arytenoid was swollen, and there was visible a swelling on the right lateral wall of the pharynx about the level of the upper orifice of the larynx and extending downwards. On 8th November, portions of this tumour, removed by the direct method, showed "all the histology of a large round-celled sarcoma."

Patient has been under X-ray treatment by Dr Robert Knox at the Cancer Hospital, and has had five exposures.

On 23rd January 1922, examination of the larynx showed that the cords were moving normally; the arytenoid swelling had disappeared and the tumour on the right side of the laryngo-pharynx, from which the pieces were taken for examination, was no longer visible.

Specimen of Cyst of Tonsil—T. JEFFERSON FAULDER, F.R.C.S. —From a female patient, aged 45, who suffered periodically from dysphagia. The cyst projected from the upper pole of the left tonsil. It had a translucent appearance. It varied in size from time to time, sometimes being so large as to displace the uvula and soft palate.

ABSTRACTS

PERORAL ENDOSCOPY

Cicatricial Laryngopharyngeal Diaphragm. G. B. NEW, M.D., and P. P. VINSON, M.D., Mayo Clinic. (*Journ. Amer. Med. Assoc.*, Vol. lxxvi., No. 15, 9th April 1921.)

The case is one of cicatricial pharyngeal diaphragm of the laryngopharynx, with strictures of the œsophagus caused by swallowing lye. Man, aged 28, complained of inability to swallow or to breathe through the pharynx; he was wearing both a tracheotomy and a gastrostomy tube. He asserted that he had been perfectly well until two years before at which time while walking in his sleep he drank a solution of lye. About ten days after having taken the solution, he began to have difficulty in swallowing. The œsophagus became closed completely and there was increasing difficulty in breathing. Tracheotomy and gastrostomy were performed. Examination of the patient showed a scarred diaphragm joining the base of the tongue around the region of the epiglottis to the posterior pharyngeal wall; there was a small opening just to the right of the middle line close to the posterior pharyngeal wall which admitted a small probe. The diaphragm was quite thin; a bent probe could be passed in all directions from the small opening.

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Abstracts

By means of laryngeal suspension under ether, a circular piece was removed from the diaphragm with a knife, so that the larynx and œsophagus could be viewed directly. The following morning the patient could eat oatmeal and cork the tracheotomy tube. Three months after laryngeal suspension he contracted influenza, followed by empyema, which required tubal drainage. As he convalesced from the empyema, the tracheotomy tube was removed, and then the gastrostomy tube, and finally the empyema cleared up completely. The patient was treating the pharyngeal stricture by dilating it with the index finger; the œsophageal strictures are being dilated from time to time by sounds, a previously swallowed silk thread being used as a guide.

The interesting points in the case are:—

(1) The laryngopharyngeal stricture was the result of swallowing lye.

(2) The patient earned his living for two years while he wore a tracheotomy tube and a gastrostomy tube, feeding himself by means of chewing food and spitting it into the gastrostomy tube funnel.

(3) At one time he carried three tubes, tracheotomy, gastrostomy, and empyema, and ultimately was able to get along without any of them, and is now following his vocation.

PERRY GOLDSMITH.

EAR.

Multiple Otogenic Intracranial Lesions. HOLGER MYGIND. (*Zeitschr. f. Ohrenheilk*, 81 Bd., 4 Heft, 1921.)

In this paper notes of 207 patients suffering from otogenic intracranial complications are analysed. They include 141 cases of meningitis, 106 of sinus phlebitis, 42 of brain abscess, and 19 of subdural abscess. Solitary complications occurred 134 times with 45 per cent. recovery, 2 simultaneous complications 50 times with 24 per cent. recovery, 3 complications 16 times with 12 per cent. recovery, and 4 complications 73 times with 19 per cent. recovery. Of the solitary cases, if all those with extradural abscess are excluded, there were 76, and of these 28 per cent. recovered. This high death rate in the solitary cases is due for the most part to rapidly progressing meningitis, in which there was no time for other complications to develop. The percentage of cures, then, for all the intracranial complications was 36 per cent., and for the solitary forms 45 per cent. (meningitis 18 per cent., sinus thrombosis 79 per cent.), and for the multiple forms 19 per cent.

