

ABSTRACTS

EAR

Present Methods for Testing Auditory Function. MARVIN F. JONES, New York.
Ann. Otol., Rhin. Laryng., 1948, lvii, 311.

More reliable methods of diagnosis and of evaluating the auditory function are required. Some of our deductions are made from traditional, but unproven experiments, and the variability of the human element in patient or examiner, or the mechanical element in our instrumentarium may lead to error in diagnosis or inability accurately to compare the results of one observer with another. The physiology of sound reception is based largely upon hypothesis and only to a limited extent on proven demonstrable facts. Helmholtz's theory of tone analysis is at best a hypothesis. The explanation of increase in hearing by bone conduction in tympanic disease is far from clear. Although Bezold's hypothesis is perhaps as satisfactory as any advanced it is not absolutely convincing, and yet we base a diagnosis on it and treat the theory as a fact. The human element ranks high among the potential errors. There is no doubt of a psychological "gain" in many cases. The lethargic, despondent patient will not respond as will the alert hopeful patient. Fatigue too may influence the tests. The audiogram of a tired patient recorded late in the afternoon may well show a much greater apparent heavy loss than a recording made the following morning when rested. The mechanical error in audiometers is another source of discrepancy in results. Audiometers do vary in their accuracy, and there is no way in which the average otologist can tell readily whether his instrument is functioning as it should. Bone conduction readings are too unreliable to make important decisions on their results, nor should important decisions be reached without three air conduction readings, and in addition tuning-fork tests using calibrated forks.

E. J. GILROY GLASS.

Problems of Diagnosis in Obstruction of the Eustachian Tube. FREDERICK T. HILL, Waterville, Maine. *Ann. Otol., Rhin. and Laryng.*, 1948, lvii, 343.

There is an uncommon tendency to think of tubal obstruction as a clinical entity, instead of directing attention to the cause, which may be any condition capable of altering the normal physiological action of the Eustachian tube. In children and even in adults, lymphoid hyperplasia is the commonest cause of tubal obstruction, and should be treated by careful adenoidectomy, followed, if indicated, by irradiation. In the author's limited experience of irradiation alone, the results have not been so good as those from combined operation and subsequently irradiation. Among other causes may be mentioned post-nasal discharge from sinusitis, or the crusting of atrophic rhinitis, dental occlusion, scarring and nasopharyngeal neoplasm. In support of his theory the author quotes four cases, three of nasopharyngeal neoplasm, and a fourth of the combined factor of syphilitic scarring and chronic sinusitis.

E. J. GILROY GLASS.

Nose

Psychogenic Deafness. W. G. HARDY, Baltimore. *Ann. Otol., Rhin. and Laryng.*, 1948, lvii, 65.

The incidence of psychogenic deafness is not known, though reports from Army and Navy aural centres in the United States suggested an incidence of from 10 to 20 per cent., among personnel on active duty who were hospitalized for the treatment of severe hearing disability. How far the military environment contributed to this is difficult to evaluate. The clinician's first concern is with accurate diagnosis. No single factor in the clinical findings is clearly indicative of a psychogenic involvement in hearing disability. There is no typical pattern in this inconsistency. Psychogenic hearing involvement ranges from malingering to hysteria. The psychogenic overlay on organic disease is the most common type of psychogenic involvement. The task of diagnosis is not only to differentiate psychogenic from organic deafness, but also to measure the extent of the psychogenic involvement. Repeated tests are necessary. The key to recovery, once the proportion of organic involvement is known, is the ability of the patient to gain insight into the relations between the casual factors and the symptoms. Under many circumstances this phase of the treatment can often be more readily accomplished by the otologist than by the psychiatrist.

R. SCOTT STEVENSON.

NOSE

A New Method of Treating Angiomatous Growths of the Nose. E. URBANTSCHITSCH. *Monatsschrift für Ohrenheilkunde*, 1948, lxxxii, 425.

The treatment of angiomatous growths in the nose is fraught with much difficulty, as severe hæmorrhage is liable to attend any surgical procedure. The author describes his new treatment, which consists in the insertion of magnesium metal needles into the growth. These needles are similar to gramophone needles, furnished with a notch to which anchoring threads may be made fast. Details are given of a case of nasal angioma which caused much trouble from repeated bleeding, eventually necessitating ligature of the external carotid. Treatment with magnesium needles caused the growth to vanish, and enabled the patient to breathe through his nose for the first time in ten years.

H. D. BROWN KELLY.

LARYNX

Streptomycin in tuberculous laryngitis. P. MILOT, Nancy. *Revue de Laryngologie, Otologie, Rhinologie*, 1948, November-December, lxix, 520.

