

## ABSTRACTS

### EAR

*Conjugate Deviation of the Head and Eyes: Its Value in the Diagnosis and Localisation of Abscess of the Brain.* I. L. MEYERS. (*Archives of Oto-Laryngology*, May 1931, Vol. xiii., No. 5.)

Conjugate deviation of the head and eyes may be produced experimentally by stimulation of various regions of the brain in animals.

In man it is a familiar symptom, and in cases of abscess of the cerebrum it is extreme when the lesion affects the angular gyrus, and is of moderate extent when the lesion involves the posterior part of the frontal lobe. It is absent when the abscess is situated in the anterior part of the frontal lobe, the occipital lobe, or the temporal lobe. The deviation in cerebral lesions, when present, is towards the side of the lesion.

Conjugate deviation of the eyes, regardless of the position of the head, is an invariable accompaniment of abscess of the cerebellum, and the deviation in this type of case is in a direction opposite the lesion. Nystagmus, on the other hand, may be slight or even absent in abscess of the cerebellum. When present, it is towards the side of the lesion, when the labyrinth is functioning.

The deviation of the head, in abscess of the cerebellum, corresponds in direction to the rapid component of the nystagmus.

In this paper 11 cases are described in detail. Two were cases of cerebral abscess (posterior part of frontal and angular gyrus), 1 a case of cerebellar cyst and 8 were cases of cerebellar abscess.

The article is clearly illustrated by fourteen figures.

DOUGLAS GUTHRIE.

*Papilliferous Cystoma of the Petrous Bone.* G. JEFFERSON and R. WHITEHEAD. (*British Journal of Surgery*, 1931, Vol. xix., p. 55.)

These authors report a case, the first of its kind. It occurred in association with a hypernephroma, cystic pancreas, and cysts in the epididymis.

The patient, a male of 23, was diagnosed as probably a case of acoustic neuroma, the history being that a year ago a right facial palsy, of peripheral origin, gradually occurred, followed later by deafness. Of more recent onset, there was headache and vertigo, with falling to the same side. Severe vomiting was a prominent symptom. There was nystagmus on looking to the same side, *i.e.* the right. The tympanic

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membrane was unperforated. The report continues, "No clear evidence in limb musculature of cerebellar involvement." During the last few days some dysphagia was detected. An X-ray of the petrous bone was inconclusive. A sub-occipital decompression revealed no acoustic neuroma, but "a dark red, hard tumour, with no clear boundary, was encountered on the back of the petrous bone." The cerebellum was uninvolved. At autopsy, some five days later (death ensuing from an attack of bronchopneumonia), a dissection of the temporal bone revealed that some, but not all, of the mastoid cells and the antrum were filled with gelatinous tumour material. The tympanic membrane was intact. The growth had apparently eroded into the tympanum and antrum; the whole petrous pyramid to its apex was infiltrated with the growth. The carotid canal was free from invasion, as was the cerebellum. Histological examination, "Papilliferous cystoma." The cysts are closely packed, irregular in shape, lined by a single layer of flat, columnar cells, and contain hyaline material, with hæmorrhagic areas. The patient had a hypernephroma and cystic pancreas.

The case report is followed by a discussion as to the nature of the neoplasm in the temporal bone. The question of its being secondary to the renal hypernephroma is one that would be assumed, the more so as it is well known that this tumour is peculiarly apt to produce metastases in bone, the latter usually becoming overt long before the primary renal tumour is even suspected. However, the authors lightly brush aside this obvious conclusion, and invoke the conception of a primary pyramid neoplasm arising in vestigial rests. The literature is searched for cases of primary malignant disease of the temporal bone. Lange (1904) reported a case of cylindrical-celled carcinoma of the ear, but this was subsequently discredited by the suggestion that it was secondary to a submaxillary gland tumour. Furstenberg recorded a primary adeno-carcinoma of the middle ear and mastoid, while Maestranzi described a case of primary alveolar carcinoma of the middle ear.

The case, while of pathological interest, whether of primary or metastatic origin, is assigned to the growth, loses much of its otological value, by an apparent disregard for all those observations and tests to which the neuro-otological diagnostician still clings. Thus the type of deafness is not defined, nor is the direction, character, duration or rate of the nystagmus described, to indicate whether the latter was labyrinthine in origin. The caloric test is not recorded, while the dysphagia mentioned was probably due to involvement of nerves in the jugular fossa. No clinical note of the conditions of the trapezius, sternomastoid or vocal cord is given.

The sequence of symptoms, starting with a facial palsy, followed later by deafness and then by vertigo and severe vomiting, ending

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with dysphagia (paralysis of the pharynx), would suggest that the growth arose in the neighbourhood of the aditus, spread to the facial canal, then to the labyrinth, and finally invaded the jugular bulb.