With regard to age incidence, the group from 5 to 14 years is by far the greatest. The prognosis is best in this group also. There was not a single case of multiple complications under the age of 5 or over 30 which recovered.

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Ear

Frequency of Occurrence of Various Conditions.—Meningitis cases were 68 per cent. of the total, sinus phlebitis 50 per cent., brain abscess 20 per cent., and subdural abscess 9 per cent. Solitary complications occurred in 65 per cent. of the cases, and multiple in 35 per cent. Brain abscess and subdural abscess are more likely to be associated with other complications than meningitis and sinus phlebitis, which tend to occur alone.

Causes.—In the solitary cases acute middle ear suppuration was the cause in 46 per cent., while in the multiple cases it was the cause in only 34 per cent. Cholesteatoma was present in one-fifth of the solitary cases and in one-third of the multiple cases. Out of 40 multiple cases in which brain abscess was present, 33 or 83 per cent. were due to chronic middle-ear suppuration, and of these 33, 14 were associated with cholesteatoma. In the uncomplicated meningeal cases, on the other hand, the proportion of acute middle-ear suppuration to chronic was 4 to 3.

When meningitis and sinus thrombosis are associated the meningitis is almost never primary. Out of 25 cases the meningitis was undoubtedly secondary in only 6. These were all fatal. Secondary meningitis begins from four days to seven weeks after the sinus thrombosis has been seen at operation. Death usually occurs in a few days from the time of onset. A second group in which the meningitis and the thrombosis occurred simultaneously differed from the first group in that only 10 of the 19 died. Nine of these fatal cases followed acute middle-ear suppuration. Optic neuritis did not occur in any of the fatal cases. In 3 of the fatal cases of meningitis the cerebro-spinal fluid became clear shortly before death.

With regard to the diagnosis of meningitis Mygind lays special stress on the results of lumbar puncture, although the fluid may not show definite changes till one or two days after the onset of the meningitis. The sign which he regards as most characteristic of meningitis is a pleocytosis, or increase in the number of cells, whether polymorph or mononuclear.

Optic neuritis was present in only 3 out of 16 cases of brain abscess and meningitis, while in the remaining 40 cases of brain abscess with all other complications, 12 or 30 per cent. had optic neuritis.

Multiple brain abscesses were not common in this series, being present in only 5 out of 42 cases. The mortality of the brain abscess cases was high, only 10 per cent. recovery. However, 10 cases were only discovered post mortem, and 3 others were not operated on for various reasons. Of the remaining cases 14 per cent. recovered. The undiscovered abscesses were all either small and giving rise to few symptoms, or the symptoms were obscured by other complications.

J. K. Milne Dickie.

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Abstracts

Remarks on Sinus Phlebitis and Thrombosis complicating Suppurative Middle-Ear Disease. J. P. I. HARTY. (*The Bristol Medico-Chirurgical Journal*, September 1921.)

The author gives clinical records of 9 cases. Of these, 5 recovered and 4 died, deaths being due to septicæmia, meningitis, cavernous sinus thrombosis, and pyæmia, respectively. Three of the cases resulted from acute and the remainder from chronic otitis media. Three of the cases presented points of particular interest. In the first an acute otitis media developed in a boy aged 8 years, three days after an operation for the removal of tonsils and adenoids. An extensive mastoid suppuration of von Bezold's type was present on the seventh day after the tonsil and adenoid operation. Immediate operation disclosed a large perisinus abscess with thrombosis of the lateral sinus. Death occurred ten days later from septicæmia, confirmed by post-mortem examination. In another case, a male aged 45, with history of previous otorrhœa, when the sinus thrombosis occurred the suppuration in the middle ear had cleared up and the membrane was intact, although at the operation suppuration was present in the mastoid process. The third case, a male aged 3 months, presented a double acute otitis media of recent origin. A large subperiosteal abscess was opened and the antrum exposed on the left side. Twenty-four hours later œdema of the face with proptosis on the right side developed with symptoms of meningitis. Post-mortem showed a necrosis of practically the whole of the right petrous bone with thrombosis of the lateral, superior and inferior petrosal, and cavernous sinuses on the right side with basal meningitis. The left, or operated, side was apparently healthy. The author lays stress on the fact that infection of the mastoid process should be regarded as similar in nature to an osteomyelitis in other regions and not as a distinct entity. Venous infection is especially prone to occur owing to the large size of the venous radicles and their very short course before entering a large venous sinus. The fact that a healthy sigmoid sinus may lie above a thrombus of the jugular bulb may lead to misleading results when the sinus is explored with a syringe. The author also details various possible pathways of infection from middle ear or mastoid cells to the venous sinuses.

