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Dr T. Ritchie Rodger (Hull) gave an account of two cases resembling Vernet's syndrome, except that the hypoglossal nerve on the same side was also involved. In one of the cases there was also a complete nerve deafness on the same side and, although both blood and spinal fluid gave negative Wassermann reactions, the family history suggested syphilis; he looked upon the lesion as being a nuclear one of syphilitic origin.

Mr J. F. O'Malley (London) said there was a large number of cases for which no cause could be found. Peripheral neuritis was quite conceivable as a cause, as also poisons, both metallic and otherwise.

ABSTRACTS

THE EAR.

National Investigation on Otosclerosis. E. B. DENCH. (*Annals of Otology, Rhinology, and Laryngology*, December 1927.)

In view of the National Investigation on Otosclerosis recently inaugurated in this country, it is interesting to read Dr Dench's address on the subject of the American investigation which was begun two years ago. Dr Dench spoke at the meeting of the American Otological Society, held on 20th May 1927.

He begins by emphasising the fact that the human subject is endowed with hearing far in excess of what is required in ordinary life. So much so that almost total loss of function in one ear may go undetected for years so long as the other ear remains normal. Again, impairment in hearing advances usually so insidiously that valuable time passes before it is discovered and before investigation and treatment can be begun. The variations of progressive deafness are considered shortly with a view to showing what a wide field is opened up in this investigation.

To tackle the problem of progressive deafness fairly, Dr Dench suggests the following steps as necessary:—(1) A large number of temporal bones normal and abnormal must be examined. The Committee of the American Otological Society has sent appeals to the various hospitals asking for the temporal bones of all cases which come to autopsy. (2) Every case entering a General Hospital shall have recorded on the history whether or not there is any defect of hearing. When there is impairment of hearing careful records shall be made. These can be checked up with the pathological findings should the case come to autopsy. (3) Tests are being made as to the effect on the temporal bones of variations from the normal meta-

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bolism, also of lack or excess of calcium content of the blood, etc. Laboratory experiments on animals are well under way.

On lines such as these Dr Dench says the American Otological Society has been carrying on, for two years now, its investigation not only on otosclerosis but on all causes of progressive deafness. They have had a Carnegie Corporation grant for their work and have also raised a fund of their own. An exhaustive survey of all the literature of otosclerosis and of progressive deafness is being undertaken by the Committee. This work of collection, review, and translation is to be published and offered at cost price to those who wish it.

All the hospitals in New York and Brooklyn have responded to appeals and signified their willingness to aid in supplying clinical histories and specimens. The investigation is being taken up enthusiastically all over the country.

The Chairman of the Otosclerosis Committee, Dr Pierce, has enlisted the services of Dr Wittmaack of Hamburg, and a certain amount of the pathological work is being done by the latter. The Research Committee and The League for the Hard of Hearing are working, helpfully to each other, side by side in the investigation.

NICOL RANKIN.

Physiological Factors in the Control of Otitic Meningitis.

W. P. EAGLETON. (*Laryngoscope*, Vol. xxxvii., No. 2, p. 113.)

Suppurative meningitis is spontaneously cured more frequently than we realise, and it is curable so long as it is localised. Three cases are cited as proof of this assertion. They had suffered from and had been cured of meningitis, but had died of something else. They had been cured by nature and this process is the crux of the whole problem of the surgical treatment of meningitis. Undoubtedly the curative process must occur inside the subarachnoid space itself. The subarachnoid cells are similar to those in the peritoneum; they proliferate rapidly and form adhesions so as to wall-off the inflammation. It is a mechanical impossibility to cure a generalised septic leptomeningitis—that is to say, when the fluid obtained by lumbar puncture contains a large number of organisms, no method known can eradicate the sepsis.

If we wish to cure meningitis, the diagnosis must be made while the process is still limited. In frontal lobe meningitis, it is advisable to make a large incision thoroughly exposing the dura mater which should be incised to let out the infected fluid. It is safe, the author believes, to open the dura mater through an area of infection. Referring to a case of fracture of the bone through the frontal sinus, it is observed that fractures close by fibrous union and not by bony union, as the fragments lie flat together without movement. This case discharged

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cerebrospinal fluid for a very considerable time. In such a case it is better to obliterate the whole sinus than merely to remove the anterior wall.

