Examination.—Swelling and ulceration with whitish membrane formation affecting both sides of the larynx : the right side is fixed but ulceration does not extend to the arytenoids or to the ary-epiglottic folds.

Investigation to date.—X-ray chest and sputum—negative for tuberculosis. Wassermann reaction of blood—negative. Swab from larynx—gram-positive diplococci on smear : culture of hæmolytic streptococci : B. diphtheriæ absent. Biopsy not yet carried out.

DISCUSSION.

Dr. THORBURN said that the opinion of most of the members with whom he had spoken was divided between an unusual type of infective ulceration of the larynx and carcinoma. The short duration was against a diagnosis of carcinoma but he would keep the case under observation and if necessary do a biopsy.

ABSTRACTS

EAR

Acute Otitis Media with Meningitis followed by Labyrinthitis on the Opposite Side. W. KINDLER. (*Z. Laryng.*, 1935, xxvi., 177-81.)

Labyrinthitis without otitis media complicating cerebrospinal meningitis is not uncommon. But one very rarely finds an otogenic meningitis complicated by a labyrinthitis on the *healthy* side. Two such cases are described, both in children. *Boy, aged* 7, had an acute right-sided otitis media with symptoms of meningitis and a right-sided nystagmus. Vestibular tests showed a non-responsive *left* labyrinth with a normal tympanic membrane on that side, while the right labyrinth showed a good caloric response. Lumbar puncture gave turbid cerebrospinal fluid under pressure but no organisms. In view of the conflicting results of the vestibular tests no operation was done. The patient recovered and an examination some twelve months later showed a normal tympanic membrane, but it was still impossible to obtain a caloric response on the left side.

In the second case, *a girl aged* 7, the treatment was also non-operative, except for repeated lumbar punctures. During the fifth week of the illness, when the patient was on the way to recovery from the otogenic meningitis, a sudden attack of deafness and vertigo in the healthy ear occurred. The vertigo gradually disappeared and the deafness ultimately cleared up.

J. A. KEEN.

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

Ear

On the State of the Otolith Apparatus in Neuritis of the Auditory Nerve. S. KOMPAGENETZ. (*Acta Oto-Laryngologica*, xxi., 4.)

In ordinary clinical examination we consider, as a rule, that the vestibular apparatus has lost its excitability when it fails to react either to rotation or to the caloric test, but the otolith organ from which, as is generally admitted, tonic but not kinetic reflexes arise, is entirely neglected.

The writer proposes to show in this article, as he has already done previously in the case of deaf mutes, that the otolith organ is independent and that a loss of excitability of the semi-circular canals does not signify a total loss of the vestibular apparatus. He describes six cases of neuritis of the auditory nerve in which, besides examining the function of the semi-circular canals, he also carried out tests for the otolith apparatus, using a method of his own to measure the contra-rotation of the eyes in the optimum position of the saccules.

He concludes that in neuritis of the auditory nerve there is found, not only an isolated affection of the cochlear branch, but often an isolated affection of the different parts of the vestibular apparatus also ; for example in loss of excitability of the semi-circular canals the excitability of the otolith organ is generally preserved.

In considering phylogenetically the age of the auditory organ the youngest part would appear to be the cochlea, then the semi-circular canals, and the oldest portion the otolith, whose function may survive when that of the other two divisions has failed.

H. V. FORSTER.

Clinical Presentation of Improvement in Surgical Repair of the Facial Nerve. ARTHUR B. DUEL, New York. (*Laryngoscope*, 1934, xliv., 599-611.)

In this paper Duel briefly reviews the modifications and improvements in the Ballance-Duel operation suggested by the last two years' work.

Before the operation was actually done it was thought that it would be unlikely to find any case in which a gap of more than five millimetres had to be bridged by a graft ; the external respiratory nerve was easily accessible for the graft, and it could readily be sutured without damage to the muscle. Unfortunately, in the first two cases the gap was twenty-seven and thirty millimetres respectively, and it was impossible to repair such a loss in the external respiratory nerve by suturing. In order to avoid paralysis of a muscle so important as the serratus magnus an intercostal nerve was used, and in later cases the anterior cutaneous nerve of the thigh. If a heteroplastic graft is used it is important that the donor and the recipient shall be of the same blood group.