A. J. WRIGHT.

The Lymph System of the Labyrinth. ALEXANDER REJTÖ, Budapest. (*Monats. f. Ohrenh.*, Year 55, Vol. iv.)

The object of this article is to discuss the question as to whether there is a direct open connection between the meningeal fluid and the perilymph of the labyrinth, or in other words whether the aqueductus cochleæ contains a perilymphatic duct.

For the experimental physiologist the inner ear presents many

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difficulties. Schwalbe, whose methods the author employed, was the first to contend that as, in all those cases in which the cerebral pressure was raised, the pressure in the inner ear was also similarly affected, so a direct connection existed between the perilymph and meningeal fluid. Until now no one has questioned this assertion, but some doubt on this point in the author's mind led him to make further research.

After discussing the various fallacies which surround experiments hitherto carried out by the injection of mercury, coloured fluids, etc. (owing to their general infiltration and escape by other channels such as the Fallopian canal), the author comes provisionally to the conclusion that the balance of perilymph and endolymph of the inner ear depends on secretion and excretion in connection with the adjacent blood vessels—similar to the relationship of the meningeal fluid to the choroid flexus—and that it is thus quite superfluous to seek for any direct connection between the two systems, since they will both be equally affected by similar conditions of the blood circulation. ALEXANDER TWEEDIE.

A Double Sigmoid Portion of the Lateral Sinus. J. M. BROWN. (*Laryngoscope*, Vol. xxxi., No. 8, p. 605.)

In 1914, Hahn studied the question of double lateral sinuses. He collected 13 cases, but only 1 of them had a double sigmoid. In the present specimen the sigmoid portion of the left lateral sinus was double, being separated by a ridge of bone with a distance between them of 8 mm. The length of the double portion was 4 cm. They united just as the jugular foramen was reached. The author quotes a summary of the development of the venous sinuses of the dura mater, and also supplies an ample bibliography.

ANDREW CAMPBELL.

Facial Paralysis. ALEXANDER GIBSON. (*Journal of Surgery, Gynæcology, and Obstetrics*, 21st November 1921.)

After preliminary discussion on the Anatomy of the Facial Nerve and the disabilities resulting from seventh nerve paralysis, the writer discusses Etiology, and the cases are divided into three groups—(1) a simple neuritis resulting from cold, (2) as a result of acute or chronic otitis, and (3) traumatic—surgical or otherwise.

In the event of failure by electrical methods, operative treatment is indicated, and the author gives a historical survey of the various procedures. In his opinion operations for tendon or muscle transplantation should be limited to cases of partial paralysis or to those in which nerve anastomosis has definitely failed.

The writer prefers the Hypoglossal nerve to the Spinal Accessory

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and it should be sutured by an end-to-end anastomosis to the divided facial nerve. The finest silk only is used and only the neural sheaths united (he finds catgut too thick for such delicate anastomosis). Attention is called to the advisability of lifting up the parotid gland rather than cutting into its lobules in the search for the facial nerve.

The most interesting part of the paper lies in the analysis of the results to be obtained—which are encouraging. A return of muscle tonus to be followed more slowly by voluntary control is to be expected, but emotional movements of the face usually remain absent, and owing to the complexity of the cortical centre for the face this is only to be expected. MUSGRAVE WOODMAN.

NOSE AND ACCESSORY SINUSES.

On Endonasal Operations of the Lachrymal Sac according to West. E. KNUTSON. (*Acta Oto-laryngologica*, Vol. iii., fasc. 1 to 2. Stockholm, 1921.)