In otitic meningitis, cases may be classed in three groups. (1) Secondary to thrombophlebitis. (2) Middle fossa cases. (3) Labyrinth cases. The majority of cases of meningitis which have been cured, have followed an infection of the labyrinth. Clinically, the labyrinth system can be regarded as an outpost of the cerebrospinal system, connected to the main body by small openings in the modiolus by way of the internal auditory canal. In labyrinthitis nature attempts to wall-off the disease from the subarachnoid space by building a barrier in the internal auditory meatus. In labyrinthine meningitis, an opening should be made into the subarachnoid prolongation of the internal auditory meatus and the infected fluid evacuated at an early stage of the meningitis. A few such cases have been cured by the author. If the meningitis comes from the lateral sinus, it infects a different part of the cerebrospinal fluid system. Coloured fluid injected near the lateral sinus runs over the base of the brain and comes out of the cisterna magna. So in lateral sinus cases, an opening should be made in the dura mater near the sinus and the cisterna magna also drained.

In middle fossa cases, the source of infection is always a thrombophlebitis of a small vein, one which goes through the tegmen tympani vel antri. These cases give a distinct clinical picture by involvement of nerves near the cavernous sinus, especially the fifth. Pain around one or other branches of the fifth nerve and around the eye, associated with fever and dull headache and diplopia, are characteristic. In such cases, if the dura mater were opened deep in towards the middle line, a large amount of infected fluid would escape. Following this operation, a large number of cases have recovered. Only 18 per cent. of cases with Gradenigo's syndrome die if left alone, and the author believes that all such cases have meningitis. If the oculomotor paralysis and pain continue after removal of all infected bone, the dura mater is opened by a small cut, and the fluid allowed to escape.

ANDREW CAMPBELL.

Metasyphilitic Diseases of the Eighth Nerve: their Histology. KRASZNIG (Graz). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xvii., Heft 1, p. 13.)

This extensive paper is founded on the pathological and clinical examination of 10 cases (1 of tabes, 1 of general paralysis and 8 combined tabo-paralysis). The older records are referred to and special emphasis is laid on two works by O. Mayer (*Arch. für Ohrenheilk.*, 72, and Passow-Schäffer's *Beiträge*, 21, 1925). Krasznig

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finds the percentage frequency of involvement of the auditory sphere in metalues and cerebrospinal syphilis as high as 69. The functional tests, although not pathognomonic, show lowering of the upper range often extending to the middle part of the range, proportionate diminution of bone-conduction, relatively good preservation of hearing for tuning-forks and the voice, with loss of that for the watch-tick. There is normal, or even supernormal, acuity of hearing for the lowest octaves. The course of the affection is slow and it is influenced, though only slightly, by therapeutic infection with malaria.

The microscopic sections are stained with eosin-hæmatoxylin and the Kulschitzki-Wolters nerve-stain. The pathologico-histological conclusions arrived at are (1) that in metasyphilis of the eighth nerve there are inflammatory and degenerative changes which start in the pia mater; (2) that the inflammatory process attacks the nerve-trunk at a typical position, namely where the branch to the vestibule comes off; (3) that a descending degeneration extends gradually from this spot to the whole of the cochlear nerve and the cochlear apparatus. The meningogenous origin is very obvious in these cases (which are, of course, tabetic and paralytic). (In Walker Downie's case of deafness from congenital or hereditary syphilis the lesions found *post-mortem* were mainly meningeal.—J. D.-G.) The seat of election for attack is probably determined by the situation in which the stasis of the cerebrospinal liquor is greatest; in which, therefore, the affected fluid is given the best opportunity to act on the nerve-tissue, namely in the fundus of the internal auditory meatus, especially where lamellæ from the pia mater extend into the interior of the nerve, as at the branching off of the vestibular twig. The same factors present themselves in tabetic disease of the optic nerve which begins in the intracranial or orbital portion of the trunk and not in the retina. Metasyphilis of the ear is, therefore, an inflammatory-degenerative process which typically begins in the cochlear stem not far from the fundus of the internal meatus and extends as a secondary degeneration downwards towards the periphery (later also ascending). JAMES DUNDAS-GRANT.

Auditory-Nerve Tumours: their Characteristics and Operative Removal.