The report is accompanied by illustrations of the tumour and sections showing a contrast to the renal tumour. N. ASHERSON.

*Otitis Media in the New-Born.* GLADYS DODDS. (*Arch. Dis. Children*, February 1931, Vol. vi., No. 31.)

This paper gives a summary of the literature bearing on otitis media in the newly-born, and records a case of an infant dying some days after birth, the autopsy revealing a meningitis due to an unsuspected otitis media. There was no otorrhœa during life, nor any bleeding from the ear. As long ago as 1683 Duverney had recorded the presence of fluid in the middle ear in the newly-born. Since that date liquor amnii, vernix caseosa, and even pus have been recorded in the tympanic cavity. The gelatinous material that is often found in the tympanum is a very good culture medium for bacteria introduced soon after respiration, and deglutition commences by a retrograde extension along the Eustachian tube.

No reference is made to the association of otitis media and snuffles in the newly-born.

Mention is made of the association of gastro-enteritis or respiratory disease with an acute ear condition in infants. N. ASHERSON.

*The Treatment of Acute Middle-Ear Suppuration from the Biophysical and Chemical Points of View.* DR. OBERMÜLLER. (*Arch. Ohr-, u.s.w. Heilk.*, May 1931, Band cxxviii., pp. 263-271.)

The classical signs of inflammation are explained in terms of physics of living tissue. An important factor is the *increased permeability* of the cell walls when inflammation sets in. In the capillaries two forces are at work which regulate the outflow and inflow of fluids. The outflow depends on the *blood pressure* which diminishes progressively from the arterial to the venous side of the capillary network (6 cm. Hg. to 0.5 cm. Hg.). As regards inflow, the plasma proteins exert a certain pressure which attracts fluids into the capillaries (*osmotischer Druck*) and this force is a constant figure of 2.5 cm. Hg. Whether fluids leave the capillaries or return to the blood-stream depends on the balance between these two forces.

When a small cavity like the tympanum becomes inflamed a third factor comes into play, viz. the elastic pressure of the walls of this cavity. Owing to the increased permeability which accompanies inflammation, proteins escape from the capillaries, the attracting force

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diminishes accordingly, and the middle ear gradually fills with exudate from the capillaries. As soon as the mechanical pressure exerted by the walls of the tympanum is sufficiently high to overcome the blood pressure, absorption of the exudate starts. From a purely dynamic point of view paracentesis is an unsound procedure as the pressure in the tympanum is at once lowered and exudation is encouraged.

It is well known that many cases of suppurative otitis subside without perforation and that perfect healing can take place in such cases. Politzer is said to have described a case of double otitis in which he did a paracentesis on one side only; an obstinate ear discharge resulted on the operated side, while the other ear healed rapidly without perforation and with a perfect functional result. However, Dr. Obermüller admits that incision of the drum often relieves the toxæmia which results from the absorption of the inflammatory exudate into the general circulation.

The use of *otalgan*, which was introduced into clinical otology by the author some years ago, will obviate the necessity for paracentesis in practically every case; this preparation acts by osmosis, withdrawing fluids from the tympanic cavity.

The action of *heat* in acute middle-ear suppuration is discussed. Hot applications in the form of fomentations and warm lotions in the meatus are harmful. As the middle ear is so deeply placed, it is not possible to cause a hyperæmia of the tissues surrounding the inflammatory focus with the idea of helping absorption of exudates. In middle-ear suppuration hot applications only increase the pressure of the exudate and therefore make the pain worse. *Otalgan* must not be warmed before it is used.

J. A. KEEN.

*Labyrinthine effects of rapid acceleration and sudden arrest of body movements.* Parts I. and II. W. GRAFFUNDER, K. ARSLAN and K. GRAHE. (*Arch. Ohr-, u.s.w. Heilk.*, May 1931, Band cxxviii., pp. 281-306.)

In Part I. physical and mathematical considerations are discussed, in Part II. certain animal experiments are described. Movements in a straight line with rapid acceleration or with extremely sudden arrest of motion have not yet been studied from the point of view of labyrinth reactions. The authors have set themselves the task of investigating these reactions. Practical problems of this nature can arise, *e.g.* in motor accidents, in the very rapid speeds suddenly attained by the new explosive engines, and by the sudden checking of the downward drop in flyers falling with parachutes.

Experiments were made with guinea-pigs fixed to a small platform which was allowed to drop from varying heights with sudden arrest of the downward movement. It was found that this arrangement was

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not sufficient to produce definite labyrinth lesions. Therefore the animals were allowed to drop on to a mat from heights of 7 m. and 15 m. The animals were enclosed in small boxes which allowed one to regulate the position in which they fell, *e.g.* head up or down or in a horizontal position. The sudden arrest by striking the mat was sufficient to produce characteristic labyrinthine lesions, the description of which is reserved for a future communication.

