ABSTRACTS

EAR.

Thrombosis of the Cavernous Sinus—Recovery. Professor C. E. BENJAMINS (Gröningen). (*Monatsschrift für Ohrenheilkunde*, December 1931.)

The following case was published as a contribution from the author to this number of the *Monatsschrift*, which has been entirely devoted to recognition of the past work of Professor M. Hajek of Vienna, for the great advances which Laryngology all over the world owes to his efforts and in celebration of his 70th birthday.

The article commences with an anatomical description of the various venous sinuses, and has a very clear and instructive diagram, a tabular representation of the symptoms and signs associated with protrusion of the eyeball and chemosis, and the differential diagnosis between the affections causing the same—by no means the least important part of the article. After a short survey of the attempts at treatment recommended for this condition the particular case is described as follows:—

A boy, 15 years old, was admitted to hospital on the 16th December 1930, on account of acute exacerbation of a purulent condition in the right ear, which had existed for three years. On admission a rigor occurred and the temperature rose to 40·1° C.

Examination.—All eye movements normal; no spontaneous nystagmus; pupils round, equal in size and reacted well to light and accommodation. All cranial nerves intact with exception of the 8th. The neck was held stiffly as the result of a painful swelling behind the right ear, in which fluctuation was to be felt, but the swelling did not extend to the neighbourhood of the great vessels of the neck, nor was this area tender on pressure. The immobility of the head did not suggest true neck rigidity. Reflexes normal, except that the patella reflex was increased on both sides, ankle clonus was present and the plantar reflex could not be elicited.

Ears.—(L.) Objective and functional examination normal. (R.) Meatus occupied by offensive pus, which, by pressure on the swelling behind the ear, poured out profusely. The ear, however, did not stand out from the side of the head. Further examination revealed sagging of the postero-superior meatal wall, so that the meatus was narrowed to a slit, and palpation with the probe indicated exposed bone in this situation.

Whisper range from 21 to 50 cm. Lower tones not heard. Upper tones heard, but reduced. Bone conduction slightly lengthened.

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Pointing reaction, both arms, normal. Rotatory and caloric tests postponed owing to tired condition of the patient. No sign of ocular lesion or meningitis.

17.12.30.—*Operation.*—A large cholesteatomatous mass was found surrounded with offensive pus, occupying the antrum and middle-ear. The walls of the middle-ear and labyrinth were, however, otherwise quite healthy. The apex of the mastoid process was represented by sclerosed bone. The whole cavity appeared "normal" at the completion of the radical operation except that the upper portion of the lateral sinus was found exposed and covered with granulations. The mastoid emissary vein, however, was thrombosed, and the thrombus reached into the sigmoid sinus—whilst on opening the thrombosed vessel pus was found. The swelling in the neck was then dealt with by two incisions; but no pus could be found here on exploration. Cultural examination of the pus showed gram-positive diplococci, streptococci and fusiform bacilli.

The condition, therefore, can be summarised as a suppurating cholesteatoma which had eroded the wall of the posterior cranial fossa —extending to the lateral sinus, which latter had become thrombosed. This thrombus had also affected the emissary vein and led to a purulent inflammation behind the ear and in the neck.

The immediate results of the operation appeared most promising, but three days later pulmonary troubles, suggesting the formation of a lung abscess, supervened, the symptoms of which, however, subsided uneventfully. On the other hand, the inflammation in the neck began to give so much cause for anxiety that on the 3rd January 1931 further operative investigation was undertaken, when exposure of the internal jugular vein revealed a normal condition of the vessel, but as a precautionary measure a ligature was applied to this structure as well as to the common facial vein. Further exploration of the neck led to the evacuation of a deep-seated abscess, which healed with ordinary drainage. Three days later, an abscess over the right parotid gland, where an inflammatory disturbance had first been noticed in the end of December, necessitated incision, whilst on the 23rd of January, a retro-pharyngeal abscess which was drained through the wound in the neck, occurred. The child eventually recovered completely from this remarkable series of serious inflammatory lesions.