P. Milot publishes his results in treating twenty cases of tuberculous laryngitis with streptomycin. He gives 1,800,000 units of streptomycin in 24 hours, by eight intramuscular injections; at the same time the patient also has 200,000 units by aerosol. If there are any marked reactions (vertigo, cutaneous rashes) the dosage is diminished to 200,000 or 100,000 units each day. About six weeks treatment is necessary to obtain satisfactory results. In ulcerated lesions the results were particularly good, 11 out of 12 healing and one other showing marked improvement; of 15 œdematous lesions 2 healed

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and 11 showed marked improvement. In the whole series, only one case was worse. The value of streptomycin was most marked in regard to dysphagia—it disappeared completely and quickly in every case, when present. Vertigo was common, sometimes severe and lasting for several months. Deafness was found in one case only, and that was fleeting, lasting 24 hours. No other case showed even diminution in hearing. The value of this interesting but somewhat enthusiastic report would have been enhanced by controls.

R. SCOTT STEVENSON.

ŒSOPHAGUS

Carcinoma of the Oesophagus. RICHARD H. SWEET, Boston. *J. Amer. med. Ass.*, 1948, cxxxvii, 1213.

Carcinoma of the œsophagus is usually of a squamous cell variety, but the degree of malignancy is of a high order. Dysphagia is usually the first and most reliable symptom. Pain may be present, due to local distension but when it becomes steady within the chest and in the back it usually denotes an inoperable growth. Roentgen ray, when showing the characteristic, irregular filling defect, is a reliable means of diagnosis. Oesophagoscopy and biopsy give positive proof. The failure of Roentgen ray treatment is well known and few patients treated by this means have been made to live much longer than those who were not treated. Surgery offers the only hope and the best prospect of relief in all cases. Transthoracic resection of the growth with a primary intrathoracic œsophagogastric anastomosis is the operation of choice. The operative mortality of 9.5 per cent. (lower end) and 24 per cent. (level of the aortic arch) is by no means prohibitive in consideration of the hopelessness of the disease. Almost 40 per cent. of patients who survive the operation live for three or more years. As a palliative procedure, the operation is the best method of treatment, because even if they do succumb later they can continue to eat in a normal fashion. The article is illustrated and has a bibliography.

ANGUS A. CAMPBELL.

MISCELLANEOUS

Streptomycin. GEOFFREY MARSHALL *et al.*, London. *Brit. med. J.*, 1948, ii, 769.

A committee, of which Dr. Geoffrey Marshall was chairman, have published the short-term results of a Medical Research Council controlled investigation into the effects of streptomycin on 55 patients with one type of pulmonary tuberculosis. Giddiness was noticed by 36 of the 55 patients; absence or reduction of caloric response was not found with the frequency reported in many American investigations. No loss of hearing was reported, except for two cases of high-tone deafness. No clinical "cures" were effected, and only 15 per cent. of the patients were bacteriologically negative (to direct examination and culture) at the end of six months. Toxic effects were common, but in no case did they necessitate cessation of treatment. The patients received 2 grammes of streptomycin intramuscularly daily, in four injections at six-hourly intervals.

R. SCOTT STEVENSON.

Miscellaneous

Cancer Research. R. R. SPENCER, Washington, D.C. *J. Amer. med. Ass.*, 1948, cxxxvii, 1361.

Cancer research has reached the stage in which it can be said: The inciting causes of cancer are multiple and complex. Mammalian cancer cells are derived from normal cells. No sharp line of demarcation can be drawn between the pre-cancerous and the cancerous process. Cancer cells are not supplied with nerves from the host. Cancer cells, like normal cells, cannot be implanted successfully into a foreign species except under highly artificial conditions. A cancer is a group of disorganized cells. A cancer is not a universal cell potentiality, yet in many ways it resembles youthful embryonic tissue.

Little has been learned about the nature of the permanent intracellular change that takes place when normal cells are transformed into cancer cells. Cancer is a process in which certain cells of an organized cell group have become parasitic on and finally fatal to the mother organism—"Autoparasitic". No two cancers seem identical in either causation or behaviour. The cancer problem is basically a problem in growth and a study of growth leads into practically every field of biology. The article has a bibliography.

ANGUS A. CAMPBELL.

Identification of Malignant Tissue. HENRY S. GREENE, New Haven, Connecticut. *J. Amer. med. Ass.*, 1948, cxxxvii, 1364.

Most pathologists identify malignant tissue by morphological appearances alone, but the proof of malignancy lies in its behaviour. Early embryonic tissues frequently resemble cancer, but embryonic tissues undergo differentiation while cancerous tissues do not. Only embryonic tissue and cancer tissue can survive heterologous transfer. If the tissue in question grows in an animal of alien species, it is either embryonic tissue or cancer. The anterior chamber of the eye is used as a transplantation site, and the guinea pig is the animal of choice. The value of the procedure is enhanced from a diagnostic point of view by the increased differentiation in the growing transplant. Completely disorganized tumours often undergo alterations which reveal the organ of origin. Three illustrative case histories are given.