E. HEYMANN (Berlin). (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xvii., Heft 1, p. 109.)

After considering the various names given to these tumours—neuroma, fibroma, neurofibroma, fibromata nervorum, neurinoma, nerve-fibre tumours, etc.—Heymann decides that the most appropriate is acusticus-neuroma. They are characterised by their structure—immature nerve-elements—and by their situation at the internal auditory meatus, medial to the posterior surface of the petrous bone. It is not quite certain whether they develop in the meatus or in the

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part of the auditory nerve central to this. They grow inwards towards the brain-stem and never so far outwards as to reach the middle or external ear. The great majority of paracerebellar growths are acusticus-neuromata. Occasionally there is a little bud extending into the meatus, but not always. If not removed their growth leads to pressure in the foramen magnum (not so much by displacement as by oedema) and interference with the centres for respiration and cardiac activity, hence the occurrence of sudden death in these cases. The clinical features, such as causeless nausea, vomiting, headache, vertiginous sensations and choked disc are the usual results of cerebral compression. There may also be interference with neighbouring parts such as the posterior cranial nerves, the pons and the medulla, the corresponding cerebellar hemisphere and its crura, and in particular the restiform body in the base of which lies Deiter's nucleus, the centre for the sensation of equilibrium. The auditory nerve symptoms are the most localising. The earliest may be auditory illusions and the latest, complete paralysis of the nerve affecting both hearing and equilibration. The otologist may find nystagmus and errors in pointing and standing.

Dr A. Güttich carried out the otological investigations in the writer's cases. Defective hearing, subjective noises, later, unilateral deafness with nystagmus and other vestibular or cerebellar disturbances in the arm, trunk or leg, and extinction of sensation in the cornea (this may be tested by blowing—J. D.-G.), combined to make the diagnosis of a ponto-cerebellar angle tumour definite. (The peculiar reactions of the vertical semicircular canals of the sound side as well as the radiographic evidence of dilatation of the affected internal auditory meatus are not referred to.—J. D.-G.) It sometimes happens that the various symptoms are so mild that investigation and diagnosis are omitted until blindness ensues.

For the removal of these tumours the author gives the chief credit to F. Krause who, in 1898, published his method of exposing them by the transoccipital route.

Heymann had 22 cases referred to him. On 5 of them he declined to operate as they were already blind, because, when blindness supervenes, the other painful symptoms were diminished in severity and eyesight is in such cases not restored by operation. Of the 16 on which he operated 7 lived for a long time. In 1923 the 4 patients on whom he operated recovered completely, but, in 1925, 4 cases died in spite of the adoption of Cushing's method of partial removal, death in each case being due to paralysis of respiration. He is not in favour of the translabyrinthine route. He considers his 7 successful cases as strong evidence of the value of the transoccipital operation.

JAMES DUNDAS-GRANT.

The Nose

THE NOSE.

Sponge Packs in Ozæna. B. FREUDENFALL and S. STEIN.
(*Laryngoscope*, Vol. xxxvii., No. 4, p. 277.)

A piece of ordinary red rubber bath sponge is placed within the vestibule of the nares, large enough to fit fairly accurately. The spongy appearance of the rubber acts psychologically, as the patients believe that they can breathe through it. The sponge is left for one hour in the morning and another hour at night. After removal, the nose is sprayed with saline solution. There is a disappearance of the odour in two or three days to a week. A copious secretion helps to loosen the scabs, permitting the patient to expel them by his own efforts.

The "sponge treatment" acts as follows: (1) Cuts off air for two hours daily. (2) An irritation is caused by chemical impurities in the rubber, which causes secretion.

If the rubber is purified, it produces no results. The treatment must be kept up, as otherwise the odour returns.

ANDREW CAMPBELL.

Ozæna and Salicylate of Soda. DUTHEILLET DE LAMOTHE.
(*Archives Internat. de Laryngol.*, July-August, 1927.)

The author's interest in the subject was first aroused by observing the effect of large doses of sodium salicylate in a patient suffering from atrophic rhinitis who had been treated for an acute rheumatic complaint.

The case in question was that of an adolescent male with marked bilateral atrophic rhinitis. The usual forms of treatment were carried out without effect. Two years later, he again saw this patient, and was struck with the amazing change in the nasal condition. The crusting had disappeared. The nasal fossæ were no longer patent, and the mucous membrane appeared normal. Further, he learnt that the boy had been under intensive treatment for severe cardiac and articular rheumatism. "For the first time in my career, I was witnessing the anatomical cure of a case of atrophic rhinitis."

Of twenty cases treated by the author, eight of these were followed sufficiently closely to be of scientific value. The treatment was as follows: 60 grains of salicylate of sodium were given in doses of 30 grains twice daily. After ten days of this treatment, the salicylate was discontinued for three weeks when it was continued for a further period of ten days, and so on for a period of three months.

In three of the eight cases, the result was negative. In two cases the condition was improved, and in two cases a complete cure resulted.

The author makes no claim for a cure of atrophic rhinitis, he merely asks us to give the method a serious trial.