Lesions of the skull and brain, hæmorrhages into the intestines, peritoneum, pleura, and muscles were also observed and these must be taken into consideration. The 15 m. drop was sufficient to kill many of the animals. Until the histological investigation is completed it is not possible to decide whether the lesions due to these exaggerated "progressive-reactions" fall mainly on the cristae of the ampullae or on the otoliths.

J. A. KEEN.

*The Nature and Origin of the Otoliths.* B. BELONOSCHKIN. (*Arch. Ohr-, u.s.w. Heilk.*, April 1931, Band cxxviii., pp. 208-224.)

Embryos of the chicken, aged between three and twelve days, were studied, the specimens being fixed and stained in a special manner so as to preserve the otolith crystals which consist of calcium carbonate. These crystals appear quite suddenly in their full numbers on the seventh day. A colloid-like mass ("Gel") can be observed over the hair cells of the macula from the fifth day onwards, and in this mass the crystals are suddenly deposited. This formation of calcium carbonate crystals occurs long before ossification begins, which is on the thirteenth day. The successive stages of this formation of the otoliths are well illustrated in the histological preparations which are reproduced in the text.

The otolith crystals cannot be replaced once they are destroyed, as, *e.g.*, in the centrifugalisation experiments of Wittmack. The biochemical process in the deposition of the otoliths resembles in every way the formation of stones in other organs of the body. The colloidal substance is probably secreted by the sensory cells of the macula and cupula. By a process of adsorption calcium carbonate accumulates in the "gel" and then appears suddenly in the form of the characteristic crystals. Throughout life the crystals remain supported in the "gel" which has a definite organic structure.

J. A. KEEN.

*Otitic Labyrinthitis and Meningitis in Rabbits, following Infection of the Meatus by Wood-lice.* Dr. SPECHT. (*Arch. Ohr-, u.s.w. Heilk.*, February 1931, Band cxxviii., pp. 103-114.)

Rabbits are much used for experimental work and therefore the discovery of this affection is of some importance. In four animals

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among a large group, cholesteatoma-like masses were seen in the ear canals on both sides. The animals were deaf, they showed disturbance of balance with nystagmus, and died after a few days. This interesting disease was studied by sectioning the heads of the animals and numerous microphotographs appear in the text.

In all four the disease was bilateral, in contradistinction to ear infections in human beings. The meatuses were filled with pseudo-cholesteatomatous masses, among which were found numerous parasites and these were identified by an expert as *psoroptis cuniculi* (Milbe). The parasites could be demonstrated on the tympanic membranes, but not in the middle ear. The inflammatory changes in the middle ear, labyrinth, and meninges were due to secondary pyogenic infection. In six out of the eight specimens the pus had broken through into the inner ear *viâ* the round window.

The parasites are not infrequently found in the meatus of healthy animals, and they can be removed by antiseptic drops. There seems to be no doubt in the author's mind that the meatal inflammation is the primary lesion, and that the middle ear and labyrinth changes are secondary complications.

J. A. KEEN.

*The Ménière Symptom-Complex.* M. KRASSNIG. (*Arch. Ohr-, u.s.w. Heilk.*, February 1931, Band cxxviii., pp. 141-153.)

The author considers that *catarrh of the Eustachian tube* is the most important factor in the etiology of the Ménière syndrome. Patients are subdivided into two groups. Group 1, those with definite labyrinth lesions, like Ménière's original case. Group 2, which comprises the great majority of patients with "Ménière's disease," suffer from the syndrome only, without any lesion of the labyrinth.

Among thirty-two patients of Group 2 treated by the author, there were thirty who showed unmistakable catarrh of the Eustachian tube with obstruction. In the other two Eustachian changes could not be demonstrated definitely, but probably existed.

During the Ménière attacks disturbances of hearing occurred, but these were always of such a nature that they could be fully explained by the Eustachian tube obstruction and subsequent middle-ear changes, and it was never necessary to assume any lesion of the labyrinth.

In the treatment the systematic use of the Eustachian catheter is essential. There are cases in which the catheterisation does not appear to produce the desired effect at first, or only very slowly. Krassnig explains these cases in a very interesting manner, *viz.*, an inflammatory affection of the *tensor tympani* muscle. The inflamed muscle remains in a semi-contracted state and it is unable to fulfil its function of regulating the perilymph pressure, which depends on a delicate adjustment between the two small muscles of the middle ear acting

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through the stapes and the oval window. It is not at all unlikely that the tensor tympani may be involved in inflammatory affections of the Eustachian tube, as this muscle lies in a thin bony canal in close contact with its lumen.