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

It was believed at first that it would not be possible to graft in an infected area, but this has not proved to be the case ; several cases have been successful in spite of an infected field.

It is clear from recent results that repair is quicker and probably more complete when full Wallerian degeneration of the graft has been allowed to take place before implantation.

In many cases in which paralysis followed an operation injury it was not necessary to use a graft. Removal of spicules of bone, or exposing the nerve and slitting the sheath, was enough to cure the paralysis. Ample justification has been obtained for decompression and slitting the sheath in cases of Bell's palsy in which spontaneous recovery does not occur. It will be remembered that when this was suggested three years ago considerable doubts were expressed as to the advisability of the proceeding. Duel has further confirmed his opinions by a series of experiments on monkeys. The facial nerve was exposed and frozen with ethyl chloride ; in one monkey the sheath was left intact, in several others the sheath was slit. The animals in which the sheath was slit recovered in half the time of the monkey with the intact sheath. Exactly similar results were obtained after alcohol injection into the sheath.

The possibility of curing the paralysis, supposing that it is possible to make a successful implant, seems to depend not directly on the time which has elapsed since the injury or on the length of the gap which has to be bridged, but on the condition of the muscles. In one case of twenty years' standing with marked atrophy of the muscles there was a slight response to the galvanic current, and operation improved the patient's condition to the extent that he could shut the eye and sleep with the eye shut.

Duel concludes by saying that : " If there is no response in the muscles to the galvanic current, I think it is ' love's labour lost ' to restore the line by a nerve implant."

F. W. WATKYN-THOMAS.

The Otic Ganglion. P. J. MINK. (*Arch. Ohr-, u.s.w. Heilk.*, 1935, cxxxix., 283-99.)

In the course of catarrhal inflammations of the middle ear and of the Eustachian tubes, patients often complain of sudden crackling noises. The author has made a careful analysis of this symptom after a personal experience of tubal catarrh. He discovered that he could produce a sudden explosive noise, like a pistol shot, when he touched a certain area in the upper part of Rosenmüller's fossa with a cotton-wool applicator. He explains that this symptom is due to a direct stimulation of the otic ganglion which lies in the immediate neighbourhood of that area. The stimulation causes a sudden contraction of the tensor palati, the opener of the Eustachian tube.

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In the light of this observation, the author has reconsidered the anatomy and physiology of the otic ganglion, a subject which appears to have been neglected in otology. The otic ganglion is said to be as important for the ear as the ciliary ganglion is for the eye (von Tröltsch). The otic ganglion supplies the tensor palati and tensor tympani ; it is also responsible for maintaining a state of tonus in the internal pterygoid muscle which keeps the mouth closed apart from mastication. Further, an entirely new suggestion is made in the physiology of the ear, viz. that the otic ganglion is responsible for slight rhythmic contractions of the tensor palati with every inspiration, a reflex which is probably initiated by the stimulus of the current of inspired air. In other words, a ventilation of the tympanic cavity would take place automatically as part of respiration and not only as a voluntary act in swallowing. Certain manometric observations on movements of the tympanic membranes synchronizing with respiration seem to lend support to this idea.

It is possible to influence the tensor palati voluntarily to some extent. During his attack of tubal catarrh Dr. Mink found that he could produce the sudden explosive noise when he moved the jaw with the mouth tightly shut. Presumably, impulses to the internal pterygoid overflowed into the branch to the tensor palati. In the act of listening very intently (lauschen) there is probably a voluntary contraction of the tensor tympani, also a function of the otic ganglion.

J. A. KEEN.

LARYNX

Calcium-Sandoz and the Treatment of Œdema of the Larynx. W. GAUS. (*Zbl. f. Chir.*, 1935, lxii., 610.)