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The Radiological Examination of Atrophic Rhinitis. By GHERARDO FERRERI and L. PAROLA. (*Archiv. Internat. de Laryngol.*, July-August, 1927.)

The number of theories on the pathogenesis of ozæna is legion, and most of them are contradictory. The author analyses the various hypotheses that have been advanced, and finds them all unsatisfactory. He is particularly severe on the view held by Perez that ozæna is due to a specific bacillus, the *Coccobacillus fœtidus ozænae*. He affirms that every theory on the pathogenesis of ozæna crumbles on the most elementary investigation. There is therefore no justification for the many forms of radical treatment which are purely empirical, are not based on sound pathological conceptions, and so far as the author's experience goes, are not followed by any tangible results.

The author's contribution to the anatomico-pathological study of atrophic rhinitis, is the radiography of the skulls of 100 patients suffering from this disease.

It was found that in the majority of the cases the sinuses were radiographically normal. On the other hand, the ethmoidal labyrinth frequently showed rarefaction, sometimes associated with an excessive development of cells, and a thinning of their walls. On the whole, the evidence was against the accessory sinuses being primarily involved in cases of atrophic rhinitis.

M. VLASTO.

THE PHARYNX.

Lacunar Tonsillitis: A Histo-Pathological Study on a Clinical Basis.

BENNO GROSSMANN and RICHARD WALDAPFEL, Vienna. (*Acta Oto-Laryngologica*, vol. x., Fasc. i.)

With the growing recognition that the tonsils very frequently offer a portal of entry for many infections, it has become necessary to study the pathogenesis of the most frequent and common tonsillar disease, which is lacunar tonsillitis. Through Schäffer recognising that the lymphadenoid tissue was an important element of the mucous membrane itself, and Schlemmer noting that this lymphadenoid tissue has not the characteristics of the lymphatic glands, an anatomical basis for study was presented. Hajek, the chief of the University Clinic at Vienna, has asked the question: "What are the anatomical changes in the tonsils that correspond to the common disease called by all clinicians lacunar tonsillitis?"

The great difficulty standing in the way of research upon this question was removed at last. After waiting many years, a child was operated upon in whom the tonsils were so large that a tracheotomy would have been needed during an acute attack of tonsillitis had the tonsils not been removed.

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During the last few years the writers have operated several times on similar occasions. To secure undamaged material, the tonsils were removed by Schlemmer's technique. In some of the cases adenoids were also removed.

In proceeding to describe the results of examination the writers firstly recall, but do not agree with, what Dietrich says and what is perhaps generally accepted, that clinical lacunar tonsillitis is a disease of the surface epithelium and of the surface epithelium of the crypts, with swelling of the lymph follicles, dilatation of vessels and marginal position of and emigration of leucocytes. The catarrhal leucocytic exudate plugs the crypts and may reach the surface; the disease is not one of the lymph tissue itself but only a reaction spreading to it.

The writers then publish six cases in detail and further summarise the most important results of these examinations. The pathologico-anatomical changes which are found in clinical lacunar tonsillitis involve the tonsils as a whole. The phlegmonous appearance is the outstanding feature of the pathological picture. The most interesting changes in the parenchyma appear in the lymph follicles. In the height or climax of the disease the latter in their inner part show aggregations of polynuclear leucocytes and masses of streptococci lying almost exclusively within the cells. These foci, lying for the most part centrally, rarely break through the wall of lymphocytes forming the exterior surface of the follicular wall, and these lymphocytes contain no cocci.

The pharyngeal tonsil may behave in a similar way or may not take part in the pathological process.

The writers having noted the facts and the microscopic appearances next add some points and discuss them, raising some questions on the tonsillar problem. Lacunar tonsillitis is neither clinically nor pathologico-anatomically a simple catarrhal infection. The clinical name and pathologico-anatomical picture do not entirely correspond; lacunar as well as follicular changes are in the foreground at the climax of the disease. In the centre of the lymph follicle characteristic and outstanding pathological changes are seen; neither leucocytes nor cocci belong to the normal picture of the lymph follicle. Aggregations of cocci which could be seen in the author's preparations were never definitely proved to be present before.

They corroborate the results of Waldapfel that streptococci in tonsillitis are not an accidental occurrence but absolutely belong to the pathological picture and that their number and rapid increase correspond with the climax of the disease.

The finding of bacteria in the centre of the lymph follicle lends strong support to Hellmann's suggestion that the lymphatic tissue acts as a protecting wall against bacterial and toxic products invading the organism.