The author has operated according to West in 61 cases of dacryostenosis and controlled the given result through re-examination. The longest period of observation has been two years five months, the shortest two months. The result, independent of the patient's subjective statements about recovery, has only been considered satisfactory when lachrymation towards the nose has been restored, demonstrable by positive fluorescine test. A good result has been gained in about 80 per cent. of the whole number of cases operated on. Simple dacryostenosis and uncomplicated, catarrhal dacryocystitis have proceeded to healing with lastingly good function in 90 per cent. In cases of dacryostenosis, complicated by acute phlegmonous dacryocystitis, by cicatrices or fistulæ after such, a good result has only been arrived at in 55 to 60 per cent. The difference with regard to the effect of the operation cannot, in the author's opinion, be due to a faulty technique, as the unsuccessful cases appear as often towards the end of the series as in the beginning. It is more probable that a reduction in the contractile power of the canaliculi is the cause of the endonasal dacryorhinostomy being performed unsuccessfully. AUTHOR'S ABSTRACT.

Re-establishing Intranasal Drainage of the Lachrymal Sac. Dr H. P. MOSHER. (*Laryngoscope*, Vol. xxxi., No. 7, p. 492.)

From his experience of twelve cases of intranasal dacryocystostomy, the author thinks that longer observation is necessary before pronouncing the case as cured. Lachrymation may return even three years after operation. One case in this series had a distended sac with much pus, and at the end of the operation the operator noticed

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that the orbital fat had been exposed. The orbit became infected and the patient had a long illness, very nearly losing the eye. In another case where paraffin had been injected to distend the sac and make it easier to find, an abscess developed in the lower lid. Owing to these unhappy results the author decided to try the operation performed by Toti ten years ago. After packing the nose with adrenalin gauze, ether is administered, the eye protected, and the anterior end of the middle turbinal removed. The incision, 7 mm. from the inner canthus, extends from the level of the crease in the upper eyelid to 2 or 3 mm. below the inner limit of the lower rim of orbit. The periosteum is elevated and the sac exposed from above. Its inner surface is freed from the bony inner boundary until the nasal duct is seen. An opening is made into the nose by breaking down the lachrymal bone in front of the lachrymal crest. With punch forceps the opening is enlarged anteriorly and inferiorly. The posterior edge of the ascending process of the superior maxilla is bitten off. The bony window must equal at least the height and width of the sac. The inner half of the sac is now removed, as also the inner part of the nasal duct. Toti makes openings in the mucous membrane of the nose and the sac and anastomoses them by sutures. Soft parts are replaced and sutured lightly, and a pressure pad applied. The nose is also packed from one to four days.

The immediate results have been good, and the scar, which is the only disadvantage, is not noticeable. A straight incision causes the least disfigurement. It is too early yet to say if the wide opening into the nose will solve the problem of intranasal drainage. The author is of opinion that the ophthalmologist as well as the rhinologist could do this operation and sees no reason why one should operate round the corner mostly by touch when it can be done by sight. It would be useful to have results of both types of operation after the lapse of three years, and also reports of any other cases where the eye has been infected as a result of the operation.

ANDREW CAMPBELL.

Two Cases of Tumour of the Nasal Vestibule. VICTOR FRÜHWALD, Vienna. (*Archive für Ohren-Nasen und Kehlkopfheilkunde*, Bd. 108, 1921.)

Under this title Dr Frühwald furnishes two interesting case reports, illustrated by photographs:—

CASE I.—A woman, aged 62, a snuff taker, had noticed a year previously a wart inside the right nostril. Five months afterwards, it began to grow rapidly, and gradually projected forwards over the upper lip. Two attempts to remove it were made; both followed by recurrence. At this stage the tumour implicated the tip, alæ, and

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septum of the nose. It showed necrotic clefts and a horny appearance at the root of the nose. Rhinitis sicca was present; the glands were not enlarged.

A radical operation was performed by Professor Chiari. Microscopically, horny formation of the epithelial cancer cells was the predominant feature. The patient died three hours after operation.

CASE II.—Female, aged 49. A wart had existed for a few years at the upper and inner corner of the right nostril.

After an injury, eight weeks previously, it grew rapidly. A warty growth of horny appearance projected from the nostril, blocking it completely, extending to the edge of the upper lip. Histologically the papillæ were composed of horny epithelial cells. The sharp basal demarcation and absence of mitoses justified the hope that the growth had not assumed malignant characteristics.