J. A. KEEN.

*The Pathology of the Tympanic Mucous Membrane after the Radical Mastoid Operation.* H. BRUNNER. (*Arch. Ohr.- u.s.w. Heilk.*, February 1931, Band cxxviii., pp. 28-68.)

This is a lengthy article on the processes of healing in the bony cavities left after the radical mastoid operation, which were studied in serial sections of nine temporal bones. These were obtained from patients who died at varying intervals after operation; most of the specimens were early ones from the point of view of investigating the healing process, as death occurred soon after operation, from a few hours to thirty-three days. Only two are late specimens, viz., twenty and twenty-one years after operation. In the text there appear twelve excellent microphotographs illustrating the various points.

The author lays great stress on the conditions in the hypotympanum. The remains of the drum membrane in the floor of the meatus often initiate a special healing process by the formation of a "new membrane" which now lies against the promontory. Stratified epithelium spreads inwards and covers the upper surface of this new membrane and the recess of the oval window, and it may or may not successfully line the attic and antrum. The lower part of the tympanum underneath the "new membrane" becomes a small shut-off cavity lined by cubical epithelium, which often communicates with the Eustachian tube. This lower cavity contains the opening of the round window, a point of some importance for the hearing power after the operation.

In Case No. 8 the radical mastoid operation (R) had been done twenty-one years before. The patient died from an intracranial complication of a left-sided chronic otitis, not on the side of the operation. The operation cavity on the right was lined completely with columnar ciliated epithelium; discharge of muco-pus had never ceased since the operation, which had been a failure clinically. Yet the sections show a remarkable absence of changes indicating any bone involvement; no osteoclasts can be seen anywhere, not even in places where the bone is covered only with granulation tissue without any epithelial covering.

This observation has an important bearing on the question of the development of intracranial complications many years after the radical mastoid operation. Such cases have been described by Neumann and Fabry and two instances are quoted by Brunner, but, on the whole, it is admitted that serious complications very rarely follow in later years

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when a radical mastoid operation has been performed. Speaking generally, the operation is a real safeguard against intracranial complications, even if healing and epithelialisation are only partial.

In the pathology of radical mastoid cavities it is important to remember that islands of cubical or columnar epithelium may persist in the various recesses, especially in that of the oval window. These recesses may be covered with stratified epithelium, the islands of mucous membrane then form small closed cysts. At any future time the infection of such a cyst may be the cause of a recurrence of suppuration.

Brunner believes that the open Eustachian tube is of comparatively small importance in explaining recurrences. He gives instances in which operation cavities are perfectly epithelialised in spite of an open tympanic end of the Eustachian tube. Therefore the many special operative methods for closing the tube have only a problematic value.

When cholesteatoma is present the matrix is always completely shed before the healing process begins. Therefore the old question whether the matrix should be preserved or curetted appears to have no practical importance.

J. A. KEEN.

*Tuberculosis of the Labyrinth.* P. RIGAND. (*Les Annales d'Oto-Laryngologie*, June 1931.)

The complete description of this lesion and its clinical symptoms is altogether of recent date.

It is always of secondary origin, Koch's bacillus reaching the labyrinth by extension from a tuberculous otitis media; in consequence of a localisation of the bacillus spreading from the petrous to the labyrinth; or by extension of a tuberculous meningitis along the neuro-acoustic tract. The first process is by far the more frequent.

The author describes fully the pathological anatomy of tuberculous otitis media; the spread of the latter to the labyrinth through the inner tympanic wall, also the symptoms, complications and diagnosis of the established lesion in the labyrinth. Points stressed are the insidiousness of the invasion of the labyrinth, the torpidity of evolution of the cochleo-vestibular signs, the malignancy of the disease, the frequent implication of the facial nerve and later, perhaps, of the internal carotid artery and the meninges, and lastly the importance of basing the diagnosis on the clinical signs furnished by an examination of the tympanum from which the disease spreads, rather than on the results of laboratory tests. As regards treatment, due warning is given of the danger of surgical intervention in phthisical subjects and hence labyrinthectomy is indicated only when the labyrinthine signs show a rapid evolution of the disease and the general condition of the patient is satisfactory.

L. GRAHAM BROWN.

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## NOSE AND ACCESSORY SINUSES

*Latent Maxillary Sinusitis.* RALSTON PATERSON, Toronto.  
(*Lancet*, 1931, Vol. ii., p. 117.)

