

ABSTRACTS

EAR.

Treatment of Circulatory Affections of the Ear with Panitrin.

FRIEDRICH SCHWERDTFEGER. (*Archiv für Ohren-, Nasen- und Kehlkopfkunde*, Bd. 109, H. 4, July 1922.)

Panitrin is a solution of papaverine nitrite in dia-ethyl acetamide, a compound for which remarkable results are claimed in the treatment of circulatory affections of the organ of hearing. Injected subperiosteally behind the ear, or, subcutaneously, in doses varying from 0.1 to 1.0 c.c. according to age, at intervals of three or four days, no ill effects have been observed in the course of 1000 injections. The drug acts selectively on blood-vessels constricted by disease.

Among the aural indications for its use are the following. It has a beneficial influence in inherited lues, and in senile deafness the improvement in hearing is especially prompt and permanent, with consequent betterment of the psychical and physical state. Deafness in women during the puerperium and allied conditions is also benefited. Panitrin is useful in the treatment of chronic eczema of the meatus. Otosclerosis continues, as from time immemorial, to defy almost any form of treatment, but panitrin is singularly effective in relieving the tinnitus, which is such a distressing feature of the disease.

The general indications are numerous. Schwerdtfeger asserts that 90 per cent. of cases of habitual headache yield to panitrin: practically all forms of headache—febrile, anæmic, luetic, neuralgic, arterio-sclerotic, etc.—being benefited. The exhibition of panitrin is also advised in miscellaneous conditions such as asthma, chronic rhinitis, (simple and atrophic), and facial paralysis.

W. OLIVER LODGE.

An Attempt to Interpret Paracusis Willisii. By E. ESCAT, Toulouse. (*L'Oto-Rhino-Laryngologie Internationale*, March 1922.)

The writer states his inability to accept the current theories regarding this phenomenon. In his opinion, the hyperacusia in question is relative, not absolute, and he gives three reasons for his statement:—1. He quotes the instance of a deaf person subject to this condition, travelling in a train with a companion who hears normally. In conversation with the former, the latter is obliged to raise his voice on account of the surrounding noise. This noise is,

Ear

generally speaking, of a low pitch, and therefore the speaker finds it necessary not only to speak more loudly but also to raise the pitch of his voice. 2. On the other hand, the deaf person, being always deaf in his lower tones, escapes the confusion of sound which afflicts his friend. 3. He is therefore able to appreciate more easily the raised tones of the conversation.

Without deafness in the low tones, there is no paracusis. Where one ear only is affected, this symptom is not present, because the healthy ear picks up the low tones of the surrounding noise, and the hyperacusis of the diseased ear is thus discounted.

Escat, having had occasion to travel by train with a friend who suffered from advanced deafness, was able to carry out the following investigations. With the train at rest or in motion, the watch could be heard by bone conduction all over the patient's skull. By air conduction, it was heard in the left ear at 3 mm., in the right at 1 mm., with the train at rest. During the journey, these measurements dropped considerably. The patient heard conversational voice only with difficulty when the train stopped, but the train having started, the conversation was followed with ease. The train stopped at the stations abruptly enough to surprise Escat with his voice raised much above the normal, and at each stop, lowering of the voice was followed by the disappearance of the hyperacusis. In the belief that the paradox was caused by deficient air conduction of the lower notes, bone conduction was utilised to convey the rumble of the train. This was done by resting the patient's chin on the handle of a cane, the point of which rested on the floor of the carriage, and later, by resting the head against the wall of the carriage. This position at once negated the hyperacusis by conveying the noise of the train to the patient's cochleæ, rendering efforts at conversation of the utmost difficulty. In the same position the watch could not be heard either by air or bone conduction.

The conclusion is come to that the phenomenon is caused by the loss of appreciation of the lower tones by air conduction.

GAVIN YOUNG.

Occupational Deafness in Vineyard Workers. Dr GIRON, of Carcassone.
(*L'Oto-Rhino-Laryngologie Internationale*, April 1922.)

Occupational deafness from exhaustion of the auditory nerve, caused by constant exposure to loud sound, is well enough known in town life. It is exceptional to find it in the country.

A certain class of Giron's patients refused to divulge the cause of their deafness. It was not syphilis, nor mumps, nor typhoid. They were usually men of between 40 and 45, who worked in the vineyards, and by reason of their deafness were excused war-

Abstracts

service. At length a remorseful land-steward revealed the source of the deafness. In the vine-country, in order to combat the ravages of certain larvæ, the stems and branches of the vines are scalded with boiling water. The water is boiled in small kettles provided with steam exhausts fitted with whistles. While work is in progress, the noise from these kettles is continuous. To obviate this unfortunate complication, Giron suggests a whistle with lower tone or a gauge with a dial. GAVIN YOUNG.