WM. OLIVER LODGE.

Contribution to the Pathology and the Treatment of Imperforate Choana. Prof. JACQUES, Nancy. (*L'Oto-rhino-laryngologie Internationale*, December 1921.)

The writer points out that this condition is probably not so rare as it is supposed to be, and he reflects on the mediocre results usually obtained from the operation. He suggests again that congenital syphilis may be the principal pathogenic factor. In a case cited the patient showed the usual facies of chronic nasal obstruction. Two operations had been performed for the removal of post-nasal adenoids, and the writer was consulted for advice as to a third operation. The condition was recognised by anterior rhinoscopy, and confirmed by digital examination under ethyl chloride. The posterior choana on the left side was imperforate.

The routine method of operating, by submucous resection, was discarded. A strong adenoid forceps was introduced by the mouth into the naso-pharynx, and a jaw of the forceps was pushed into each choana, a considerable bite being taken particularly on the obstructed side. A bite was now made, followed by a twisting movement of the forceps, and an orifice was left of about one square centimetre in area. The edges of this opening were trimmed, and a wick of iodoform gauze introduced and left for four days. The functional result was satisfactory.

GAVIN YOUNG.

Thrombosis of the Cavernous Sinus. H. KEY-ÅBERG. (*Acta Oto-Laryngologica*, Vol. iii., fasc. 1 and 2. Stockholm, 1921.)

The patient who died shortly after an operation for bilateral sphenoidal sinus disease complicated by thrombosis of the cavernous sinus and meningitis, showed during life an interesting symptom consist-

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ing of marked anæsthesia in the left supra and infra-orbital regions. The author attributes this symptom on anatomical grounds to the presence of the thrombus in the cavernous sinus, and considers that it is of value in distinguishing cases of this nature from those of oculo-orbital inflammation with increased intra-ocular pressure, in which an anæsthesia affecting simultaneously the areas of supply of the first and second branches of the trigeminal nerve is anatomically impossible.

THOMAS GUTHRIE.

Some Points in the Diagnosis of Headaches and other Nervous Manifestations of Nasal Origin. P. WATSON-WILLIAMS. (*Lancet*, 1922, Vol. i., p. 311.)

The writer considers headache first (as the dominant symptom in many nasal affections), the simplest case being that due to pressure between the septum and middle turbinate. Such pressure may be due to septum deflection or to recurrent turgescence of the middle turbinal, the latter very often caused by a sinusitis. Headache is also the result of trigeminal irritation from an inflamed or pus-filled sinus. Pain in such cases may be referred in maxillary sinusitis to the occiput, in ethmoidal or sphenoidal sinusitis to the supra-orbital, temporal, or post-ocular regions, or even to the middle ear or mastoid. Frontal headache may be due to affection of the frontal or sphenoidal sinus or to pressure from an enlarged turbinate. Toxic absorption from sinus empyema causes diffuse headache. Watson-Williams insists that, in sinus empyema the amount of pus in a nasal discharge is no criterion of its virulence, since the more the pus the less the toxæmia. It is the toxæmia of latent sinusitis that is its most important feature. It causes diffuse headache, mental depression, inability to concentrate, and loss of memory. In dealing with neurasthenic patients sinus infection should not be forgotten, for "these infected sinuses became perfect physiological culture-tubes, maintained at blood-heat with a never-failing pabulum." The foul odour in sinus suppuration may be a cause of olfactory illusion in the insane. The conditions frequently associated with a chronic sinus infection are enumerated in the conclusion as: headache or heaviness, recurring sore-throats, muscular rheumatism, rheumatoid arthritis, gastro-intestinal catarrh, and appendicitis.

MACLEOD YEARSLEY.

Some Indications for Operation on the Nasal Sinuses in Children. DEAN and ARMSTRONG. (*Laryngoscope*, Vol. xxxi., No. 5, p. 273.)

Three cases of multiple infective arthritis with severe crippling are described. The patients were between 8 and 13 years old, and were all referred to the clinic by the orthopædic surgeon. In all, tonsils and adenoids were removed with little benefit. Each case was

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treated in the hospital for some months, and examination of the nasal sinuses was most carefully carried out. A hæmolytic streptococcus was isolated. It was eventually necessary in all to open one or both sphenoidal sinuses before the arthritis ceased to progress. The authors are strongly against operative treatment of the sinuses in children. An examination of the sinuses of 1108 children was carried out. In the majority of diseased sinuses, a tonsil and adenoid operation was sufficient to effect a cure. ANDREW CAMPBELL.

