

ABSTRACTS

EAR.

“Does Removal of Adenoid Vegetations prevent Acute Disease of the Middle Ear?” JOHN ZAHORSKY. (*Laryngoscope*, Vol. xxxi., No. 1, January, p. 22.)

The author has studied the records of two hundred and twenty children who had adenoids, or both adenoids and tonsils removed. He found that thirty-two of the children had had one or more attacks of acute otitis media. Brief histories of twenty-nine of them are given. In the majority of the cases disease of the respiratory tract was present after removal of adenoids. The conclusion reached—“We cannot depend on adenoid removal as a prophylactic in acute infections of the middle ear”—does not seem quite justifiable.

ANDREW CAMPBELL.

The Oculo-Cardiac Reflex in Oto-rhino-laryngology. JEAN GIRON, Carcasson. (*L'Oto-rhino-laryngologie Internationale*, April 1921.)

1. *In Rhinology.*—The reflex, which is evoked by pressure on the eyeballs, has been found by the writer to be of service in bouts of sneezing, such as are met with during the process of using the cautery in the nose whether the galvano-cautery or chromic acid. Pressure on the eyeballs stopped the attacks at once.

2. *In Laryngology.*—Hiccough is said to be a myoclonic condition of the diaphragm and the larynx acting synchronously. Pressure on the eyeballs, acting through the vagus, is said by the writer to stop hiccough of the most stubborn kind, *e.g.*, the hiccough which occasionally accompanies the recurrent paralysis of aortic aneurysm, and also that of the epidemic variety.

3. *In Otology.*—(a) In the tinnitus caused by blood sounds, whether the physiological type from the carotid, or that of atheroma or anæmia, momentary relief can be obtained by pressing the eyeballs. The action seems to cause bradycardia, and brings about the desired result by affecting the rhythm of the circulation.

(b) In labyrinthine vertigo certain cases of soldiers with injured labyrinths showed exaggerated oculo-cardiac reflexes, but there was not found to be any relationship between the conditions. The reflex is abolished in syphilitic labyrinths.

(c) In intracranial complications of otitic origin, the oculo-cardiac reflex is found to be inverted. The example given is that of a patient with brain abscess, whose pulse was 48. On evoking the oculo-cardiac

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reflex, the pulse bounded up to 108. With the evacuation of the abscess, the pulse slowed, the inversion of the reflex diminished, and after the operation the reflex became normal.

GAVIN YOUNG.

The Organisation of Inflammatory Exudates in the Middle Ear.
W. DOEDERLEIN. (*Zeitschr. f. Ohrenheilk.*, Bd. 79, H. 1, 1920.)

In this paper the author has made an exhaustive study of the early stages of organisation in the middle ear. The material studied consisted of sections of thirty-nine temporal bones from cases of otitis media varying in duration and severity.

Into the exudate lying in the middle ear spaces there grow out connective tissue cells which later become hollow and vascularised. Numerous other cells go out along with these and form granulation tissue. The exudate in this way becomes gradually replaced by cellular and fibrous elements. The epithelium of the mucous membrane at the same time begins to spread along these bridges on to the exudate mass till we have a narrow cleft, lined on both surfaces by epithelium, between the original mucosa and the exudate. As the organisation proceeds and more bridges are formed the cleft becomes divided up into small open spaces (pseudocystic spaces). In the case of the mastoid cells these are generally in the form of a ring, looking on section something like a string of pearls. In the case of the tympanic cavity this appearance is not seen so frequently on account of the irregular contour of the cavity. The exudate mass after vascularisation and organisation gradually shrinks, partly from absorption and partly from contraction of the fibrous tissue, and results eventually in the formation of scars or adhesions. This process of organisation takes place only in the narrow parts of the middle ear cleft such as the mastoid cells, between the limbs of the stapes, between the stapes and its niche, and in the round window. The author has never seen it round the orifice of the tube. The explanation given why organisation does not take place in the tube region is that during an otitis media the fluid in the middle ear is kept continually oscillating through the pulsation of the hyperæmic mucosa. Near the tube, moreover, there is the additional suction which occurs during swallowing, and by which the cavity tends to get rid of secretion. In the other parts of the cavity, however, the exudate tends to stagnate and become organised. Organisation apparently occurs only in exudates containing cellular elements.