On the Transmission of Sound by Bone, a New Method of measuring it and a New Formula for Rinne's Test. G. GRADENIGO. (*Archiv. Neerlandaises de Physiologie de l'homme et des animaux*, Tome vii., p. 51, 1922.)

The author divides conduction by bone into osseous conduction proper, across the bones of the skull directly to the internal ear and the auditory nerve, and osteo-tympanic conduction by the bones forming the walls of the external auditory meatus, by the tympanic apparatus and the labyrinthine windows to the internal ear. The latter is a much more delicate and accurate means of conduction, and is best demonstrated in the zone corresponding to the anterior wall of the external auditory meatus, *i.e.*, the tragus. It is affected by disease of the middle ear.

The author has devised an instrument—the osteo-tympanic acoumeter—which consists of an electro-magnet and a vibrating hammer, the sound of which can be regulated and is not conducted by air. The acoumeter is used for investigating the two types of osseous conduction, the intensity of the sound being regulated by moving the hammer about a graduated scale.

Both these types of conduction, as well as aerial conduction, are employed in the case of the telephone, and the author puts the ratio between the perception when the receiver is in contact with the calvarium and when it is held close to the meatus as 1/30. He has elaborated Rinne's test as follows:—

Bone conduction	.	.	.	.	(m)	+
Osteo-tympanic conduction	.	.	.	.	(tr)	++
Aerial conduction	.	.	.	.	(a)	+++
In slight middle ear disease	.	.	.	.	{	(m) +
				(a) ++		
				(tr) +++		
In advanced middle ear disease	.	.	.	.	{	(a) +
				(tr) ++		
				(m) +++		

F. C. ORMEROD.

Ear

A Pendular Electro-magnetic Alternator for Precise Clinical Acoumetry.

A. STEFANINI. (*Archiv. Neerlandaises de Physiologie de l'homme et des animaux*, Tome vii., p. 64, 1922.)

The author has constructed an acoumeter which consists of a specially wound electro-magnet and a grooved plate of iron which is fixed to a pendulum that swings above the electro-magnet. Round one arm of the horse-shoe magnet are wound separate series of 1, 2, 3, 4, 10, 10, 50, 100, 100, and 200 turns of wire, and round the other arm a series of 500 turns of wire.

The heads of all these different series are led to blocks in a circuit, so that by inserting keys between the blocks any or all of the coils could be shut out of the circuit, as in a Post Office resistance box. There are two extra resistances in the circuit which is completed by a telephone ear-piece.

The note and intensity of the sound in the telephone can be regulated by (i.) varying the angle through which the pendulum is allowed to swing; (ii.) the inclusion of one, both, or neither of the extra resistances; and (iii.) the variable inclusion of the several series of coils in the winding of the electro-magnet.

The author claims that with this instrument he is able to produce a constant and known sound by suitably adjusting the component parts of the apparatus.

F. C. ORMEROD.

A Labyrinthine Poison (Paraphenylenediamine) in Certain Hair Dyes.

Dr P. LAURENS, Paris. (*Bulletin d'Oto-Rhino-Laryngologie*, July 1922.)

Laurens gives details of eighteen cases of poisoning following dyeing the hair with "vegetable" dyes of which this substance was the basis: in certain circumstances quinonediimine is produced, and this is very toxic. All the cases appear as obscure labyrinthine disorders. Three classes are described:—

(1) The acute: intense vertigo, headache, etc., of short duration, after each application of the dye.

(2) "Otosclerosis": more or less typical, coinciding with the period during which the dye is used, and clearing up on its discontinuance. Deafness and tinnitus are marked as well as vertigo.

(3) Cases with labyrinthine and auditory symptoms, often ill defined, but with definite general arterio-sclerosis, thyroid disturbance, etc. The author emphasises the importance of remembering this possibility in obscure cases.

E. WATSON-WILLIAMS.

Abstracts

Contributions to the Pharmacology of Body Attitude and Labyrinth Reflexes. 1. Introduction by R. MAGNUS; 2. Strychnine, and 3. Picrotoxin, by D. J. JONKHOFF. (*Acta Oto-Laryngologica*, Vol. iv., fasc. 1, 2, and 3, 1922.)

The first of these articles consists of a review of the various reflexes which are involved in the maintenance and automatic alteration of the attitude of the body, and the methods of testing them. These reflexes include both those of labyrinthine origin and also a series of others which are not dependent on the labyrinth, such as the various tonic reflexes of the neck on the limb and eye muscles, and the body attitude on the head, etc. They have been very thoroughly investigated during the past ten years in the Pharmacological Institute of Utrecht, and have, at any rate in all essentials, been so far accurately determined as to render useful an investigation of the effects of various poisons on these reflex mechanisms.