The So-called Maxillary Sinusitis of Infants. VERNIEUVE. (*Revue de Laryngologie, etc.*, September 1921.)

Two cases are recorded of septic osteitis of the superior maxilla in infants of five weeks and two months respectively. Both cases were preceded by an acute conjunctival infection.

The author is of the opinion that these cases are often wrongly ascribed to antral infections. Up to the time of eruption of the first molar tooth the antrum is rudimentary, consisting only of a small pit almost filled with thick mucous membrane, at the bottom of the middle fossa. On the other hand the superior maxilla is solid though spongy in texture, and when infected, a general osteitis of the whole bone readily occurs. The path of infection is rarely *viâ* the rudimentary antrum, and not often *viâ* the dental sacs, which are closed cavities until the teeth have erupted. He believes an infected lachrymal sac is a common starting-point of the osteitis. At birth the nasal duct is closed by a membrane at its lower end, which becomes permeable at a period after birth varying from a few days to a few months. The duct being filled with secretion, and closed at its lower end, spread of infection to the substance of the bone is favoured.

G. WILKINSON.

MISCELLANEOUS.

Post-graduate Work in Laryngology. ROSS HALL SKILLERN, M.D. Philadelphia. (*Journ. Amer. Med. Assoc.*, Vol. lxxvii., No. 18, 8th October 1921.)

Owing to the lack of general knowledge of Oto-laryngology the young surgeon attending any of the post-graduate courses in the United States seems to believe that the septum and tonsil operations constitute the alpha and omega of Oto-laryngology. His assurance on this point is more firmly impressed on him by his whole hospital experience. This attitude must be combated, and when successful, the six weeks' course will forever disappear. The University of Pennsylvania purposes to extol the wideness of the scope of Oto-

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laryngology, and insists on adequate preparation which will awaken the student to the possibilities instead of being held down by his limitations (*i.e.*, tonsils and septum). The University decided that the six weeks' course would for them be a thing of the past, and for the Session 1919 to 1920, two courses, each of four months' duration, limited to sixteen students, would be offered. So large was the number of applicants, that after the first semester had been completed the Faculty proposed that the length of the course should be increased to one full academic year. This course included lectures in surgical anatomy of the nose, accessory sinuses, and larynx, surgery of the nose and accessory sinuses, neurology, physiology of the ear, of the pharynx and larynx, bacteriology, operations on the cadaver and broncho-œsophagoscopy. These were all given in the morning hours, while the afternoons were devoted to clinical work, particularly operative, in which the student took an active part. The course, limited to twenty men, was immediately filled.

An effort, too, is soon to be made to supply refresher courses to active specialists whose sphere of activity does not afford them sufficient opportunity to become acquainted with the practical application of the newer procedures. PERRY GOLDSMITH.

Surgery versus *Roentgen Ray in the Treatment of Hyperthyroidism.* GEORGE W. CRILE, M.D., Cleveland. (*Journ. Amer. Med. Assoc.*, Vol. lxxvii., No. 17, 22nd October 1921.)

Hyperthyroidism (C. H. Mayo) seems a more fitting name for a disease whose chief characteristic is a supernormal activity of the thyroid gland than does exophthalmic goitre, a term which signifies but one of the features of this complex syndrome.

Some 239 drugs and other methods of treatment have been collected by Marine as curative, but only two methods of treatment are considered by Crile as worthy of consideration—surgery and roentgen ray. A careful study of literature reporting favourably on roentgen-ray treatment does not convince the author that it is as permanently valuable as its sponsors believe, and he shows by his own records that surgery combined with physiological rest offers a greater likelihood of favourable results. Hitherto the only valid objection to surgical treatment has been the mortality; but now in Crile's practice, surgical treatment is undertaken in every case, the mortality is practically eliminated, much time is saved and more certain cure is achieved. In his last series of 227 consecutive thyroidectomies, and 180 consecutive ligations, that is, 407 consecutive operations for hyperthyroidism, were performed without a death. PERRY GOLDSMITH.