The author divides cases of latent maxillary sinusitis into five groups: (1) *Orbital*, in which structures within the orbital cavity only become affected. (2) *Intracranial*, with involvement of the central nervous system. (3) *Cranial*, in which referred pain *viâ* the nerves of face or head is the prevailing symptom. (4) *Thoracic*, in which the complicating lesion appears as a disease of either lungs or bronchi; and (5) *Miscellaneous*, including a group which would be further subdivided but into which only the rarer cases fall. He insists upon the importance of radiological examination, and points out that it not only often serves to draw attention to cases of antral infection, but may also disclose cases of latent empyema of the antrum not otherwise discoverable. In these cases the symptoms are those of lesions which are secondary complications of an unsuspected sinus condition.

MACLEOD YEARSLEY.

*Osteomyelitis Fibrosa and Osteitis Deformans of the Skull Bones, with description of a Case of Osteitis Deformans affecting the left Frontal and Ethmoid Bones.* W. MEYER. (*Arch. Ohr-, u.s.w. Heilk.*, April 1931, Band cxxviii., pp. 169-179.)

The author discusses the classification of the various forms of osteitis, their differential diagnosis and pathology, as presented in the extensive literature on this subject. Unfortunately there appears to exist very little unanimity on the pathology of these conditions and a good deal of confusion.

Dr. Meyer describes a personal case, an example of Paget's disease affecting two single skull bones, the left frontal and left ethmoid. The X-ray photograph appears in the text and is clearly described, the areas of thinned-out fibrous bone over the left frontal sinus showing up particularly well. The patient suffered from severe nasal obstruction and the left middle turbinate was resected. The pieces of bone removed at operation were examined microscopically. The sections showed the typical changes of osteoporosis or fibrous replacement of bone with giant cells in places, and a coloured illustration is reproduced.

J. A. KEEN.

*Headache and Other Nerve Disturbances in connection with the Sphenopalatine Ganglion.* E. V. ULLMANN (Oregon, U.S.A.). (*Monatsschrift für Ohrenheilkunde*, No. 7, 1931.)

After a revisionary and instructive survey of the anatomy concerned, the author gives a description of his methods of anæsthetising

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this ganglion. This consists in the application of a 20 per cent. solution of cocaine on a swab of cotton wool, the objective being that area of the lateral wall of the nose which is situated between the posterior end of the middle turbinal and the anterior aspect of the sphenoidal sinus; as the result of this he finds that usually the discomforts which he aims to treat are relieved in some five minutes, and that such relief lasts for at least four hours.

In cases, however, in which such an application is insufficient, as evidenced by recurrence of pain, he then injects the same area with 0.5 c.cm. of the following mixture:—

Phenol . . . . .	5.0
Alcohol (86 per cent.) . . . . .	95.0

By this means he has treated during the past four years 150 cases whose symptoms can be grouped under the headings of:—Otalgia, post-operative neuralgia, occipital headaches, glossalgia, and also such hysterical manifestations as globus; whilst he was also able by the same means to control grinding the teeth during sleep in two cases.

The theme is well presented, though perhaps the author urges this line of treatment with a little more embrosive optimism than some would think warranted. The technique would seem to be particularly applicable to post-operative neuralgia, whilst the simplicity of his technique, as he suggests, should be a perfectly easy procedure for any rhinologist.

The article covers 10 pages and is supported by two good illustrations and terminates with a reference to literature on the subject, chiefly to that from his own country.

ALEXANDER TWEEDIE.

*A Simple Operation for Tumours of the Hypophysis Cerebri.* JOSEF FREER. (*Monatsschrift für Ohrenheilkunde*, No. 7, 1931.)

Prefaced by a short note on the pathology of these tumours and by description of three groups, into which they are divisible, by Hirsch—(1. Intra-sellar solid tumours. 2. Intra-cranial solid tumours. 3. Cystic tumours)—the author reviews the twenty-two methods of operation which he states have already been proposed. Of these, seven concern methods only for trans-cranial approach, which for the purpose of this article he dismisses, as his own suggestion is a modification of one of the trans-nasal operative procedures for dealing with lesions of the pituitary body.

He then discusses the remaining fifteen methods, criticising the advantages and disadvantages pertaining to each, and concludes with a description of his own suggestion for the removal of these neoplasms. A suggestion apparently it is, rather than an account of his own operative experience, since, as he frankly states, the idea is based on

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the opportunities he has had of realising the disadvantages in connection with the operation as suggested by Schloffer, and as practised by his chief. Prompted by this knowledge he has by experimental practice on the cadaver developed the following modification which he suggests should be carried out under local anæsthesia :—

1. Incision of the skin down to the bone, according to the method of Bruns. The underlying bone is then divided with a circular saw, the mucous membrane with the knife, and the septum from below with the scissors, and from above by the knife, after which the nose can be turned to one side.