The diagnosis of cavernous sinus thrombosis was based largely on the ocular lesions. The first symptom was the appearance of unequal pupils which occurred on the 29th December, when the pupils were obviously unequal, the right being much larger than the left, although they reacted well to light. With this, œdema of both upper eyelids was noticed and as the patient complained of severe headache, and vomited profusely, an infection of the meninges was suspected. The

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following day the right pupil no longer reacted to light, although the vision, the ocular fundi, and the movements of the eyeball appeared to be normal. Some two days later, however, associated with protrusion of the eyeballs, loss of movement in the right and left eyes occurred, although the left pupil still reacted well to light. The oculist who was now asked to examine the child reported "Ophthalmoplegia totalis dextra, et Ophthalmoplegia externa sinistra. Protrusio bulbi." These ocular appearances visibly and rapidly increased. A definite chemosis appeared first in the right and then in the left conjunctiva. The eyeballs became more prominent; the eyelids more swollen and cyanosed, and on the 7th of January, on exploration, a large abscess was found and opened above and to the inner side of the right eyeball. On the following day, an abscess in a similar situation was evacuated above the left eyeball, and the oculist now reported that the veins in the right fundus were markedly dilated, whilst the sight in the left eye was completely lost. As, in spite of the evacuation of these orbital abscesses, both the protrusion of the eyeballs and the chemosis still continued, a further counter-opening of the abscesses was made to the outer side of the orbit; after which drainage they gradually healed, but, in spite of this relief, the swelling of the eyelids and the chemosis subsided only very slowly indeed. On the 13th of February the oculist reported that both pupils failed to react, either to light or to accommodation and were markedly dilated, that the protrusion of the eyeballs had gradually decreased, and that, on the right side, the papilla was atrophic, the visual field normal but the vision only 3/24ths; and on the left side, the papilla was completely atrophic and the vision nil.

On the 19th of March a further oculist's report was to the effect that the fundus and visual field on the right side was normal, and the vision 6/6th, but the pupil remained dilated and did not react to light, although reaction to accommodation was good.

On the left side the vision was still nil; the papilla white and the pupil still failed to react to light.

This condition of both eyes remained unaltered at a later examination on the 21st of April.

The author discusses the various problems and anxieties which arose in connection with this extraordinary case, and, after studying the literature available on the subject, and excluding similar cases, which do not appear to him to have been supported by sufficient detail to justify such diagnosis, he is able to find only one other instance of recovery from cavernous sinus thrombosis, such as he considers occurred in this case of his own, and this was one reported by Cohen Tervaart (*Nederl. Tijschr. v. Geneesk.*, 1899, S. 524).

ALEX. R. TWEEDIE.

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Abstracts

A New Method of investigating the Physiology and Pathology of the Ear. S. J. CROWE and WALTER HUGHSON (Baltimore), translated into German by Professor NAGER (Zürich). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxx., Heft 1, p. 65.)

Wever and Bray found that, in a decerebrate cat, if one electrode was placed on or near the auditory nerve and the other in the muscles of the neck, while an amplifying apparatus with telephone receiver, even in another room, was in the circuit, the human voice or other sounds directed into the animal's ear were heard. This has been applied by Adrian in reference to central auditory nerve centres. The investigation of the normal and pathological physiology of the ear has by means of it been carried out in the Johns Hopkins laboratories. Crowe and Hughson made experiments on the various constituents of the conducting apparatus, and tested the effect of these by the degree of conduction of sound to the hearer through the Wever-Bray system.

They found that removal of the auricle or external meatus in the cat diminished the range of hearing quite considerably. Incisions in the tympanic membrane made no difference, so long as the structures inside the middle ear were not damaged. A complete intact chain of ossicles is necessary for the conduction of sound waves through the middle ear. Damage to the malleo-incudal or incudo-stapedial joint prevented conduction of all tones except those of 4096 cycles or upwards. Adequate tightening of the tensor tympani muscle interfered with the conduction of spoken words and pure tones up to 2048 cycles. Relaxation of the tension brought the conduction back to normal at once. Division of the tensor tendon close to the malleus brought about, after an interval of ten days, a lowering of the range of all tones higher than 1024 cycles, whilst tones within the ordinary range of pitch of the speaking voice were unaffected (showing a hitherto unrecognised cause for loss of hearing for high tones). Pressure on the round window increased the clearness and audibility of conversational voice, and practically all tones between 512 and 4096 cycles. The round window seems, therefore, to act as a safety valve for the protection of the internal ear. It absorbs, on account of its mobility, a large percentage of the sonorous stimulation which reaches the cochlea. This was the only experiment which strengthened the tone.

JAMES DUNDAS-GRANT.

Zinc Ionisation by Friel's Method in the Treatment of Chronic Otorrhœa. A. F. PUSCHKIN (Leningrad). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Band xxx., Heft 3, p. 329.)