Though the literature on calcium therapy is very extensive, little or no attention has been paid to its influence on acute œdema of the larynx. The condition is often so serious as to endanger life and frequently demands tracheotomy as a last resort. Any treatment which obviates this operation is manifestly worth the closest study by oto-rhino-laryngologists.

The theoretical basis of calcium therapy for this condition needs no elaboration since the effect of calcium in preventing inflammation and exudation has been abundantly demonstrated by numerous investigators (Chiari and Januschke 1911), Rothlin (1930), Kayser (1931), Bremer (1929), Maillefert (1932), Karrenberg (1928).

Apparently Kaffler (1930) was the first to report success with calcium therapy in laryngeal diphtheria. In all cases of diphtheria in children as soon as difficulty in breathing starts Kaffler gives 5 c.cm. of Calcium-Sandoz daily and 10 c.cm. to bigger children.

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Similarly, Nühsmann (1933) by administration of calcium, was able to dispense with intubation and tracheotomy in cases of laryngeal stenosis. Indeed tracheotomy was never again employed after calcium therapy was adopted. Nühsmann reported a case of laryngeal œdema in a patient aged 60 who had just recovered from prolonged septicæmia. Erysipelas of mouth and throat followed extraction of teeth and this soon spread over the face, neck and chest, producing great swelling of the head and neck. Laryngeal œdema soon became a grave complication.

" There was severe dyspnœa and tracheotomy seemed inevitable in spite of difficulties due to the enormous swelling of the neck. As tracheotomy had such slight hope of success I decided to try calcium. I injected 20 c.cm. intravenously and repeated this dose in two hours. Three hours after the first calcium injection respiration became free ; after twelve hours laryngeal œdema had nearly disappeared and in twenty-four hours had quite vanished."

Geiger (1932) reported the effect of calcium therapy in acute inflammatory œdema of the larynx following angina, burns and retro- and peri-tonsillar abscesses.

"In laryngeal œdema calcium therapy enabled us to obtain a prompt effect and thus meet a serious emergency without operation. Since a rapid action is required we injected 10 c.cm. of 10 per cent. Calcium-Sandoz intravenously and the same amount intramuscularly. According to the patient's condition we gave further injections intramuscularly up to 40 c.cm. per day. The intravenous injection produced an almost instantaneous effect which was sustained by the depot action of the intramuscular calcium."

Again, Feldmann (1933) reported a case of laryngeal tuberculosis with perichondritis in which œdema of the right arytenoid region blocked the entrance to the larynx. Tracheotomy was averted by the intravenous injection of 20 c.cm. of Calcium-Sandoz.

Ackermann (1934) reported the case of a patient who, while eating plum tart, was stung on the tongue by a wasp and was admitted to hospital with swelling of eyelids and lips, extensive urticaria of the skin and cyanosis of the face. The patient was unable to speak as the tongue completely filled the mouth and breathing was very laboured. Tracheotomy seemed unavoidable. However, after the intravenous injection of 5 c.cm. of Calcium-Sandoz the swelling of the tongue and the urticaria diminished markedly. During the next half-hour all signs disappeared except slight œdema of the eyelids, slight pain and swelling of the tip of the tongue.

In Gaus's own experience in the Ear, Nose and Throat Department at Düsseldorf numerous cases of pharyngeal and laryngeal œdema improved rapidly after intravenous injection of Calcium-Sandoz which averted otherwise inevitable tracheotomy.

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In addition, cases of influenza with acute œdematous laryngeal stenosis subsided to a great extent after intravenous calcium. In the case of malignant tumours which had produced œdematous swelling, success with calcium was not always so striking since the main cause of stenosis is the mechanical blockage of the tumour, not solely œdema.

Gaus ends by strongly recommending that acute laryngeal œdema should always be treated in the first place with calcium before resorting to tracheotomy, which operation can be avoided in a considerable percentage of cases by injection of adequate doses of calcium.

Some Primary Results in Operative Treatment of Cancer of the Larynx. PAUL FRENCKNER. (*Acta Oto-Laryngologica*, xxi., 4.)

