ABSTRACTS

EAR

Syndrome of Bilateral Vestibular Paralysis and its Occurrence from Streptomycin Therapy. P. NORTHINGTON, U.S. Naval Hospital, Oakland, Calif. *Archives of Otolaryngology*, 1950, lii, 380.

The neurotoxic effects of streptomycin therapy have received a great deal of attention in recent times, and this most recent addition to the literature sets out to describe in detail the symptoms that arise when a bilateral vestibular paralysis is brought about by its use, and, in general, this confirms the earlier reports. The report is based on 56 patients whose symptoms were suggestive of bilateral vestibular paralysis. All patients who received a daily dosage of 2·5 gm. (or greater) streptomycin had neurotoxic effects which usually began during the second week of administration. However, of fifty patients who received only one gramme per diem, one alone had neurotoxic effects.

Tinnitus was usually the earliest symptom. Impairment of hearing was infrequent but in those so affected tinnitus was constant. Other common symptoms were vertigo on movement in bed, a sensation of fullness in the head, headache, nausea and vomiting and an inability to maintain the customary posture and gait, strikingly similar to that produced by the excessive use of alcoholic beverages.

F. BOYES KORKIS.

On the Hearing Capacity following Paracentesis. L. BABLIK. *Monatsschrift für Ohrenheilkunde*, 1950, lxxxiv, 165.

This paper is based on a series of 41 patients with acute otitis media, in whom perforation of the drumhead had not occurred. Their hearing was tested both clinically and audiometrically before and again after myringotomy. In 86 per cent. of the cases hearing improved considerably after the operation, the main improvement being in sound perception.

D. BROWN KELLY.

On X-ray Treatment of Mastoiditis. M. BRUNAR. *Monatsschrift für Ohrenheilkunde.* 1950, lxxxiv, 182.

Observations on 27 cases of mastoid disease treated by X-ray therapy are recorded. Single doses of from 20 to 50 r every two days, and 80 to 100 r every four days were employed. Total dosage amounted to 160 to 180 r and 160 to 560 r, respectively. The higher dosage has proved the more effective. Radiation therapy alone cured 11 of the cases, those responding most favourably running a normal clinical course and without too much bone destruction. Injury, or masking of the clinical picture by unsuccessful therapy was not observed.

D. BROWN KELLY.

Abstracts

A Study of the Deafness Heritage in Otosclerosis. SAMUEL J. KOPETZKY, New York. *Archives of Otolaryngology*, 1950, lii, 397.

The heritage of deafness is reported in a study of 25 deaf-mutes, 5 severely deafened children, and 25 children with serviceable hearing but deafened. The majority of these children were less than 10 years of age. The relations between the biochemical abnormalities in the blood, the symptomatology in its successive phases of otosclerotic evolution and the cellular abnormality on the otic capsule in otosclerosis were established. The criteria for establishing a diagnosis of asymptomatic otosclerosis in the living patient are presented, based on blood biochemistry found in the familial blood lines of the patients' parents and, in some cases, also the grandparents of deaf-mute children. These findings negate the accepted concept of skipped generations in the heritage of deafness.

The congenitally deafened have carbohydrate metabolic mechanism defects transmitted to them which develop otosclerotic lesions on the otic capsule in intra-uterine life, or they carry in their blood the biochemical pathological changes of otosclerosis which develop lesions after birth, owing to the immediate ætiological rôle which an intercurrent irritant factor induces. The heritage of otosclerotic deafness is a defect which interrupts the physiological interplay of the chemical processes of the enzymatic systems, secondary to a defective phosphorylation mechanism of carbohydrate metabolism, of which the diphosphothiamine-magnesium-protein group of the vitamin B complex is one of the principal deficiency items.

Deafness due to acoustic nerve dysfunction (perception failure) precedes the conduction interference with sound wave transmission, because of ossicular chain immobility or lack of elasticity of the membranes of the labyrinthine windows. The blood biochemistry gives a rational explanation as to why the cellular pathological changes of the otic capsule must result from what the biochemical pathology exhibits as an abnormal process in the different developmental phases of the lesions of otosclerosis. The replacement therapy to supply the essential items which hyperpyruvæmia alone or hyperpyruvæmia and hypercholesteræmia indicate as needed has been tentatively discussed.

R. B. LUMSDEN.

NOSE

Effect of Autonomic Denervation on Nasal Mucosa: Interruption of Sympathetic and Parasympathetic Fibres. ARTHUR F. MILLONIG, HAROLD E. HARRIS and W. JAMES GARDNER, Cleveland. *Archives of Otolaryngology*, 1950, lii, 359.