Puschkin claims good and speedy results, as the percentage of healing in neglected cases is nearly 80. He also considers such results of considerable value from the prophylactic point of view.

JAMES DUNDAS-GRANT.

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Nose and Accessory Sinuses

NOSE AND ACCESSORY SINUSES.

Nasal Abnormalities, Fancied and Real: The Reaction of the Patient: Their Attempted Correction. V. P. BLAIR and J. B. BROWN. (*Surgery, Gynecology and Obstetrics,* December 1931, Vol. liii., No. 6.)

The nose being the most conspicuous feature of the face, any exaggeration, loss, or deformity renders it not only a target for undesired attention, but is also apt to produce disquieting self-consciousness. A nose not in keeping with the other features of the face may become an absurdity.

In considering whether to correct any deformity of the nose or any disharmony between the nose and the contour of the face, not only must the anatomical and physiological functions of the nose be kept in mind, but also regard must be had for the mental attitude of the patient.

The article consists of 42 columns and 69 sets of figures illustrating the different methods of correcting various forms of nasal deformity.

S. BERNSTEIN.

The Use of Pedicled Flaps in reconstruction of the Nose. From the Section of Laryngology, Oral, and Plastic Surgery, the Mayo Clinic. GORDON B. NEW and FREDERICK A. FIGI. (*Surgery, Gynecology, and Obstetrics,* December 1931, Vol. liii., No. 6.)

Partial or complete loss of the nose may result from accident, acute infectious diseases, destructive diseases, and the use of radium and Röntgen-rays.

Before planning a rhinoplasty there must be reasonable assurance that the condition responsible for the deformity will not recur, and, in cases in which malignant disease has been treated by radium or Röntgen-rays, it is advisable to wait until the patient has been free from any evidence of the disease for at least a year. The mental attitude of the patient, the age and the probable vascularity of the flaps, the extent of the deformity and the condition of the neighbouring skin must all be taken into account. The forehead is the site of choice (with few exceptions) for providing the necessary flap, the latter being planned so that the distal portion is free from hair.

The preliminary planning of the reconstruction is important. This can be carried out satisfactorily with adhesive tape.

The primary elevation is carried out as a rule under general anæsthesia, the tissues being infiltrated with procaine to secure hæmostasis; the flap is outlined on the forehead with indelible pencil according to the pattern previously prepared. At the first elevation an

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attachment is left at the upper end of the flap to safeguard its vitality. At the same time a full-thickness skin graft taken from the inner aspect of the upper arm is inserted beneath the distal end, with the raw surface in contact with the under surface of the flap to serve as a lining to the reconstructed wall of the nose. At the same time another Wolfe graft is placed beneath the first to supply a covering of skin for the forehead, overlaid by that part of the flap to be used in the reconstruction. At the end of ten days the flap is elevated over two-thirds of its length, the distal attachment cut, and the flap sutured back again. Following one subsequent elevation of the flap, its blood supply is assured and the free end is brought down and sutured to the margins of the nasal defect and the cheek. As a rule the pedicle can be cut across and returned to the forehead in two to three weeks.

The procedure for total rhinoplasty is somewhat similar to the above.

The article is illustrated with 19 sets of illustrations depicting the procedure adopted in different types and degrees of loss of the nose. S. BERNSTEIN.

The Surgery of Malignant Tumours of the Orbit and Accessory Nasal Cavities. J. AKPIN (Kursk). (*Zeitschrift für Hals-, Nasen- und Ohrenheilkunde*, Vol. xxx., Part 2, p. 174.)

Akpin considers that the operation of "Exenteratio orbitosinua; os" devised by Golowin (*Ann. d'Oculistique*, Dec. 1909, p. 413) ensures a longer freedom from recurrence than do other operations owing to its radical nature. As far as possible the area is marked out by two slightly curved vertical incisions, on the inner and outer sides of the orbit respectively, and two others joining them horizontally (an H with two horizontal bars), one above and one below the orbit. Free exenteration wide of the growth is then carried out with removal of the included skin, eyeball and growth. The flaps are drawn together and united in H form while an opening is made into the nose for drainage. If the outer wound remains open (as some operators find desirable) further treatment such as with radium, Röntgen rays or diathermy may be carried out and a plastic closure effected after a long interval. JAMES DUNDAS-GRANT.

Pseudomembranous Rhinitis. GUISEPPE SALVADORI. (*Archivio Italiano di Otologia*, November 1931.)