Round the orifice of the tube a somewhat different process takes place. The mucosa becomes very swollen and corrugated, and the hollows thus formed sometimes become shut off and form cysts. These are lined by cylindrical ciliated epithelium in contra-distinction

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to the pseudocystic spaces which are lined by squamous or cubical epithelium.

Organisation may commence very early as is shown by a case of otitis media of only seven days' duration. In this case the mass of exudate in some of the mastoid cells had been already replaced by granulation tissue and even a certain amount of fibrous tissue.

The types of middle ear disease tending most towards organisation are the subacute and chronic. Cases with an insidious onset and thick secretion are particularly liable to cause permanent thickening of the tissues. Acute suppurative cases are not generally followed by a great amount of organisation of the exudate, as there is usually so much reaction that perforation occurs early with free evacuation of the contents of the middle ear cavity.

J. K. MILNE DICKIE.

PHARYNX.

The Value of Vaccine Therapy versus Tonsillectomy in Systemic Disease of Tonsillar Origin. H. HAYS, ARTHUR PALMER, and T. S. WINSLOW. (*Medical Record*, 19th February 1921.)

The writers state that it is well established that tonsillar disease may be directly responsible for acute articular rheumatism, endocarditis, kidney disease, and iritis. Other authors mention pleurisy, acute osteo-myelitis, tuberculosis, general sepsis, actino-mycosis, chorea, Hodgkin's disease, pericarditis, myocarditis, neuritis, adenitis, keratitis, herpes, phlebitis, scarlet fever and possibly typhoid fever, leukæmia, and appendicitis. To these may be added a chain of symptoms grouped under the terms mental and physical depression.

There is no way of telling whether a tonsil is responsible for systemic infection without taking a culture to find out whether pathogenic bacteria are present in sufficient numbers. The supra-tonsillar fossa is the site from which to take the culture. The streptococci, mainly hæmolyticus and viridans, are the only organisms in the throat which are responsible for systemic infection.

The writers emphasise the following points:—

1. Systemic disease is often of tonsillar origin when the tonsils are small and show little evidence of disease; closed crypts are more dangerous than open and discharging ones.
2. When a culture taken from the supra-tonsillar fossa shows any form of streptococcus, the tonsils should be removed if any systemic disease is present.
3. Tonsillectomy is a much better procedure than the administration

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of vaccines unless operation is contra-indicated, as in case of elderly patients, severe kidney disease, or severe valvular lesions.

4. A small piece of tonsillar tissue left behind after operation may keep up the systemic infection.

5. The value of the vaccine as a curative agent is yet to be proved.

LINDLEY SEWELL.

Enucleation of the Upper Pole of the Tonsil. CAZEJUST.
(*Revue de Laryngologie*, February 1921.)

In any operation on the tonsil it is essential that the upper pole be completely removed. Enucleation of the whole tonsil as a routine procedure may be a mistake, as we cannot be certain that we are not thereby suppressing some useful function or protective agency. The writer proposes the rational course of removal of the upper, with the retention of the lower pole. There are two points to be settled: how much to remove, and how best to do it.

With regard to the first point, how much to remove, the writer of the paper is not very precise, except that it should include the whole of the buried intrapalatal portion. The procedure he recommends is that of Mouret. Under local anæsthesia, the tonsil is freed by dissection in front and behind. A sharp hook or hook-shaped knife is introduced between the tonsil and the plica semiluminaris in an upward direction until the point penetrates the velum at the junction of the anterior and posterior pillars, and the intervening tissues are cut through. The palato-glossus and palato-pharyngeus muscles are separated by blunt dissection, thus disengaging the upper pole, which falls forward, when traction is made on it (picturesquely described as "une révérence amygdalienne") and can be removed by scissors or snare.

G. WILKINSON.

Local Anæsthesia for the Enucleation of Tonsils. T. B. LAYTON.
(*Guy's Hospital Reports*, April 1921.)

If it is the case, as stated at the commencement of the paper, that local anæsthetics are seldom used in this country in operations on the tonsils, and hardly at all in London, this well-written description of the method is a timely contribution. The technique consists in swabbing the pharynx and base of the tongue with cocaine and adrenalin, injection of a weak solution of novocain and adrenalin into the anterior and posterior pillars, pulling the tonsil inwards and forwards by means of Vulsellum forceps, and snipping round the surface of the pillars with curved scissors. The final removal of the tonsil when all but the lower part has been separated, is then effected by a strong snare, although some of us, like Layton, prefer

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now to complete the operation with the scissors, as being more speedy and less painful. Again, a gargle of hydrogen peroxide is kept at hand to clear the field of blood from time to time if necessary, and the surgeon sits higher than the patient, instead of lower, for greater comfort in his manipulations.