(1) In a series of 27 cases in which the sympathetic nervous supply to the mucous membrane of the nose was interrupted surgically, symptoms of nasal stuffiness and nasal discharge resulted.

(2) Swelling of the nasal mucosa covering both the septum and the turbinate bodies was associated with increased secretion.

(3) The changes observed were the result of a loss of vasoconstrictor tone secondary to decreased formation of adrenin at the terminal endings of the sympathetic fibres and to uninhibited para-sympathetic activity.

(4) Post-ganglionic sympathectomy of nasal mucosa does not result in increased reactivity to epinephrine, whether applied locally or given intramuscularly.

(5) In six cases in which the parasympathetic nerve supply to the nasal mucous membrane was interrupted the exact opposite in nasal symptoms and physical findings was found, that is, the mucous membranes were shrunken and dry.

(6) The similarity of the appearance of nasal mucosa following sympathectomy to that of nasal allergy suggests that allergic disease and the autonomic system may be intimately associated in a manner not yet discovered.

(Authors' Summary.)

The Management of Nasopharyngeal Fibromas. FREDERICK A. FIGI and ROBERT E. DAVIS, Rochester, Minn. *Laryngoscope*, 1950, lx, 794.

Sixty-three cases of nasopharyngeal fibromata were encountered at the Mayo Clinic between January 1st, 1910 and December 31st, 1939. These cases have been previously recorded in the literature. This paper represents an experience of a further 51 cases which came under the observation of the authors at the same clinic between January 1st, 1940 and December 31st, 1949. They have never observed the complete spontaneous disappearance of these fibromata that is so often referred to in the literature and do not believe in temporizing in these locally destructive tumours, which may involve one or all of the paranasal sinuses, the pterygo-maxillary fossa, the orbit and even the cranial cavity. All of these 51 cases occurred in males. The most satisfactory results have been obtained by a combination of electrocoagulation and interstitial irradiation, but surgical exposure will often allow the most effective application of these measures and, to this end, a transantral approach—with or without preliminary ligation of the external carotid artery—has been found safer and more effective than the transnasal or transoral methods. In this way, complete removal can often be accomplished in a single operation. The authors are opposed to biopsy in these cases unless the degree of activity suggests malignancy.

J. CHALMERS BALLANTYNE.

LARYNX

On the Surgical Treatment of Bilateral Abductor Palsy. A. HERRMANN. *Zeitschrift für Laryngologie, Rhinologie und Otologie*, 1950, xxix, 496.

The author discusses the various operations for the relief of bilateral paralysis affecting the laryngeal abductor muscles. He dismisses as physiologically unsound those endoscopic methods which tend to form scar tissue within the laryngeal lumen. Some of these operations require post-operative packing which also increases scarring. When laryngo-fissure is used as a method of approach in these procedures, there is danger of perichondritis, wound infection, and the formation of scar tissue which tends to pull inwards, with reduction of the glottis. The removal of the arytenoid through a window in the thyroid cartilage (Kelly), or the partial separation of the arytenoid from its muscular attachments (Kressner, Blended *et al.*) are the methods of choice.

The mere fenestration of the thyroid cartilage gives 5·7 mm. more space, and no post-operative pack is required.

D. Brown Kelly.

ŒSOPHAGUS

Low Œsophageal Perforation at Gastroscopy. C. F. J. Cropper, P. Houghton and P. Kidd, Worcester. *British Medical Journal*, 1950, ii, 1099.

Low perforation of the œsophagus with the flexible gastroscope is extremely rare, and the case reported was the 320th of an otherwise uneventful series. The patient was a man aged 40, a Hermon Taylor type of gastroscope was used, with rubber "finger-tip", pethidine with scopolamine was given intramuscularly one hour beforehand and the patient was given a tablet of decicain to suck. The instrument passed easily for about three-quarters of the distance, the patient showing no sign of distress, but no field of vision was forthcoming. An hour later the patient began to complain of increasing chest pain, radiating to the back, with marked epigastric tenderness and rigidity, and surgical emphysema in the left supraclavicular fossa. Operation revealed a ragged perforation in the gullet about one inch from the diaphragm, without hæmatoma or other sign of injury, suggesting that the end of the gastroscope had temporarily stretched this point just on the diaphragmatic hiatus, piercing it and had then been withdrawn. The tear was sutured and the patient made a good immediate recovery, but a week later began to decline and died on the 26th day. At necropsy the œsophagus showed a rent one inch long on its antero-lateral aspect, three-quarter inch above the diaphragm, with little sign of repair. On the anterior surface of the stomach was a recent perforation of a chronic peptic ulcer, and the cardiac end of the stomach was bound down by dense fibrous tissue, explaining why the gastroscope had been unable to pass beyond the œsophagus.