The author reports four cases of children between the age of four and twelve years who suffered from complete obstruction of the nose due to swelling of the mucosa and the formation of the membrane.

They were all treated by packing the nose—after removal of the membrane, which was slightly adherent — with gauze soaked in

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1 per cent. protargol. Three of them recovered in five to eight days, and in each case bacteriological examinations showed mixed pyogenic organisms.

The fourth case did not improve under this treatment, although the bacteriological examination of the secretions from the nose showed only pyogenic organisms. After a few days a membrane appeared on the tonsils and was found to contain diphtheria bacilli. Antidiphtheritic serum caused a speedy recovery in this case.

The author remarks that there are two kinds of membranous rhinitis, diphtheritic and pyogenic and that they are very difficult to distinguish. Bacteriological examinations do not always reveal the organism, but if the condition does not respond quickly to local treatment, it must be suspected as possibly diphtheritic. This requires local treatment and the administration of serum.

F. C. ORMEROD.

The Treatment of Chronic Maxillary Sinusitis, by the Bacteriophage of Hérelle. Drs MOULONGUET and DONIOL. (*O. R. L. Internationale*, 1932, Vol. xvi., No. 2.)

The authors have treated twelve cases of chronic sinusitis by puncture and irrigation followed by the injection of from one to five c.c. of the bacteriophage of Hérelle. This was repeated in various cases on from four to ten occasions. They record a cure in seven cases and failure in five. They conclude that there is no real advantage in this form of treatment, and that the results are no better than might be obtained by simple lavage.

A brief but comprehensive note on the nature and characteristics of the bacteriophage and the rationale of its use as a therapeutic agent is given.

E. J. GILROY GLASS.

LARYNX.

A Case of Right-sided Recurrent Laryngeal Paralysis. NAOKICHI KATO. (*Oto-Rhino-Laryngologia*, Vol. v., Part 3, p. 253.)

A man, 60 years old, complained chiefly of stabbing pain in the right side of his back, pain on swallowing and hoarseness. The right vocal cord was immovable in the cadaveric position. By means of œsophagoscopic and Röntgen-ray examination, a mediastinal tumour (squamous epithelioma) was detected above the aortic arch. Metastatic tumour-formations were found in the back wall of the pharynx and in the right supra-clavicular fossa. Paralysis was attributed to pressure of the latter on the recurrent nerve.

JAMES DUNDAS-GRANT.

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Abstracts

Technique of Hemilaryngectomy by the method of Hautant.
(*Les Annales d'Oto-Laryngologie*, December 1931)

Laryngeal cancer develops in three stages—*First Stage:* It attacks the central portion of a vocal cord, and spreads antero-posteriorly, firstly towards the anterior commissure, which it frequently involves, then towards the arytenoid, where it is for a long time confined to the vocal process. *Second Stage:* Subglottic extension with extension at depth, so that the cord muscle is involved, and the cord becomes fixed. *Third Stage:* Involvement of the opposite side of the larynx or of the thyroid cartilage.

The first stage requires only a simple laryngo-fissure. The third requires a complete laryngectomy. The second stage, on the other hand, which is unilateral, subglottic and muscular, requires a hemi-laryngectomy. Hautant believes that, in view of the present-day earlier recognition of laryngeal cancer, the malignant condition is unilateral in 75 per cent. of cases. The author proceeds to define in detail the second stage cases, and shows how extension in various directions favours or otherwise a hemilaryngectomy by the Hautant method.

Operative details are described with the help of a score of full-page illustrations. Hautant has operated on 65 cases by his method since 1925. The results in respect of function, cures and failures are analysed. M. VLASTO.

ŒSOPHAGUS AND BRONCHOSCOPY.

The Single Stage Operation for Pulsion Diverticulum of the Œsophagus. From Bronchoscopic and Surgical Clinics, Temple University, W. WAYNE BABCOCK. (*Surgery, Gynæcology and Obstetrics.* November 1931, Vol. liii., No. 5).

With the standardisation of methods, the need for the multiple stage operation has largely disappeared, a single stage operation being performed through a short transverse incision without division of any important structure and with a period of disability of 7-10 days.

The patient is partially anæsthetised by rectal avertin, the field of operation then being blocked by injecting a 1 per cent. solution of procaine containing suprarenin, 1 : 60,000.