2. The remaining portion of the septum is then isolated by the raspatory through a Killian's speculum, and after removal of this upper remnant of the vomer the sphenoidal crest is exposed. The mucous membrane of the anterior wall of the sphenoidal sinus is then turned outwards on each side, and the sinus itself is opened in the middle line as widely as possible. Further application of cocaine should then be made to the mucous membrane lining the sphenoidal sinus, after which this portion of the operation field is thoroughly swabbed with alcohol, and the pituitary fossa is entered by means of the chisel, great care being taken to limit this latter procedure to the middle line.

The description concludes with a short discussion on the best method of dressing the wound. ALEXANDER TWEEDIE.

### PHARYNX

*The Influence of Tonsillectomy on Phlyctenular Conjunctivitis.* A. VON TÓTH. (*Zeitschr. f. Laryngologie, Rhinologie, etc.*, February 1931, Band xx., pp. 293-301.)

Seven cases are described in which the enucleation of tonsils and removal of adenoids led to a cure of this obstinate eye condition. The tonsils and adenoid masses were sectioned in order to determine the presence of tuberculous foci. In four of the cases tuberculous foci were found in the tonsils.

Alexander states that the toxins from the tuberculous foci reach the conjunctiva of the eye *viâ* the lymphatics. The author was unable to satisfy himself that such direct lymphatic connections exist. The tonsil lymphatics drain into the deep cervical glands. The conjunctival lymphatics drain into the superficial parotid and submaxillary groups, and only secondarily into the deep cervical glands. One would have to assume that the toxins originating in the tonsillar foci reach the eye by a retrograde flow from the deep cervical glands, with a corresponding failure of the valves of the lymphatic vessels.

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Experiments were done by von Tóth by the injection of Chinese ink emulsion into the tonsils in one group of dogs, and into the conjunctiva in another group. The fine black particles could be recovered from the respective lymphatic glands in every instance, but they never travelled from the tonsil to the eye or even from the tonsils to the parotid or submaxillary glands. Therefore it is not possible to accept Alexander's hypothesis.

In explanation of the good results which often follow tonsillectomy in this recurring and chronic form of conjunctivitis, an *allergic* influence is assumed. The conjunctiva has become hypersensitive to tuberculous and perhaps also to other toxins which circulate in the blood, and it constantly reacts by inflammation and ulceration. In favourable cases, when no other tuberculous or septic foci are present, tonsillectomy eliminates these toxins from the blood stream.

J. A. KEEN.

*Tonsillectomy in Diphtheria Carriers.* A. WERNER. (*Arch. Ohr., u.s.w. Heilk.*, February 1931, Band cxxviii., pp. 115-128.)

At Professor Nager's Clinic in Zürich tonsillectomy has become the routine treatment for dealing with obstinate diphtheria carriers. The author has analysed 17 personal cases, and in this article he formulates certain definite rules which will be found of great practical value.

A patient convalescent from diphtheria is not discharged from hospital until three swabs from the nose and throat at five days' interval are negative. If the swabs remain positive, a virulence test is absolutely necessary. Should the bacilli prove harmless to guinea-pigs he can be discharged forthwith.

If virulent K.L.B. persist, tonsillectomy may be performed, but not earlier than five weeks after the clinical signs of diphtheria have subsided, because up to five weeks many obstinate cases become negative spontaneously. In many cases chronic tonsillitis was already present before the attack of diphtheria, and tonsillectomy may be indicated on other grounds.

The results were very satisfactory. In 12 cases out of 17 the swabs became rapidly negative, that is within ten days of the operation. In one child the tonsils were incompletely removed, and after an interval the swabs became positive again; but the bacilli proved to be avirulent. Another patient became negative, then positive again after one month, then permanently negative. In the last 3 cases no tests were made after the operation, but the patients were re-examined after two, two and half, and four years. All were healthy and on examination had negative swabs.

During the first ten days after operation the swabs are often positive. The bacilli are not simply removed with the tonsils, but they infect the tonsil beds. However, this infection does not cause any special clinical disturbance as the patient's immunity against the

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K.L.B. is very pronounced owing to his recent attack. After about ten days, that is the normal healing time, the bacilli disappear in the majority of cases.

Adenoids must also be removed if present, as the bacilli can lodge in the nasopharynx.

J. A. KEEN.

### MISCELLANEOUS

*Review of the Ear, Nose, and Throat Works published in the Czechoslovakian Medical Press during 1930.* Professor Dr. B. WIŠKOVSKÝ. (*Oto-Laryngologia Slavica*, 1931, Vol. iii., Fasc. 2.)