In the second article Dr Jonkhoff proceeds to deal with the effects of strychnine. He shows that (1) even very small doses (e.g. $\frac{1}{100}$ to $\frac{1}{50}$ mg. to the kilogram of body weight) produce an increase of all labyrinth reflexes excepting the reactions to progressive movements. (2) As the dose is increased the head and eye nystagmus cease at a point where the head and eye turning reactions are still present, and under certain conditions very active. (3) The attitude reflexes disappear with the onset of general convulsions. (4) The compensatory eye movements are the most resistant of all the labyrinth reflexes to strychnine poisoning. They persist up to the end. (5) In the convulsion stage of strychnine poisoning the reciprocal innervation of the muscles involved in the neck and labyrinth reflexes on the body musculature, and the caloric labyrinth reflexes on the eye muscles, remain undiminished. (6) In the convulsion stage also, the caloric labyrinth reflex on the eyes shows a great prolongation of the normal deviation, persisting for several minutes. These examples show how remarkably selective may be the action of a poison on the mechanism controlling the body attitude and the labyrinth reflexes.

The third article (also by Dr Jonkhoff) deals with the effects of intravenous injection of picrotoxin. Small doses (e.g. $\frac{1}{20}$ mg. to the kilogram of body weight) produce a definite and extraordinarily long persisting increase of labyrinth reflexes in the absence of any other symptoms. Larger doses (1 to 2 mg. per kilogram) result in paralysis of the labyrinth reflexes, the head turning reaction and after-reaction being the last to disappear and sometimes remaining till death. The compensatory eye movements, which in strychnine poisoning remain undiminished till death, in picrotoxin poisoning are lost at a comparatively early stage. Picrotoxin poisoning alters entirely the ordinary picture of the decerebrated animal. In place of the characteristic

Ear

extensor tonus of the extremities, neck and trunk, there appears a marked flexor tonus, while in like manner the convulsions affect chiefly the flexor groups of muscles. Picrotoxin therefore gives rise, like strychnine, to quite definite and characteristic alterations of the reflexes under consideration.

THOMAS GUTHRIE.

Method and Clinical Use of the Galvanic Tests for the Labyrinth.

By Dr I. JUNGER. (*Monats. f. Ohrenh.*, Year 56, No. 6, 1922.)

Disagreeing with certain statements by other observers to the effect that this test is of no clinical value, and as a rule unnecessary and painful, the author gives a description of his own experience, based on the examination of thirty normal people and fifty patients suffering with various forms of labyrinth disease.

One of the prime advantages he claims for this method is that it enables us to differentiate between disease of the sense organ and of the nerves; since the galvanic current does not affect the sense organ, but is dependent for its reaction on the integrity of the nerve apparatus, and further, that by this test a pure unilateral stimulus can be employed.

The following account is given of Brunner's experiment:—A "divided" anode is applied to the tragus of each ear (the negative pole being secured presumably at any other convenient part of the body). One ear is then irrigated with 5 c.c. of cold water, which results in a nystagmus to the opposite side of a character identical with the normal caloric test, but of a longer duration. On the other hand, if the ear is irrigated with hot water, either no nystagmus is induced to the same side, or it will only appear after prolonged irrigation. Should, however, a "divided" kathode be applied to the tragus of each ear, exactly the opposite effects will be produced by irrigation.

From this, Brunner concludes it is possible to stimulate one labyrinth alone by the galvanic current, and, secondly, that the anodal effect does not result from the arrest of the labyrinth function, but that the anode as well as the kathode are dependent for their effects on the *nerve* apparatus.

In his investigations the author has adopted the usual method of applying the anode to one tragus and the kathode to the other, and noting the character of the induced nystagmus, the falling reaction, pointing reaction, the arm-tonus reaction (as lately described by Fischer and Wodak), and the subjective sensations. As a rule he found that the nystagmus appeared before the falling reaction.

As regards normal persons, 3 milliamps were usually sufficient to induce nystagmus, whilst it was of interest to note that weaker currents (under 2 milliamps) would give rise to a "periodical" nystagmus.

Abstracts

Inclination of the head, which was always towards the side of the anode, did not occur until after the current was raised to between 3 and 5 milliamps. As a rule nystagmus was observed before the falling reaction, but the falling reaction appeared first, if, instead of the Romberg position, a modification of this, as recommended by Mann, was adopted. This modification consists in making the patient stand with one foot directly in front of the other. The direction of the falling reaction (constantly towards the side of the anode) was found to be in normal persons, at any rate, quite independent of alteration in the position of the head.

Under his reference to these tests in cases of various labyrinth disease, of which fifty were examined, and of which a detailed account is given, one of the most interesting notes is to the effect that the functional integrity of the vestibular apparatus in deaf-mutism does not necessarily indicate congenital syphilis as the causal factor, since the writer also found the same condition in cases of "hereditary-degenerative" deaf-mutism.

