in the region of the heart-shadow of the left lung. The abscess is frequently associated with some degree of bronchiectasis, especially in cases where the abscess is ill-defined.

No ill effects were noted after the use of lipiodol. S. ADAMS.

Improvement of Speech in Cleft Palate Cases. KIRKHAM, of Houston, Texas. (*Surgery, Gynæcology and Obstetrics*, February 1927.)

The reasons usually given for the poor functional results after successful closure of the cleft are reviewed. The author finds many patients have good speech even with a short palate, and believes the part played by the superior constrictor of the pharynx in the production of voice tone has been overlooked.

He found there was often an abnormal development of the superior constrictor in patients with cleft palate, and, to obtain a normal, made measurements in the Royal College of Surgeons' museum of the width of the hamular processes. By making similar measurements in cleft palate cases he found they were distinctly wider than normal, the additional width corresponding to the width of the cleft.

He believes if a method of shortening the superior constrictor could be found it would greatly improve the functional result. At operation he freed the upper border of the superior constrictor on each side of the pharynx in a child six years old who had a short palate following previous repair; he sutured it to the denuded posterior surface of the palate.

The functional result was excellent for three days, but on the fourth the sutures cut out and the condition was as before. S. ADAMS.

Tumours of the Gasserian Ganglion. M. M. PEET, Michigan. (*Surgery, Gynæcology, and Obstetrics*, February 1927.)

The author reviews the 63 recorded examples of primary and secondary malignant neoplasms involving the Gasserian ganglion, and records two cases of an extracranial neoplasm infiltrating the ganglion through the sensory branches.

In the first patient, a woman of 66, a medullary squamous-celled carcinoma of the posterior ethmoidal cells, which was not revealed on rhinoscopy, spread through the foramen rotundum and involved the whole ganglion.

The second patient, a woman of 54, had a squamous-celled carcinoma of the antrum, with secondary infiltration of the second division of the 5th nerve in the foramen rotundum. The trigeminal pain preceded in both cases any clinical evidence of the primary source of the carcinoma.

The cases have been recorded while the patients are still alive.

S. ADAMS.

The Treatment of Suppurative Meningitis of Nasal and Aural Origin. PORNUS and VOSNESSENSKIJ. (*Zentralblatt für Hals-, Nasen-, und Ohrenheilkunde.* Vol. xi., pp. 208-209, 1927.)

In dealing with these cases the surgeon is confronted by three problems: ablation of the primary focus, measures against the already widespread infection, and drainage of the subarachnoid space and basal cisterns. Subject to the anatomical relations, the most complete extirpation of the primary focus must always be undertaken. The objection that operative interference in an established meningitis may accelerate the process is of no importance. The first step after operation is the medical treatment of the irritants and their toxins. Combinations of the most diverse methods may achieve success, but the essential is that the chemical agent should be brought into direct contact with the infecting organisms. Particularly valuable as a disinfectant is urotropin, which can be recovered from the cerebro-spinal fluid in 30 to 60 minutes after oral administration. (The authors omit to state that it is recoverable unchanged.—Abstractor's Note.) Daily intrathecal injections of 50 per cent. urotropin are given, in combination with colloidal silver. At the same time, 2 to 3 grains of urotropin are given by the mouth. In septicæmia the combination of urotropin and iodine appears most suitable, as there seems to be a synergistic action between the two.

Immunotherapy has, up to the present, had no clear success to its credit, and is in a stationary phase. Lumbar puncture for the relief of pressure can be performed daily without any ill-effects, about 25 to 30 c.c. of fluid being withdrawn, and replaced by a corresponding amount of salt solution. The earlier the operative measures are undertaken, the better will be the result.

F. W. WATKYN THOMAS.