EAR.—Hlaváček<sup>1</sup> describes a case of sub-acute otitis media with late cerebral symptoms after antrotomy. The patient, a child, aged 9, had chronic suppurative otitis media on the right side for three years, and during the three weeks prior to operation had developed acute symptoms. One week after antrotomy the child's temperature rose abruptly to 104° with vomiting. Several days later Jacksonian epilepsy commenced affecting the left side of the body and accompanied by paresis of the 6th nerve on the operated side, slow respiration and unconsciousness. These fits continued for five hours, after which the mastoid wound was explored with negative result. The temporosphenoidal lobe was then explored, but except for hyperæmia of the dura mater and increased pressure of the cerebrospinal fluid nothing abnormal was found. Two days later there was paralysis of the left arm and leg—the face was not affected. From this the patient gradually recovered and full movement was restored in about six months.

Hybášek<sup>2</sup> contributes to the treatment of otitic thrombo-phlebitis, basing his work on 17 cases operated on by him. Of these, 9 occurred in the course of an acute and 8 in the course of chronic otitis media. In 6 of the acute and in all the chronic cases the mastoid process was acellular, and this he regards as a predisposing factor in the development of thrombo-phlebitis.

As the condition may be symptomless, and as even a normal appearance of the sinus wall does not exclude thrombosis, all suspicious cases should be explored by puncture. If thrombosed, the sinus should be obliterated by packing between the wall and the bone, well below the clot if possible, and in this connection the author draws attention to the fact that there is generally a conical extension of the clot for about one centimetre below the obstruction. The sinus should then be opened and the clots removed.

Incision of the jugular vein above a ligature is indicated in thrombosis of the bulb, as it permits of removal of the clot by irrigation and assures two-way drainage, besides acting favourably in thrombosis

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of the inferior petrosal sinus. Acute cerebral œdema is never caused by ligation of the jugular vein in cases of obstructive thrombosis.

The same author,<sup>3</sup> in a paper on sub-acute mastoiditis, describes the results of the examination of 219 cases of mastoiditis. He concludes that in 82 per cent. of acute mastoiditis the mastoid process is cellular, whereas in the sub-acute form of the disease the process is as often acellular as it is cellular, and this fact plays a large part in the variation of appearances seen.

The tendency to complications varies in connection with the duration of mastoid infection, and is greatest in the seventh and eighth weeks. For preference the author operates during the second or third weeks, as it is then that the risk of complication is least.

The signs of sub-acute mastoiditis are often minimal, and it is necessary to make an exhaustive examination before coming to a decision. He suggests that particular attention should be paid to the duration of the disease, the amount of the discharge, the temperature and the radiographic appearance.

Kunc<sup>4</sup> describes a local anæsthetic for the tympanic membrane. A pledget of cotton wool is soaked in a solution of 20 per cent. cocaine with adrenalin, and over this are spread powdered percaine crystals. This is placed over the postero-inferior quadrant of the membrane and anæsthesia is obtained in from ten to fifteen minutes. This procedure has never failed except in cases of hæmorrhagic otitis media.

**NOSE, PHARYNX AND LARYNX.**—Karášek<sup>5</sup> describes a fatal case of nasal injury in a boy aged 9, who came to the clinic with a septal abscess communicating with a collection of pus in the region of the frontal process of the maxilla. In spite of adequate drainage the child died three days later, and autopsy revealed a fracture of the cribriform plate with purulent meningitis and cavernous sinus thrombosis.

Hybášek<sup>6</sup> describes four cases of tuberculosis and scleroma occurring in the same patient. He rejects the theory that there is any antagonism between the two conditions or that the bacillus of Frisch produces any substance that favours cure of tuberculous lesions. The fact that tuberculosis does not spread in the region of scleroma is due, in his opinion, to the purely mechanical result of the fibrosis caused by the latter disease.

Beneš<sup>7</sup> describes the results obtained in the treatment of 138 cases of enlarged adenoids by X-rays. The treatment was carried out in a series of four applications—two on either side—at intervals of two to three days, two such series being given at an interval of four weeks. A control was possible in 124 cases. The results given are:—

Complete cure . . . .	65 per cent.
Improvement . . . .	23 „
No change . . . .	12 „

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The method is slow and costly, and should be employed only in cases in which operation is contra-indicated.

Prácechtěl<sup>8</sup> discusses the indications for total removal of the palatine tonsil. In acute tonsillitis, when there are grave general symptoms or signs of intense reaction in the neighbourhood (œdema of the larynx) and in cases in which incision of a peritonsillar abscess fails to arrest the suppuration, he advocates complete removal of the tonsil. The indications given for operation in chronic cases agree with the consensus of opinion of other authors.