ANGUS A. CAMPBELL.

The Volume of the Bronchial Tree at Various Levels and its Possible Physiological Significance. A. C. HILDING and DAVID HILDING, Duluth, Minn. *Ann. Otol., Rhin. and Laryng.*, 1948, lvii, 324.

There is a small progressive increase in the volume of the tracheo-bronchial tree from the larynx to the bronchi measuring 1.5 mm. in diameter. In this portion of the tree there does not seem to be any very effective air cleansing device except the direct impingement of the air on the mucous blanket lining the tree. From fragmentary data available, there seems to be very considerable expansion in the volume of the tract in tubes less than 1.5 mm. in diameter. Before the cilia cease, the tree has divided into bronchioles which number at least somewhere between 15,000 to 70,000, each of which is lined with ciliated epithelium and a sticky mucous blanket. The composite circumference of these tubes measures many metres. This, "the bronchiolar filter," is an

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effective, final device to protect the alveoli from dust and fumes that might gain access to the trachea. One infers that the cilia move off the mucous blanket as is the case elsewhere in the tract. One might also infer that this bronchiolar filter could be even more effective in the matter of dust removal and humidification than the nose, if sufficient secretion is produced. It does not, of course, protect the trachea and the larger bronchi from improperly prepared air.

AUTHORS' SUMMARY.

Novocaine as a Therapeutic Agent in Oto-rhino-laryngology. N. HIBLER.
Monatsschrift für Ohrenheilkunde, 1948, lxxxii, 441.

Injection of the stellate ganglion with 20 c.cm. of 1 per cent. novocaine was found beneficial in the treatment of Ménière's symptom-complex. The treatment was carried out four times in each case with two days between each injection. Seven cases thus treated were relieved of their vertigo and also showed an improvement in hearing. In two instances, hearing actually returned to normal. The treatment of ozæna by infiltration of the stellate ganglion has been recommended by Jannulis and Mandikas. This was carried out in five cases with good result. Details of the infiltration technique are given. Provided care is taken, no untoward after-effects are experienced. The intravenous injection of 1 per cent. novocaine D, without adrenalin, is advised in cases of severe headache due to sinus disease which does not respond to local treatment. Twenty patients thus affected were rendered symptom-free.

H. D. BROWN KELLY.

Neuron Arcs of Clinical Significance in Laryngology. A. C. FURSTENBERG and ELIZABETH CROSBY, Ann Arbor, Mich. *Ann. Otol., Rhin. and Laryng.*, 1948, lvii, 298.

As the title indicates, an effort has been made to give due consideration to the peripheral and central pathways over which the impulses of respiration are transmitted. Special emphasis is laid on the central tracts in describing certain common respiratory variations. The absence of pathological changes about the brain stem in individuals who had died of meningitis gave rise to doubt that direct stimulation of the vagus nerves and later paralysis of them were responsible for the respective slowing and acceleration of respiration. The inquiry into a more rational explanation for these changes arose particularly from autopsy findings in meningitis secondary to basal accessory sinus disease where the exudate was largely confined to the surfaces of the brain. Laboratory experimentation on monkeys demonstrates well-established areas in the cerebral cortex which when stimulated either slow or accelerate respiration. Autopsy material from patients who died of the type of meningitis above described demonstrated inflammatory involvement of these regions. While the text probes only superficially into the emotional factors responsible for respiratory variations, such as hiccough, sneezing and coughing, it deals specifically with the central nervous apparatus along which emotional impulses are carried. A knowledge of these pathways, and a better understanding of parent-child relationships may widen our knowledge of the psychology of cough and asthma. In discussing the reflex arc of sneezing, an effort is made

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to offer an explanation on an organic basis for the occasional complaint of nasal obstruction after a submucous resection of the septum in a patient who has wide open nasal cavities. Although the picture is complicated, a disturbance of the pathways of the reflex arc is described which may properly explain this phenomenon.

This initial inquiry into the nervous mechanism of respiration and its common variations leads one to the conviction that much more work needs to be done if we are to achieve a thorough survey of this subject. The one generalization that may be derived from this discussion is that the whole mechanism of respiration is a complicated one governed by a reflex arc and an equally important central nervous system component susceptible to emotional stimulation. In looking for the cause of respiratory changes we must remember not to confine our efforts to an investigation of organs supplied by the peripheral nerves. A knowledge of the central nervous system mechanism and its connections with the peripheral nerve distributions may perhaps help us as laryngologists to think rather than feel our way toward a better understanding of respiratory abnormalities.

AUTHORS' SUMMARY.