H. V. FORSTER.

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Spontaneous Rupture of a Retropharyngeal Abscess; Flooding of the Tracheobronchial Tree: Tracheotomy: Aspiration: Recovery.
M. C. MYERSON. (*Laryngoscope*, Vol. xxxvii., No. 2, p. 136.)

Flooding of the tracheobronchial tree as a result of ruptured retropharyngeal abscess is extremely rare, and one is not likely to think of this on being confronted with an asphyxiating infant. A boy, aged 8 months, was being given artificial respiration. He had suffered from a "cold." The glands on the right side of the neck were swollen. A finger in the pharynx was covered with thick pus on removal. The diagnosis of ruptured retropharyngeal abscess was made. A tracheotomy was rapidly done as no bronchoscopes were available. A catheter attached to a suction apparatus aspirated a large quantity of pus. The patient was decannulated in forty-eight hours and discharged cured on the sixth day.

ANDREW CAMPBELL.

On the Explanation of Facial Paresis in connection with the use of Local Anæsthetics for the Tonsils. FORSCHNER and ST LOOS. (*Monatss. f. Ohren.*, March 1927.)

Having experienced such a sequela in two cases of tonsillectomy under a local anæsthetic (although fortunately in both cases the effect was extremely transient), the authors undertook a series of investigations in order to determine the reason. They injected four post-mortem preparations, using gelatine coloured with berlin blue, making the injections in the same manner as they use them for injection of the local anæsthetic, prior to operation.

In this article, a detailed description of the results thus obtained are given, with two extremely valuable illustrations, showing the accurate relation of the various structures concerned at this level.

They come to the conclusion that in the ordinary way, the facial nerve in its course to the cheek, lies embedded in the parotid gland and is thus protected: under abnormal circumstances, however, the nerve may be situated on the extreme medial aspect of the gland, when it is thus possible to be reached by the injection of a local anæsthetic.

In addition to the article being of great value in the elucidation of this untoward, though very rare, occurrence, attention is especially directed to the coloured plate of one of the sections shown, which as above stated, offers one of the very best descriptions of the relation of the various structures at the level of the tonsils.

ALEX. R. TWEEDIE.

Hæmatoma of the Soft Tissues of the Throat, Necessitating Tracheotomy. A Tonsillectomy Complication. LEROY A. SCHALL. (*Laryngoscope*, Vol. xxxvi., No. 9, p. 666.)

A patient, aged 29, with a past history of iritis following mustard gassing, was operated on for removal of septic tonsils under local

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novocain anæsthesia; the dissection and snare method were used. There was no tear in the muscle and no exposed vessels at the end of the operation. Two hours later, considerable bleeding took place from the left tonsil bed and was controlled by local applications. Half an hour later bleeding recurred with clot formation and ecchymosis of the anterior pillar. The anæsthetist started to give nitrous-oxide-oxygen, but after several respirations the breathing stopped with the jaws tightly closed; artificial respiration failed while spasm of jaws continued. Tracheotomy was performed, and following artificial respiration, breathing recommenced.

Examination now revealed a large swelling of the soft tissues, including the soft palate, which completely occluded the oropharynx. The tonsillar fossa could not be recognised. Two c.c. of thromboplastin were injected intravenously. The swelling quickly subsided and the recovery was uneventful. It is probable that a vessel either retracted beneath the muscle fascia, or running so close to the tonsillar bed, its coat was injured, with subsequent bleeding. The anæsthetic evidently caused sufficient rise of blood pressure to open widely the vessel, permitting rapid bleeding into the musculature.

ANDREW CAMPBELL.

The Technique of Tonsillectomy in Children. OHNACKER, Magdeburg. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xvi, Heft 3, p. 420.)

The following method is recommended: Chloric ether anæsthesia is administered by the drop method; Whitehead's gag is used; Sluder's guillotine over which a Brünings' snare has been slipped is applied and pressure of the tonsil is made through the guillotine, the blade being then pushed forwards. As soon as the shining capsule is exposed the guillotine should cut no further and the tonsil should be shelled out by means of the finger, the tongue-depressor being removed. If the attachment of the lower pole is resistant the snare is pushed over it and made to cut it through.

JAMES DUNDAS-GRANT.

A Typical Nasopharyngeal Fibroma in a Girl. SCHLEGLMÜNIG, Würzburg. (*Zeitschrift für Hals-, Nasen-, und Ohrenheilkunde*, Band xvii., Heft 1, p. 1.)