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Abstracts

The Substitution of the Term "Tuberculous Diverticulum" in place of "Traction Diverticulum," based upon the Pathogenesis of the Affection. JENS KRAGH. (From the Pathological-anatomical Institute of the University of Copenhagen, 1921.)

Rokitansky was the first to describe a case of traction diverticulum, but the term was originated by Zenker. Ribbert, in *Virchow's Archiv*, called attention to these affections: he tried to ascribe their origin to a congenital disposition, and not, as had been hitherto maintained, to a traction from lymphatic glands which had undergone pathological changes. The congenital disposition, according to Ribbert, consisted in an incomplete closure of the communication between the œsophagus and trachea during fœtal life. The theory of Ribbert has been opposed by Hausmann, Riebold, and Brosch.

Kragh has paid special attention to the question: he has investigated the following points:—

(1) Do systematic post-mortem examinations of human beings reveal adhesions between lymphatic glands and the œsophagus?
(2) If so, what pathological processes give rise to such adhesions?
(3) Is it possible, in these adhesions, to follow systematically the mechanism of their origin?
(4) Finally, for purposes of comparison, he has examined numerous traction diverticula by means of serial sections.

On examining systematically 556 individuals after death, he found 14 cases (2 per cent.) of adhesions between lymphatic glands and œsophagus. In all, the glands in question presented tuberculous changes (fresh or old).

Group I. comprised the great majority of the cases and was characterised by fresh inflammation in the wall of the œsophagus. *Group II.* represented the minor part of the cases and was characterised by cicatricial formation in the wall of the œsophagus.

The conclusions reached were, that tuberculosis of the lymphatic glands gives rise to adhesion between them and the œsophagus, and that in the recent inflammation of the wall of the œsophagus the following stages can be distinguished: (1) round-celled infiltration, (2) typical tuberculous inflammation, which (3) may be associated with necrosis and perforation of the wall. Furthermore, that the healing takes place by (1) formation of a cicatrix, (2) retraction of the margins of the wall round the cicatrix, and (3) by proliferative growth of the epithelium into the canal of the perforation in cases where perforation has taken place.

Fifty-one traction diverticula were examined by means of serial sections. In nearly all cases the diverticula were found to adhere

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to lymphatic glands which had undergone a diminution owing to contraction, and which nearly always showed unquestionable signs of fresh or old tuberculosis. Also in the few cases where tuberculosis could not be detected, the pathological structure was not incompatible with a tuberculous origin.

The traction diverticula most frequently occur below the bifurcation of the trachea, and then, in most cases, to the right of the median line of the œsophagus. A considerable number, however, are situated superior to the bifurcation, and then nearly always to the left of the median line. The majority of the glands inferior to the bifurcation are placed at the lower side of the right main bronchus. Consequently, inflammatory processes from these glands will pass to the œsophagus to the right of the median line: above the bifurcation the right glands are separated from the œsophagus, whereas the left glands are situated near the gullet.

It is generally known that traction diverticula may only in few cases give clinical symptoms. It has been stated that traction diverticula have sometimes caused development of carcinoma. For this reason 40 cases of carcinoma of the œsophagus were examined, and in 4 only had cancer taken rise from a traction diverticulum. This may have been the case in other instances in which very extensive destruction prevented a decisive microscopical examination.

The traction diverticulum may be considered a rather important factor in the etiology of cancer of the œsophagus.

A. Logan Turner.

REVIEWS OF BOOKS

Intrinsic Cancer of the Larynx and the Operation of Laryngo-fissure. Irwin Moore, M.B., C.M., Edin. London: University of London Press, 1921.

This excellent monograph will be welcomed by all laryngologists as the work of one who has devoted much thought and labour to the subject-matter. It is of special interest to British laryngology, as it is largely due to the patient, unremitting work of Durham, Butlin, Semon, and St Clair Thomson that the last named was able to report early in 1919 a series of thirty-eight cases of intrinsic cancer of the larynx healed by laryngo-fissure with only one death—a success hardly equalled in the surgery of malignant disease.

In his historical account of the operation Dr Irwin Moore brings

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