Buck performed the first thyrotomy operation in 1851 ; the first total laryngectomy was done by Billroth in 1873. At the present day 30 per cent. of permanent cures are expected after the operation of total laryngectomy, with a primary operative mortality of 5 to 10 per cent.

Since radiological treatment has improved so much it is difficult to decide in certain cases of laryngeal cancer whether to rely on radiology alone, or on surgical methods, or to combine the two.

The writer believes Soerensen's classification, based on the extent of the growth, to be the most suitable on which to decide which method of attack is to be carried out.

GROUP I. Laryngeal carcinomas limited to the middle portion of one vocal cord, and not extending to the anterior commissure in front or to the vocal process behind. The cases are equally suitable for radium or laryngofissure, giving 80 to 90 per cent. freedom from recurrence, but operative treatment gives a better opportunity to determine the exact extent of the growth.

GROUP II. All unilateral laryngeal cancers which do not reach the anterior commissure in front, or the midline behind, or the entroitus above and have not invaded the cartilage. The less extensive cases are suitable for radium but the others should be treated by hemilaryngectomy to be followed always by radiological treatment.

GROUP III. In all endolaryngeal cancers not strictly unilateral, with or without regional adenitis, laryngectomy followed by radiological treatment is the method of choice.

GROUP IV. This comprises all external laryngeal cancers. Radiological treatment with fair results is the method of choice, except in some cases in which laryngectomy gives hope of complete removal of tumour tissue.

The writer deals chiefly with those cases in which laryngectomy is indicated, namely in Group III and in certain selected cases in

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Group IV. He does not favour any radiological treatment before operation.

The earlier cases at the Sabbatsberg Clinic were operated upon at one séance according to the rules of Gluck and Soerensen, but his own fourteen cases in the last year were dealt with according to New at the Mayo Clinic, where the entire operation occupied two or three séances.

The method of operation is described and his cases are tabulated; finally he concludes with some favourable observations on the comparatively slight risk of such a major operation, on the cosmetic result and on the development of a useful œsophageal voice.

H. V. FORSTER.

NOSE AND ACCESSORY SINUSES

Acute Sinusitis in Children associated with Orbital Complications; the Conservative Treatment; Report of Ten Cases. SAMUEL D. GREENFIELD, Brooklyn. (*Laryngoscope*, 1934, xliv., 683-716.)

The author, who regards acute sinusitis as an "exceedingly common" complication of acute upper respiratory infections in children, limits his remarks to those cases in children in whom there is a suggestion of extension of the infection from the sinuses into the orbit.

He believes that antral and sphenoidal suppurations never cause the orbital complications which he describes, and that the cases which are said to have been caused by frontal sinusitis are really ethmoidal suppurations with secondary invasion of the frontal sinus.

Contrary to frequently expressed opinion, he points out that some ethmoid cells are present at birth, and after the second year they develop rapidly. In children the *os planum* of the ethmoid is more pliable than in the adult, and can easily be displaced outwards into the orbital cavity by distension of the cells; also, the orbital periostium is easily stripped off the *os planum*. Thus, in children, distension of the ethmoid cells may cause compression of the orbital contents, with a corresponding rise of intra-orbital pressure. This in turn causes compression of the orbital veins and lymphatics with œdema of the lids and chemosis of the conjunctiva. The distension of the cells may be so great that the globe may be displaced downwards and outwards with apparent exophthalmos. In spite of the severity of the symptoms there is no induration and no fixation of the globe, because the condition is, clinically, extra-orbital. The presence of these two signs indicates a true orbital invasion, either by necrosis of the wall or by the blood-stream; in their absence the condition should be regarded as still amenable to nasal treatment.

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In diagnosis, Greenfield places a high value on the nasal endoscope, and pays tribute to the work of Watson-Williams on this subject. He also urges the importance of radiological examination, but admits that it is difficult to demonstrate accurately the outward displacement of the lamina. Apart from tortuosity of the retinal vessels the fundus is usually normal.