This occurred in a girl aged 13 who had had nasal obstruction for a year and, of late, frequent coryza (there is no mention of epistaxis). The growth was removed by Professor Manasse by means of a snare and digital detachment. It was found to be typical in structure but with signs of degeneration in the shape of hyaline changes. It is

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suggested that as the development of the skull stops short in the female earlier than in the male the spontaneous involution peculiar to these growths may also set in earlier. Probably the local malignancy is also less.

JAMES DUNDAS-GRANT.

THE LARYNX.

Paralysis of the Right Vocal Cord due to Pharyngeal Diphtheria Ten Years Previously. P. M. CONSTANTIN. (*L'Oto-Rhino-Laryngologie Internationale*, November 1926.)

The author reports a case of complete paralysis of the right vocal cord in a woman of 44, whose symptoms had been present for ten years. Investigation excluded syphilis and aortic aneurism, but Klebs-Loeffler bacilli were found in the tonsillar mucus.

Careful questioning revealed the fact that her symptoms began after a very severe sore throat, which her medical attendant had treated by local remedies, in spite of the fact that he had mentioned that the sore throat might be diphtheritic.

Constantin succeeded in ridding the tonsils of bacilli by serum given hypodermically, intramuscularly and locally, but the cord remained paralysed in spite of all treatment.

C. GILL CAREY.

Intubation in Laryngeal Diphtheria. J. H. WHITAKER, M.D., Medical Superintendent, Grove Hospital. (*Metropolitan Asylums' Board, Annual Report, 1926-27.*)

The writer points out that this operation is not popular in England, although it is the operation of election in most other parts of the world. The operation is not adequately described in English text-books, and too much attention is paid to mortality rates as between tracheotomy and intubation without sufficient study of the type of case suitable for each operation. Intubation, in Whitaker's opinion, is a simple and easy practice in laryngeal diphtheria, and much less serious than tracheotomy; although in laryngeal obstruction in other infectious diseases intubation is not so satisfactory as tracheotomy. This, in his opinion, is due to the fact that the inflammation in diphtheria is subacute and that, even in neglected cases, where antitoxin has not been given, ulceration of the mucosa is rare, and loss of tissue practically unknown. The prognosis of laryngitis developing during other infectious diseases is much more grave than in diphtheria—*e.g.* the mortality of laryngitis during scarlet fever is 73.1 per cent.

Intubation is specially suitable in cases where, in diphtheria, spasm of the larynx is marked. Contra-indications are: moribund cases, septic cases, œdematous laryngitis, and the presence of membrane in the trachea in addition to laryngitis. The most valuable diagnostic

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sign of this last condition is the presence of intercostal recession in contradistinction to the recession of soft parts above and below the sternum; in these cases it is better to perform tracheotomy at once. Intubation must be practised only where a medical man is at hand.

As regards technique, the writer bases his opinions entirely on experience in children, and on the use of the short French instruments. No anæsthetic is required, but in older children the operation is often difficult owing to the occurrence of violent spasm; in such cases intubation should be abandoned and tracheotomy performed. The author criticises severely the usual text-book description of the bold passage of the tube through the larynx, and states that it is most essential that firm pressure of any sort must be avoided on account of the grave risk of injury to the larynx, with subsequent stenosis. His description of his own technique is convincing, and should be studied in the original article.

H. ROSS SOUPER.

Anastomosis of the Recurrent Laryngeal Nerve to the Phrenic Nerves: Some Recovery of Function. E. BROUGHTON BARNES and Sir CHARLES BALLANCE. (*Brit. Med. Journ.*, 30th July 1927.)

In this case there was complete traumatic division of both recurrent laryngeal nerves following an operation for removal of an adenoma of the thyroid gland. The patient, a woman aged 52, came under observation eight months later, when both cords were found to be completely paralysed, the patient breathing through a very narrow chink, stridor being constant. There were frequent attacks of severe dyspnoea, and the patient was comfortable only when lying quiet. She could not speak without risking an attack of dyspnoea and she could not take sufficient nourishment to sustain her. Tracheotomy was considered, but it was decided to attempt anastomosis.

On 5th June 1926, operation was undertaken on the right side, through an incision along the anterior border of the sternomastoid muscle. A mass of scar tissue was found extending from the cricoid cartilage to the sternum. Only about $1\frac{1}{8}$ inches of the recurrent laryngeal nerve could be identified from the inferior corner of the thyroid cartilage downwards. The rest was lost in the scar tissue. Stimulation by the Faradic current produced no movement of the cord. The phrenic nerve was also involved in the scar tissue, but being larger was more easily traced and exposed. The descendens noni however could not be found, so that the ideal anastomosis aimed at, viz., recurrent laryngeal-phrenic and phrenic-descendens noni was impossible. A partial severance of the phrenic nerve was therefore resorted to, the proximal part of the severed portion being dissected upwards for $\frac{5}{8}$ of an inch so that it could be brought across the carotid sheath to meet the discovered portion of the recurrent nerve.