This is the operation *par excellence* where there is a history of quinsy, and where consequently adhesions between the tonsil and the surrounding tissues are likely to interfere with the movement of inversion necessary for enucleation by the blunt guillotine. Probably most of those who use the method retain it for this class of case almost entirely, and for that reason will not be prepared to agree with Layton's statement that there is less bleeding than with guillotine enucleation. In these cases bleeding is apt to be troublesome, probably from new-formed vessels in the adhesions, and of course we miss the clamping action of the blunt guillotine on the normal vessels.

T. RITCHIE RODGER.

Vincent's Angina Infection. FRANK RICKORD, M.D., and M. C. BAKER, M.D. (*Journ. Amer. Med. Assoc.*, Vol. lxxv., No. 24, 11th December 1920.)

This paper deals with a series of 56 cases. Statistics do not show the prevalence of this disease as it is not notifiable. Oral sepsis plays a very prominent part. Smears taken from pipes and cigarette holders have frequently been positive, while drinking vessels were also a source of infection in the Canadian Expeditionary Force.

Emphasis is laid on the value of arsphenamin locally in the form of a 10 per cent. solution in glycerine, *i.e.*, 0.6 gram of the drug dissolved in 2 fluid drams of glycerine.

(1) It seems to be definitely proved that the fusiform bacillus and the accompanying spirochæte are one and the same, the latter being an evolutionary form of the former, but always present with the bacillus.

(2) The writers believe that Vincent's angina is much more common than is at present realised, and that it is not recognised because of the failure to take a smear. Frequently it is mistaken for diphtheria and syphilitic ulcers.

(3) It is probable that the use of sweets or proteins with the subsequent lack of oral cleanliness predisposes to this infection; likewise carious teeth harbour the organism, and that it will manifest itself in its characteristic lesions whenever a suitable opportunity is given. It appears to be more frequent during the winter months.

PERRY GOLDSMITH.

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The Mechanism of the Carrier State, with Special Reference to Friedländer's Bacillus. A. L. BLOOMFIELD. (*Johns Hopkins Hospital Bulletin*, January 1921.)

Bloomfield has made a careful investigation of the "carrier" problem, and concludes that there is always a focus of diseased tissue which affords a breeding ground for the organisms. They do not grow on the free mucous surfaces but lurk in the crypts of the tonsils, and when they emerge on to a free surface they disappear at the same rate of speed as in a non-carrier. Friedländer's bacillus was found in 5 per cent. of eighty-five unselected persons, and it was found impossible to produce in others a carrier state by transplantation of the bacilli.

DOUGLAS GUTHRIE.

The Significance of the Bacteria found in the Throats of Healthy People. A. L. BLOOMFIELD. (*Johns Hopkins Hospital Bulletin*, February 1921.)

When organisms are found in pure culture, as in meningitis and various septic conditions, their causal relationship to the disease is readily proved. But when the ground is already occupied by organisms not causing the disease, or by a host of secondary invaders, it is naturally more difficult to trace the culprit. Much confusion has arisen owing to lack of consideration of the flora as a whole, both in health and in disease.

The author made a study of six healthy individuals and found that the organisms present in the throat fell into two groups:—(1) The true normal flora, comprising non-hæmolytic streptococci and Gram-negative cocci. (2) The pathogenic or non-pathogenic organisms which are accidentally introduced and rapidly eliminated in health.

DOUGLAS GUTHRIE.

Variations in the Bacterial Flora of the Upper Air Passages during the Course of Common Colds. BLOOMFIELD. (*Johns Hopkins Hospital Bulletin*, April 1921.)