R. Scott Stevenson.

MISCELLANEOUS

Tracheotomy in Poliomyelitis. Robert J. Strobel and Norton Canfield, New Haven, Conn. *Archives of Otolaryngology*, 1950, lii, 341.

The otolaryngologist should be consulted immediately concerning every patient having poliomyelitis with symptoms of bulbar involvement or respiratory difficulty. In a desperately ill patient in need of a tracheotomy, it is probably more dangerous to delay the tracheotomy than to perform it. Various physiological considerations of the cough and swallowing mechanisms are reviewed. Tracheotomy was done on ten patients with bulbar poliomyelitis; five of these patients died. In all surviving tracheotomized patients, the tracheotomy was probably a life-saving procedure. Earlier tracheotomy in three of the five who died might have been life saving.

(Authors' Summary.)

Mechanism of Suffocation in Spino-bulbar Poliomyelitis and Experiences with Operative Treatment. Arne Sjöberg, Stockholm. *Archives of Otolaryngology*, 1950, lii, 323.

The majority of fatal cases in the early stages of infantile paralysis are, most probably, in accordance with the American opinion, primarily due to suffocation

—anoxia—and in all probability not to circulatory paresis. The indications for operative treatment coincide with the immediate cause of suffocation and can be divided into the following five groups: (*a*) Peripheral respiratory paresis with secretional retention; (*b*) Aspiration (of saliva and vomitus) in purely bulbar cranial nerve lesions (above all, in paralysis of the vagus); (*c*) Bilateral paralysis of the laryngeal abductors combined with two-sided paresis of the pharynx; (*d*) Spinobulbar lesions, manifesting themselves, among other ways, in a bilateral paresis of the pharynx (*plus*, in certain cases, two-sided nuclear paresis of the accessory nerve, *plus* injuries to the first and second cervical segments of the spinal cord). The suffocation picture in these cases is dominated by the angle, or rope dent, symptom, which constitutes an alarm signal for the nursing staff. The patient runs the risk of being hanged or strangled any minute by a contracture or tonus excess in his nonparalysed antagonistic muscles, which draw the hyoid bone backward and upward. If, in addition, a nuclear paresis of the accessory nerve sets in, the rope dent symptom is further accentuated and the patient's condition is aggravated, owing to a contracture of the nonparalysed muscles which bend the head backward; (*e*) Cases in which the operative treatment is applied early-prophylactically.

In all types of respiratory paresis, the respirator treatment may be directly harmful and can even hasten death by suffocation if bronchoscopic suction with or (in exceptional cases) without tracheotomy is not applied simultaneously. Postural drainage with oxygen or carbogen is absolutely necessary. During the first, and sometimes even during the second, week, the fluid balance must be carefully controlled and the liquid administered only parenterally in isotonic or hypertonic form. Dextrin and blood transfusions have proved to have a beneficial effect on the initial shock condition, which often appears in the hours following a tracheotomy. (Author's Summary.)

Adrenal Neuroblastoma with Metastasis to Cervical Lymph Nodes. G.F.DEDERICK, S. D. MILLS and E. S. JUDD, junr., Rochester, Minn. *Proceedings of Staff Meetings of Mayo Clinic*, 1950, xxv, 618.

The case reported is of otolaryngological interest because the patient, a little girl aged 2½ years, was admitted directly to the Section on Otolaryngology of the Mayo Clinic with " swelling of the neck and fever ". Approximately two months prior to admission a swelling developed below the right ear at the angle of the mandible, associated with malaise and a fever of 99° to 103° F. The child had been treated with sulphonamides and 1 c.cm. of duracillin daily, with marked increase of the cervical swelling. The Mantoux test was negative and the child had not had any contagious diseases. Blood tests, X-ray and other examinations were carried out, and the clinical impression was that this was a case of cervical adenitis based on infection. The temperature fell to normal, X-ray therapy to the lymph nodes was given and the cervical nodes became smaller. But after leaving hospital symptoms recurred and three months after the patient's initial admission it was decided that biopsy of one of the cervical nodes should be done. The tumour spread deep into the tissues and a modified

dissection of the neck was performed. The pathologist reported that the lymph nodes were metastatic neuroblastomas, Grade 4, the primary lesion being thought to be in the adrenal gland. A more intensive course of X-ray therapy was given over the abdomen and the cervical region, but metastases became widespread and the child died at home nine months after her first admission to hospital.

R. Scott Stevenson.

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