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After the operation, the corresponding half of the diaphragm moved much less than the other half, indicating partial or complete paralysis. A month later, 3rd July, an operation was performed on the left side the phrenic nerve being drawn across under the carotid sheath and an end-to-side anastomosis done. At this time the right half of the diaphragm appeared to be still paralysed, and the second operation paralysed the left half. By 24th July there was appreciable improvement in tone of the right vocal cord. During August and September the patient gained at the rate of 1 lb. per week. After the end of July there were no further attacks of dyspnoea nor any stridor. Electrical stimulation across the larynx was begun at the end of September and continued daily. On 8th November there was definite movement of both sides of the diaphragm; the right cord moved better than the left which had very little action, although the left arytenoid moved.

Details of the progress at different subsequent dates is given from which it appears that the right cord continuously improved, but the left remained practically motionless. A year after the first operation the patient spoke with a fairly strong voice and her general condition was good. It is pointed out that the splitting of the phrenic nerve in the first operation yielded a better result than the end-to-side anastomosis performed on the left side.

T. RITCHIE RODGER.

MISCELLANEOUS.

Some Observations on the Embryology, Anatomy, and Pathology of the Teeth, for the Assistance of the Laryngologist. CH. RUPPE. (*Archives Internationales de Laryngologie*, March 1927.)

The purpose of this lecture is to help the laryngologist to understand the dental problems with which he is so frequently confronted.

The first part of the lecture is devoted to the embryology of the teeth which is divided into three periods:—

- (1) The period of cellular differentiation.
- (2) The period of calcification.
- (3) The period of eruption.

Each of these periods is described in detail, and an embryological explanation is given of the various neoplasms and cysts which form in connection with the teeth.

“Hutchinson teeth” receive particular mention. The author insists that in addition to the well-known semilunar notch on the free border of a permanent central incisor tooth, the “Hutchinson tooth” of a congenital syphilitic subject should possess one or more of the following characteristics: (1) The axis of the tooth is not vertical,

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but oblique, usually downwards and inwards, sometimes outwards. (2) The tooth is larger at the neck than at its base. (3) It is usually thicker than normal and not so broad; consequently the spacing between the neighbouring teeth is wider.

The second part of the lecture deals with the anatomy and the pathology of the teeth.

MICHAEL VLASTO.

A Plea for Conservation in the Treatment of Optic Nerve Disturbance from Focal Infection. L. E. WHITE. (*Laryngoscope*, Vol. xxxvii., No. 5, p. 327.)

The data for this paper are derived from sixty unpublished cases. On going over a hundred cases in the author's experience, he is led to believe that the infection of the optic nerve comes from either some systemic condition, such as influenza, or from some definite focus, such as teeth, tonsils or sinuses. The infection travels by way of the blood stream and produces a neuritis of the optic nerve just as of any other nerve. Eliminate the infection from the blood stream and the neuritis subsides. The danger lies in the fact that the optic nerve degenerates rapidly and never regenerates. The majority of cases of optic neuritis recover spontaneously, and it is important to differentiate between those likely to recover and those unlikely to do so. If there is no improvement within a week, there is danger of permanent impairment of vision. In cases of two months' standing, little improvement can be expected, except possibly in checking the loss of vision. The demand for operation is more imperative in total loss of vision as compared with only partial loss. If the optic nerve appears normal, one might delay operation, but increasing engorgement or commencing pallor are indications for early interference. The virulence of the infective process must be kept in mind. It is possible, therefore, to treat every case individually and only operate on such cases as are likely to have their vision damaged if no operation were performed. Attention should certainly be paid to infected teeth and tonsils, and the maxillary antrum should also be included, but the exenteration of ethmoids and sphenoids which are not obviously diseased is a gross but too common error. Probably 85 per cent. of cases will recover with conservative treatment. In the other 15 per cent., where there is marked loss of vision and severe neuritis and small optic canals, the removal of the focus and the middle turbinate with uncapping of the posterior ethmoid and sphenoid is advocated. Exenteration of other sinuses is not advisable. Moreover, it is important to search for foci apart from the nose and throat, for instance the prostate gland and intestinal gland. Retrobulbar neuritis may result from infection of the teeth, tonsils, sinuses, prostate, appendix, gall-bladder, Fallopian tubes and intestinal tract.