Despite its frequency and prevalence, the exact nature and cause of the common cold are still unknown. The malady presents a close analogy to influenza, which, though mild in itself, creates a predisposition to severe complications such as sinus infections, middle ear suppuration, and bronchitis. A study of the literature shows that the primary disease and its complications are frequently confused, but when the uncomplicated cold has been studied it became apparent that no known organism could be regarded as its cause. The majority of observers appear to have been unfamiliar with the normal variations in the bacterial flora of the mouth and nose, and the most

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convincing researches are those of Kruse and Foster, who proved that the infecting agent in "colds" was a filtrable virus. The author, in a careful bacteriological study of ten cases of acute coryza, found that the flora closely resembled that which is found in normal individuals—non-hæmolytic streptococci and Gram-negative cocci being constantly present, as in health. When complications occurred, however, there were present pathogenic organisms such as did not exist in the normal flora.

DOUGLAS GUTHRIE.

Diagnosis and Treatment of Diphtheria. F. H. THOMSON.
(*Lancet*, 1921, Vol. ii, p. 68.)

The writer draws attention to the fact that diphtheria may occur as (1) a varying degree of inflammation without pultaceous or membranous deposit; (2) an inflammation and œdema with definite membranous or pultaceous deposit; (3) an ulcer or ulcers caused by a mixed infection, with or without deposit; or as (4) a most pronounced inflammation and œdema, with or without deposit. In cases which are very acute and doubtful as to certain diagnosis, the delay of treatment for bacteriological examination is to be severely condemned. Treatment is summed up in three heads—suitable nourishment, adequate dosage of antitoxin, and complete rest in the recumbent position. The earlier one can treat the disease the better, and if one fails to get the patient early, the dosage should be greater. To arrive at the approximate dose one must be guided by the stage of the disease, the rapidity and progress from the onset of the symptoms, the amount of inflammation and œdema, the amount of cellular infiltration, the involvement or not of the nose or larynx, the fœtor and the presence of hæmorrhage into the skin. Finally, in all severe cases to add 4000 units to cover possible error. Intra-muscular administration is preferable (*vastus externus*). Thomson gives a useful table as a guide to dosage. As regards recumbency, it should be complete and should last for at least fifteen days, and its relinquishment should be gradual.

MACLEOD YEARSLEY.

The Schick Reaction and Diphtheria Prophylactic Immunisation with Toxin-Antitoxin Mixture. A. P. GLENNY and R. A. O'BRIEN.
(*Lancet*, 1921, Vol. i, p. 1236.)

The writers consider this method of diphtheria prophylaxis the greatest advance since the introduction of antitoxin. The test consists in the intradermic injection of 0.2 c.cm. of a dilution of diphtheria toxin containing in 0.2 c.cm. 1/50 m.l.d. for a guinea-pig. Reaction may be "negative" (given by people with antitoxin in their blood); "positive" (shown by a persistent red flush at the spot where the

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unheated toxin was injected); "pseudo" (a reaction given by people with antitoxin in the blood); and "combined" (reaction shown by those who are sensitive to toxin and also to the "pseudo" constituent). Unfortunately the authors cannot bring forward a long series of results. The method, has, however, been carried out in America in tens of thousands, with good results.

MACLEOD YEARSLEY.

MISCELLANEOUS.

The Intracardiac Injection of Adrenalin as a Means of overcoming Cardiac Failure occurring during the Administration of Anæsthetics.

HERMANN FRENZEL. (*Münchener Med. Wochenschrift*, 68 Jahr., No. 24.)

This is the record of a successful case in which cardiac failure occurred in a female patient aged 41 on whom a radical mastoid operation was being performed under A.C.E.

The technique used is described as follows. The injection was made with a Record syringe to which was attached a well-fitting needle 10 cm. in length. The needle was inserted in the fourth intercostal space close to the sternal margin. During insertion it was inclined about 10° medially. The action should be slow and deliberate, and be accompanied by a slight withdrawal of the piston until at a distance of about 3½ to 4½ cm. there is a perceptible diminution of resistance and some blood is aspirated. The injection of 1 c.cm. of a 1 : 1000 solution of adrenalin solution was then made.

A summary is given of eight other cases in which this method was tried by others and in five of which it was permanently successful.

No injuries were observed to follow the use of the drug in the manner described. Given a correct technique the dangers of the procedure are held to be negligible.

The chances of success are *inter alia* dependent upon the interval that has elapsed before the injection is undertaken. Ten minutes is the maximum period, and success can only be expected if the interval has been a relatively short one.

The procedure merits a permanent place in the armament at our disposal for fighting the form of cardiac failure under consideration, and it would be advisable to have the means of carrying it out immediately at hand whenever a general anæsthetic is administered.