Two to three days prior to the operation a strong silk thread with three or four shot fastened to the end is swallowed, and the operation not attempted until a radiogram shows the shot to be in the ileum.

A short transverse incision in a wrinkle line at the level of the cricoid cartilage is made, extending from the mid-line to the middle

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of the left sternomastoid muscle. Through this the œsophagus is quickly and easily exposed without division of any important structure.

An œsophagoscope is then passed into the diverticulum which is cleared of liquid and food fragments. The sac is then easily identified by the red glow from the lamp of the œsophagoscope and grasped and freed from the surrounding tissues; the œsophagoscope is withdrawn, the thread drawn through it, and it is then passed down the œsophagus to beyond the diverticulum, the thread acting as a guide. The œsophagoscope acts as a guide in the removal of the sac and in the suture of the opening, a rubber drain being placed down to the suture line and left in position for 48 hours.

Before the œsophagoscope is withdrawn, a duodenal tube is passed for feeding for the first 7-10 days, after which feeding by mouth may be permitted, solid foods not being allowed for the first 6 weeks.

S. BERNSTEIN.

The Necessity for Bronchoscopic Examination in distinguishing Primary Carcinoma of the Bronchus from Suppurative Disease of the Lungs. PORTER P. VINSON. (*Surgery, Gynæcology and Obstetrics*, January 1932, Vol. liv., No. 1.)

Obstruction of a bronchus is almost always followed by suppurative disease of the lung, and in view of the fact that most cases of primary malignant disease of the lungs begin in a bronchus with bronchial obstruction, it is not surprising that the symptoms should resemble closely those of pulmonary abscess, bronchiectasis or empyema.

In view of the difficulty of making a diagnosis either by the history or the general examination, the author holds that all cases of this description should be examined through the bronchoscope, and a specimen of tissue removed for examination.

Five illustrative cases are described. S. BERNSTEIN.

MISCELLANEOUS.

On the Question of Chronic Foci of Infection in the Oral Cavity. H. PASSLER. (*Münch. Med. Wochenschrift*, Nrs. 39 and 40, Jahr. 78.)

There is a seeming contradiction in the fact that septic germs, frequently of minor pathogenesis, are able to get a footing and to continue to develop in circumscribed areas in the body, in spite of the fact that these germs would under other circumstances be rapidly destroyed in the same organism. This is explained by the occurrence of infective foci in dead spaces, which either existed previously or which result from an infection. They do not actually exist in the

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living body-tissues and are inaccessible to the biological protective powers of the living cells.

These germ colonies, which do not therefore actually belong to the body but simply vegetate whilst enclosed within it, cause permanent or intermittent injury to the surrounding tissues and an overflow of micro-organisms into the body itself. We have also to reckon with the absorption of various by-products which are foreign to the host, such as albuminous bodies and the disintegration products which result from the destruction of dead micro-organisms and body-cells. As a sequence to these phenomena, changes occur in the facility with which the body reacts, which, with the further supply of toxins, gives rise to allergic and hyperergic reactions. These latter, in their turn, influence the pathogenicity and virulence of the micro-organisms incubating in the infective focus and play an important rôle in the secondary diseased conditions. J. B. HORGAN.

Infectious Asthma and its relationship to Chronic Sinus and Pulmonary Disease. JOSEPH HARKAVY and FRED MAISEL (New York). (*Journ. Amer. Med. Assoc.*, 30th May 1931, Vol. xcvi., No. 22.)

The authors feel that there exists in asthmatic patients a constitutional imbalance of the vegetative nervous system, especially referable to the respiratory tract. An allergic factor may co-exist and may be one of many exciting agents. When the allergic excitant is absent other stimuli, particularly infections of the respiratory tract, may play a dominant part in initiating attacks.

Four hundred and nine cases of bronchial asthma in adults were studied. 200 of these were found to be non-sensitive. 132 of the others were completely investigated as to the presence of allergy and infection. Of these, 87 proved to be the result of infection. The ethmoids and antra were the chief offenders. Out of 22 patients who had unresolved pneumonia, 21 had sinus disease.

The nasal treatment consisted of antral washings and topical applications to the ethmoids. None of the patients had radical surgical operations. All the patients were much improved clinically as long as their sinuses were treated, except four cases with bronchiectasis in whom no improvement was noted. Exacerbations of sinus attacks in those afflicted and on whom partial operation has been performed are as frequent as the common cold.

The article occupies seven columns, has a table and a bibliography.

ANGUS A. CAMPBELL.

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