Abstracts

From a nasal point of view, we must not expect to find pus and polypi, but any crowding in the middle turbinate area is always regarded with suspicion. The teeth are undoubtedly one of the commonest of foci. The radiologist should take the antero-posterior and lateral plate of the sinuses and one of the optic canals. Whenever the sinuses are negative, the teeth and tonsils should be suspected.

Of sixty cases of optic nerve disturbance, treated by the writer, seventeen appeared to have the tonsils as foci, while fourteen were found in the teeth and two in the antra. Teeth and tonsils were infected in four cases, while in six it was found in teeth, tonsils and antrum. In only six cases were the ethmoids involved and even in these, the teeth, tonsils or antrum were associated pathologically. The posterior sinuses were opened in nine cases of this series—in two, recovery would have probably taken place without operation, while five did not show improvement. Thus in only two out of sixty cases was the operation on the posterior sinuses of value.

Of the sixty cases, a definite focus was found in fifty-three, while three were considered to be systemic, diabetes in one, hyperthyroidism in one and post-scarlatinal in one. Two cases were negative save for hypertrophied middle turbinates. One had an acoustic neuroma, and in the last case no focus was discovered.

The surgical elimination of the focus was followed by normal vision in twenty-three cases, marked improvement in twelve, slight in five and none in six. In seven cases of refusal of operation, normal vision followed in one, while six showed no improvement.

Teeth and tonsils appeared to be the foci in 70 per cent. of cases, while the ethmoids were involved in 10 per cent. The prognosis is dependent on the duration and extent of the loss of vision, the condition of the fundus, the virulence of the infection and the size of the optic canals.

ANDREW CAMPBELL.

Identification by Comparison of Röntgenograms of Nasal Accessory Sinuses and Mastoid Processes. WM. LEDLIE CULBERT, M.D., and FREDERICK M. LAW, New York. (*Journ. Amer. Med. Assoc.*, Vol. cxix., No. 21, 21st May, 1927, p. 1634.)

The authors cite an interesting case of the identification of a dead body 260 days after death. The case possessed interest from a medico-legal aspect since the deceased was heir to much real estate. Identification to the satisfaction of the court was made by comparing X-rays of the nasal accessory sinuses taken in 1918 with those taken of the skull in 1926. In addition, the deceased's dentist recognised three gold inlays in the teeth of the same body. The authors state that there is a life-long permanence in the shape, size and contour of the adult

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bone structure, and their relation to the neighbouring pneumatic cells, and that Röntgenograms may be used to assist finger-printing as a method of identification. ANGUS A. CAMPBELL.

A Clinical and Pre-operative Study of the Thymus in Children of the Tonsil and Adenoid Age. H. T. MOSHER, A. S. MACMILLAN, and F. E. MOTLEY. (*Laryngoscope*, Vol. xxxvi., No. 1, p. 1.)

This article is based on a series of 4820 consecutive X-ray examinations of children between the ages of two and sixteen years. Approximately 7 per cent. of those examined showed an enlarged thymus, and of these one hundred and ten had their blood examined. Notes on four post-mortems on children who died of status lymphaticus are incorporated.

The main conclusions are as follows:—

Seven per cent. of children between the ages of two and sixteen years have an enlarged thymus, while the statement that 50 per cent. of children have enlarged tuberculous glands throwing a broad mediastinal shadow indistinguishable from that of the thymus, is not correct. A series of ninety X-rays taken at a tuberculous sanatorium showed a broad mediastinal shadow in only 7 per cent. The crying of a child during the taking of an X-ray plate does not enlarge the thymus. The blood counts on children with enlarged thymus showed a slight lymphocytosis, but not enough to be diagnostic. After X-ray therapy, there was no change in the blood count. The thymus, like the tonsil, is a lymphatic gland, and it has not been proved to have a specific function.

A thymic death is remarkably like a death from acidosis.

In status lymphaticus, the thymus is enlarged in series with the enlargement of the lymphoid tissue of the alimentary tract, namely Peyer's patches, solitary follicles and mesenteric glands.

It is suggested that when an enlarged thymus is detected, the patient be treated by X-ray to reduce the thymus. This treatment failed to reduce the shadow in 1 per cent. of cases. One third of an erythema dose was given four times at ten days' intervals. All cases were subsequently operated on successfully. ANDREW CAMPBELL.