In the discussion of treatment, Greenfield remarks that, although operative measures are absolutely necessary when an orbital phlegmon is present, there is a great risk of meningitis following orbital or ethmoidal operations in children. Surgery should, therefore, be the last resort in those cases in which the infection is still really confined to the sinuses. He advises the instillation of five to ten minims of 3 per cent. ephedrine sulphate into each nostril, with the head held fully extended in the Proetz position for ten minutes. This is followed by suction, which must not be strong enough to cause severe pain or rupture of the capillaries. Unfortunately the precautions against excessive suction are not very precisely described. Full notes of the ten illustrative cases are given.

F. W. WATKYN-THOMAS.

ENDOSCOPY

Perforation of the Œsophagus by Swallowing Foreign Bodies. J. E. G. MCGIBBON and J. H. MATHER. (*Lancet*, 1935, ii., 593.)

The authors describe three recent cases.

(1) A female of 32, who thought a rabbit bone had stuck in her throat. Œsophagoscopy showed a wound in the posterior œsophageal wall. No foreign body was found. The patient died a week later. There was purulent infection of the entire retro-œsophageal and retro-pharyngeal spaces. No foreign body was found.

(2) A male, aged 26, swallowed a fishbone. There was a small wound of the posterior œsophageal wall, leading to an accumulation of air in the mediastinum. The patient recovered.

(3) A female, aged 22, swallowed a cod bone. Acute œsophagitis about level of 1 to 4 D.V. Air in mediastinum. The patient recovered. In none of these cases was the foreign body found. The authors discuss the anatomy of the œsophageal region, the symptoms and the signs of perforation, infection following perforation, diagnosis, prognosis and treatment. Their conclusions are important :

(1) Abolition of probangs, coin-catchers and all methods of blind bouginage.

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(2) Œsophagoscopy in all cases of *suspected* foreign body, even with negative X-ray.

(3) Cases showing abnormality of œsophageal mucosa should be kept under observation and fed *per rectum*.

(4) Subcutaneous emphysema demands puncture only if infection is evident.

(5) Drainage of the para-œsophageal abscess due to eroded perforation is justifiable.

(6) Known perforations with emphysema require no active treatment unless there are general septic symptoms.

(7) Perforations with general sepsis must be surgically treated by gastrostomy.

MACLEOD YEARSLEY.

Foreign Bodies in the Stomach: Removal by Peroral Endoscopy. L. CLERF. (*Surgery, Gynæcology and Obstetrics*, August, 1935.)

Amongst the 849 cases of foreign bodies in the stomach reported from the Jefferson Hospital Bronchoscopic Clinic, Philadelphia, 818 passed spontaneously, twelve were removed by laparotomy and eighteen were removed by peroral gastroscopy. Several of those passing spontaneously were pointed and irregular objects, showing that there is no need for precipitate action.

The opinion of the radiologist as to whether the object can safely traverse the duodenum is important, as removal from the stomach is more safely performed than from the duodenum.

Peroral gastroscopy is the method of choice if the object is to be removed from the stomach. It is safer than opening the stomach, and the stay in hospital is less.

This method of removal necessitates adequate equipment and ability to work under the double plane fluoroscope.

Of the twelve cases in which removal was effected by the author, neither local nor general anæsthetic was employed.

Rounded objects are given a reasonable time to leave the stomach by natural means, but an object such as a needle should be removed without delay.

T. D. DEIGHTON.

TONSIL AND PHARYNX

Metastatic Hypernephroma of the Tonsil. L. C. MENGER, Brooklyn and ISIDORE ARONS, New York. (*Laryngoscope*, 1934, xliv., 748.)

In 1932 a man, aged 65, underwent nephrectomy for a left-sided hypernephroma. At the time it was noted that the growth might have penetrated the endothelium of the vein, and a memorandum

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

was entered that the patient should be kept under careful observation for metastases, especially pulmonary.