Taussig,<sup>9</sup> writing on the same subject, advocates partial removal of the tonsil in children with only local symptoms, and holds that complete tonsillectomy should be reserved for those cases in which the tonsil infection is giving rise to general signs.

Poledňák and Horák,<sup>10</sup> in their contribution to the same subject, give the opinion of a collaboration of physician and laryngologist. Their results of tonsillectomy in cases of articular rheumatism are:—

Cured . . . .	75 per cent.
Improved . . . .	23 „
No change . . . .	2 „

The results were most striking in acute polyarthrititis and in rheumatic affections of the heart. In chorea the results were good, only one case failing to show improvement. In six cases of septicæmia, four showed rapid improvement after removal of carious teeth, and one was cured by removal of the tonsils.

Ninger<sup>11</sup> describes a case of fracture of the hyoid bone in a patient aged 29. Following a blow in the region of the larynx, the patient had hæmoptysis and pain aggravated by swallowing, phonation and movement of the head. Objectively there was an external swelling in the region of the great cornu of the hyoid bone, the laryngeal mucosa was injected, the voice harsh and the cords did not meet well on phonation. Recovery was complete.

Poledňák<sup>12</sup> publishes an unusual case of a pedunculated epithelioma of the larynx. The patient, aged 69, was seen for the first time in August 1927, when he was found to have an infiltrated area on the right vocal cord. The Wassermann test was negative, and the lungs were normal. Biopsy showed granulation tissue covered by slightly thickened epithelium. The affected part was removed, but the condition recurred in two months. A second biopsy gave the same result and the affected part was removed a second time. Eighteen months later the patient developed aphonia and dyspnoea. A hard mobile tumour, the size of a hazelnut, with irregular surface was found occupying the greater part of the glottis. It was removed with a cold wire snare when it was found that it had been attached by a pedicle to the anterior part of the right vocal cord. All the affected area was

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removed, and biopsy on this occasion revealed a plano-cellular epithelioma.

Jirásek and Jedlička<sup>13</sup> mention a case of sudden death during a total laryngectomy. The patient, a man aged 50, had malignant infiltration of both vocal cords with sub-glottic extension. Three months before laryngectomy was undertaken he had a tracheotomy performed. Operation was performed under local anæsthesia, and whilst the larynx was being freed from the wall of the pharynx apnoea developed and the pulse became very weak, but he recovered after artificial respiration and the operation was continued. As the last cut was being made to free the larynx, apnoea and failure of the pulse returned and all attempts at restoration failed. An autopsy revealed atheroma of the left coronary artery and myocarditis.

Jelinek and Sachs<sup>14</sup> publish an interesting case of involuntary rhythmic movement of the vocal cords. The patient was a woman aged 61, suffering from high blood pressure, who had had two mild apoplectic strokes, the last of which had produced only some difficulty of movement of the tongue from which she recovered after a few days, but thereafter complained of a certain amount of pain in the tip of her tongue and her upper lip. Examination showed rhythmic movements of the right side of the palate and the right vocal cord, they had a frequency of 130 per minute, caused no fatigue, and disappeared on any voluntary movement (swallowing or phonation). Neurological examination showed no other alteration of cerebellar function, and the condition was surmised to be due to the cicatrization of an apoplectic area in the tegmen pontis on the right side.

Soukup<sup>15</sup> relates seven cases of laryngeal stenosis occurring three to seven weeks after ingestion of lysol. In each case intubation had been performed immediately, and the tube left in position for three weeks. He suggests that the stenosis in these cases is due to a perichondritis caused by pressure of the tube.

MISCELLANEOUS—Výmola and Kopáč<sup>16</sup> give the results of an investigation into the frequency of bacillus of diphtheria in scarlet fever. Amongst 205 cases of scarlatina investigated, 62 showed signs of diphtheria (faucial 39, nasal 17, both 6), and from all of these the characteristic organisms were isolated. The percentage of aural complications in these mixed infections was approximately the same as in pure scarlet fever.

Sieber<sup>17</sup> describes the action of ozone on the upper respiratory passages. A hyperæmia with augmentation of secretion is produced and lasts for one or two hours. The results obtained in the treatment of various conditions (ozæna, acute tonsillitis, naso-pharyngitis) is no better than can be obtained by application of H<sub>2</sub>O<sub>2</sub>; indeed it appears that the action of ozone is due to the formation of H<sub>2</sub>O<sub>2</sub> on the mucosa

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exposed to it. The production of ozone is costly, its application dangerous and the results mediocre.

Tomášek<sup>18</sup> rejects prophylactic irradiation of glands in the neighbourhood of tumours treated either surgically or by irradiation. Glands thus treated undergo changes which depress their function for twelve or more days and thus the formation of metastasis is favoured therein.

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