Should artificial respiration and heart massage be unsuccessful within three minutes, the injection should be undertaken whilst these means of restoration are continued. In the absence of more extended experience the indications for laparotomy and direct sub-diaphragmatic heart massage should remain unaltered, that is to say it should be

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carried out, in the absence of other possibilities, if in a further period of three minutes success has not been attained.

JAMES B. HORGAN.

On the Function of the Vermis Cerebelli in Rabbits. T. HOSKINO.
(*Acta Oto-laryngologica*, Supplement 2.)

This paper deals mainly with the eye movements produced by stimulation of the vermis and their relation to the eye reflexes of vestibular origin. The experiments were conducted on rabbits because they are almost free from eye movements arising from optical reflexes. The animals were fixed on a Bárány's turn-table, the posterior fossa exposed under local anæsthesia, and in order to render more easy observations on the nature and degree of the eye movements, one vertical and two horizontal lines were drawn with a cautery point across the cornea of each eye. For electrical stimulation a double electrode with platinum points 2 mm. apart was used, and it was found better to apply this to the surface of the dura over the desired brain area than directly to the cortex, since, by this means all risk of injury to the delicate brain tissue was avoided.

The following phenomena were observed:—

(1) By stimulation of a definite part of the vermis with a weak Faradic current, or by mechanical means, there was produced a single rapid horizontal movement of the eyes towards the stimulated side. When the stimulation ceased the eyes returned with a jerk to their former position.

(2) The area from which these movements can be produced is the median portion of the lobulus simplex (Bolk), and the neighbouring region above and below it (the ophthalmotropogenous zone). The lateral portion of this area gave the best reaction. It was produced by stimulation of no other part of the vermis.

(3) The eye movements, in which were concerned the external and internal recti muscles alone, were affected neither by the position of the head or the body of the animal, nor by bilateral destruction of the labyrinth.

(4) Application of cold to the ophthalmotropogenous zone of one side produced only a slight horizontal deviation of the eyes towards the opposite side.

(5) Electrical stimulation of this area during rotation and caloric nystagmus caused in nystagmus to the stimulated side an increase of amplitude and diminution in rapidity, as well as a prolongation of the slow movement, while nystagmus to the opposite side was diminished in amplitude and increased in rapidity with hastening of the slow movement.

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(6) Application of cold and bilateral destruction of the area result in a diminution of amplitude and increase in rapidity of the nystagmus with a hastening of its slow movement.

(7) Lateral movements of the thorax during vestibular nystagmus affect it just as do electrical stimulation, cold, and destruction, the diminution of amplitude with increase of rapidity, etc., being, however, produced on movement of the thorax towards the same side as the nystagmus, and the opposite effect following movement towards the other side.

(8) The eye movements resulting from movements of the thorax are not affected by total removal of the vermis and of both labyrinths.

(9) The rapidity of vestibular nystagmus is diminished by exposure of the vermis or of the dura over it (? bilateral stimulation).

(10) The difference between the nystagmus to right and left with unilateral cold application or destruction of vermis cortex were variable, but on the whole the nystagmus to the side dealt with was decreased in amplitude and increased in rapidity with hastening of its slow movement, while nystagmus to the other side showed the opposite changes.

(11) When during extirpation of the vermis the roof of the fourth ventricle on one side is removed, there follows a strong deviation of the eye of the same side upwards and backwards, and of the other eye downwards and forwards, while both eyes rotate backwards. The deviation disappears soon after completion of the operation, the rotation lasting a little longer.

(12) After extirpation of the vermis and the whole of the roof of the fourth ventricle, the vestibular nystagmus is greatly accelerated and reduced in amplitude.

(13) The changes in the nystagmus (especially the increase in its rapidity) after extirpation of the vermis or destruction of its cortex affect the horizontal nystagmus alone, while the rotatory and the vertical nystagmus undergo no characteristic change, and indeed often remain unaltered both in quantity and quality.

The author considers that his observations do not yet justify a definite answer to the question of the function of the vermis in relation to eye movements. It is indeed very probable that the vermis is necessary for the normal production of vestibular nystagmus, and particularly of the quick movement of horizontal nystagmus; but how its function is exercised is still doubtful, and will remain so until further experiments may have thrown more light on the function of neighbouring centres.

THOMAS GUTHRIE.