In 1934 he complained of a recurrent " sore throat " following extraction of teeth under local anæsthesia three weeks previously. On the right tonsil there was an ulcerated area with membrane suggestive of Vincent's angina, and the diagnosis was confirmed by identification of the organism in the direct smear. But, a fortnight later, the membrane had disappeared and had been replaced by a profuse dark red growth resembling granulation tissue, bulging out from the surface and as large as the tonsil.

This mass was removed with a snare and was histologically proved to be hypernephromatous tissue.

The patient was given deep therapy by Coutard's method but, as the report is made within three months of the start of treatment, no result can be given.

F. W. WATKYN-THOMAS.

Mixed Tumour of the Pharynx. Case Report. JO ONO, Philadelphia. (*Laryngoscope*, 1934, xliv., 745.)

A man, aged 28, was admitted to hospital with a history of slight thickness of speech and a " lump in the throat ". He insisted that the lump had appeared suddenly seven years previously and that it had not altered in size during this time. A smooth mass " the size of a small orange " arising from the right pharyngeal wall extended to the ramus of the mandible, crowded the base of the tongue forwards and pushed the right tonsil and the uvula so far over that they were in contact with the left tonsil. The larynx was pushed over to the left, and the mass projected into the right submaxillary fossa.

The mass was removed intra-orally through an incision external to the faucial pillar. It was enucleated without any difficulty except that it had to be divided in order to get sufficient room to reach the lower pole. No pedicle could be made out ; it seemed to be lying in the tissues without any definite site of origin. The measurements of the excised mass were 7 by 7 by 5 cm., and the weight 105 grammes. There was a definite fibrous capsule. Histological examination showed " a variety of structures, with much gland tissue, cartilage, fibrous tissue and small areas of myxomatous tissue ". The wound healed in twelve days.

F. W. WATKYN-THOMAS.

The Present Status of Diathermy or Electrocoagulation in the Treatment of Tonsil Disease. EDWARD R. ROBERTS, Bridgeport, Conn. (*Laryngoscope*, 1934, xliv., 941.)

This short and valuable article should be read in full. Roberts sketches briefly the rise of diathermy to favour in the treatment of

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

tonsillar sepsis, and its present position in specialist opinion in the United States.

The good results obtained by diathermy in malignant disease of the tonsil suggested that it might be used for the septic tonsil. The idea was elaborated by the instrument makers, who developed a suitable apparatus. "Ushered in by clever advertising and marketed by good salesmanship, and later by the Life Extension Institute who are advocating its use, there arose a public demand for this form of treatment utterly out of all proportion to its merits." Claims are made that the method is safe and simple; that there is less pain and less risk of hæmorrhage; finally that it saves the patient time and money.

The method has been very widely used in the States and the writer has had a mass of material on which to base his opinions. They are uniformly unfavourable. He points out first the difficulty of removing all the tonsil. Even with bipolar needles the area coagulated is pyramidal, with the base to the faucial surface; the difficulty of complete removal is compared to taking custard out of a cup with a spoon; ridges and streaks are left between the spoonfuls. In practice the danger of secondary hæmorrhage has proved to be considerable, and when hæmorrhage does occur it is very difficult to control. In many cases there is considerable post-operative pain. Lastly, in many cases the removal is incomplete. In support of these findings Roberts quotes the stated opinions of various clinics, all unfavourable, and many (e.g. Shambaugh school) violently so.

He summarizes his conclusions as follows:—

"Contrary to the advice freely given by some, that surgical diathermy is the procedure of choice over tonsillectomy, the facts are that with the use of surgical diathermy:

"Theoretically, the tonsil is not entirely removed and if my idea of the mechanics of this technique is correct, it cannot be. Practically, as most of us see end results, this is the fact.

"The danger of secondary hæmorrhage is great.

"There is post-operative pain in the series of treatments.

"Secondary infection, with œdema, is always present in *some* degree, and scar tissue is invariably the end result.

"Diathermy is unsurgical and dangerous in itself, and may be dangerously inefficient from the standpoint of the patient.

"Additional surgical removal is necessary afterwards.

"Tonsillectomy is, as yet, the only operation which adequately fulfils the demand for complete removal of the faucial tonsil and complete eradication of this organ as a focus of infection."

F. W. WATKYN-THOMAS.

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

Miscellaneous

MISCELLANEOUS

A case of spondylosis deformans of the cervical vertebrae with bulging forward of the walls of the œsophagus and trachea. G. HOLMGREN and H. HELLMER. (*Acta Oto-Laryngologica*, xxii., 1-2.)

A woman, 62 years of age, had suffered for six months from dryness of the throat, unpleasant taste in the mouth and expectoration of lumps of yellow secretion. On movement of the head she noticed creaking and grating in the neck with some pain on the left side.

Direct laryngoscopy showed in the mid-line of the posterior wall of the trachea, about 2 cm. below the vocal cords, a prominence, the size of the tip of the little finger, which came and went, but was especially noticeable after phonation, although not always present even then. Sometimes another similar projection was visible 2 cm. lower down.

X-ray examination showed that this bulging of the tracheal wall was due to spondylosis deformans of the bodies of the fifth and sixth cervical vertebrae, with much forward projection of their deformed margins and thinning of the intervertebral disc between them. The lower cervical vertebrae were also, as a whole, displaced forward. Examination of the œsophagus during the downward passage of opaque food showed here also a narrowing at the level of the fifth and especially of the sixth vertebra, due clearly to the same cause as the prominence in the trachea.

THOMAS GUTHRIE.

Combined Distance Radiation of Hypopharyngeal Cancer. S. CADE and F. M. ALLCHIN. (*Lancet*, 1935, ii., 652.)

The authors group these tumours as epipharyngeal, posterior and lateral pharyngeal, of the pyriform fossa, and post-cricoid carcinoma. After their histology is dealt with, treatment is detailed. The authors conclude that the combination of X-rays and radium increases the radio-sensitivity of the tumour and leads to retrogression. The treatment is safe and is well tolerated. No claims are made for permanent results or a great percentage of cures. Of fifty-two cases, seventeen remain free for periods up to three and a half years. The future contains further possibilities, and it is contended that the combined method reduces the number of partial successes and that, when the process of regression begins to slow down under one wave-length, the other supplies the necessary stimulus to complete healing.

MACLEOD YEARSLEY.

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press

Abstracts

Diets : a Discussion of certain Metabolic Principles and their application to Oto-laryngology. CECIL STRIKER, Cincinnati. (*Laryngoscope*, 1934, xliv., 624-41.)

The author summarizes a discursive but learned, amusing and provocative paper as follows :

" The knowledge of the metabolism of magnesium and potassium is too meagre and controversial to draw any conclusion about their rôle in disease. On the other hand, much is known about sodium chloride metabolism and especially in relation to œdema, but as yet no controlled evidence has been advanced to show that alterations of sodium chloride metabolism affect localized areas.

" The reciprocal relation of sodium and calcium in the body is little understood. It would seem that, before we can talk about this factor of the diet, less polemic information must be obtained about calcium itself. On the other hand, much is known about the fate of sodium chloride in the body and only quantitative metabolic studies will place this type of therapy on a rational basis."

In conclusion one can see :

(1) That there are fairly definite automatic regulatory chemical functions in the normal adult.

(2) That it is unlikely that variations of diet affect the PH of the blood and only slightly affect the CO_2 combining power.

(3) That the diets as advocated by Jarvis and others should base their efficacy on some other action rather than alterations of acid base equilibrium.

(4) That if one feels that certain nasal conditions are related to acid or alkaline tissue reactions, that large doses of NH_4CL or $NaHCO_3$ should be used.

(5) That the average mixed diet contains more than the minimum calcium requirement.

(6) Finally, that possibly the diets as advocated will " help fill the graveyard of the other deceased forms of treatment of obstinate nasal conditions ".

F. W. WATKYN-THOMAS.

https://doi.org/10.1017/S0022215100041918 Published online by Cambridge University Press