A full description of the results of his examination of a case of "comotio-cerebri" completes a most valuable article.

His conclusions are summarised as follows:—

1. It is possible to investigate the condition of one labyrinth alone by the galvanic test.
2. In normal people the nystagmus, on looking in the direction of the quick component, is produced with 3 milliamps.
3. Inclination of the body, which is constantly towards the side of the anode, occurs usually with 3 to 5 milliamps in normal people in the sitting position.
4. The falling reaction is induced before the nystagmus, in patients standing in Mann's position.
5. In cases of labyrinth disease, and in patients whose labyrinth is destroyed, it is recommended to test the falling reaction by making them stand with the heel of one foot against the toe of the other.
6. In normal persons the typical dependence of the falling reaction on the position of the head as a rule was not demonstrable. In a considerable number of cases, however, the falling tendency was inhibited by an abnormal position of the head.
7. Normal people usually describe a feeling of dizziness, rather than any sensation of rotation, under the galvanic test.
8. In normal people the typical pointing reaction, as well as the "arm-tonus" reaction (of Fischer and Wodak), is seldom seen.
9. In certain diseases of the labyrinth no nystagmus is induced by a strong current, although the typical falling reaction

Peroral Endoscopy

occurs. The explanation of this phenomenon must be postponed till our knowledge of the trunk and eye musculature has been further investigated.

10. In some cases of deaf-mutism (non-syphilitic) the galvanic test gives a positive reaction, although no effect can be produced by the caloric or rotation tests; a condition however which, up till now, has been held as diagnostic of congenital syphilitic disease.
11. Lack of response to the caloric and rotation tests, combined with galvanic excitability, indicates a destruction of the labyrinth end-organs, but does not afford any conclusion as to the anatomical condition of the nervous apparatus of the inner ear.
12. Just as cases of hereditary-degenerative deaf-mutism, as well as cases of congenital syphilitic disease of the inner ear, show a varying anatomical picture, so the functional condition of the labyrinth must also vary in consequence.
13. The galvanic test enables a hyper-sensibility of the labyrinth to be determined, but does not afford an indication of labyrinth hypo-excitability.
14. A hyper-sensibility of the labyrinth is shown by the occurrence of nystagmus and giddiness, on looking in the direction of the quick component with a current of under 3 milliamps, or by similar phenomena on looking directly forwards with a current of under 5 milliamps.
15. The occurrence of severe vasomotor phenomena, under the galvanic test, points to a general neurasthenic condition, and not to a labyrinthine hyper-sensibility.

ALEX. R. TWEEDIE.

PERORAL ENDOSCOPY.

A Pedunculated Lipoma of the Œsophagus. PORTER P. VINSON M.D.,
Rochester, Minn. (*Jour. Amer. Med. Assoc.*, Vol. lxxviii., 11,
18th March 1922.)

S. V. J., aged 62, gave a history of having coughed into his mouth an elongated piece of flesh which was thought to be a growth attached to the uvula. The growth was easily swallowed, but his throat felt sore and swollen for several days.

He had no further trouble for six years, when following a heavy meal he became nauseated, and in vomiting ejected a piece of tissue long enough to protrude into his mouth. He tried to bite it off, but lack of teeth prevented him, and he again swallowed the tumour. His throat felt uncomfortable, and his breath was very offensive for a few

Abstracts

days. Three weeks later a similar occurrence took place. At no time was there any dysphagia.

Œsophagoscopic examination revealed a tumour just below the introitus, attached to the right wall of the gullet by a pedicle three-eighths of an inch in diameter.

No attempt was made to pull the tumour out of the mouth at this examination, but following breakfast a week later, vomiting was induced and the tumour again regurgitated. It extended $4\frac{1}{2}$ inches beyond the incisor teeth, and the tip measured $2\frac{9}{16}$ inches in circumference, gradually tapering to the base. It was rather firm and covered with normal mucous membrane, except for a small ulcerated area near the tip.

Under local anæsthesia, the tumour was removed through an external incision in the neck. The raw surface left by the severed base was closed with normal mucous membrane. A small drain was inserted which was removed in seventy-two hours, and the neck healed without infection. The length of the tumour after removal was found to be $8\frac{3}{4}$ inches, and section showed it to be a simple lipoma.

In a search of the literature, Vinson has been unable to find a similar case. Excellent illustrations accompany the paper.

PERRY GOLDSMITH.

Removal of Paper Fastener by direct Peroral Bronchoscopy. HERBERT TILLEY, B.S., F.R.C.S. (*Brit. Med. Journ.*, 19th November 1922.)

The foreign body had been impacted for twenty-one months in the left bronchus—had caused fits of coughing and chest symptoms from the beginning, but an unsuccessful X-ray examination eight weeks after the first attack allayed the early suspicions of the true cause of the disturbance.

Attacks of pyrexia occurred every two or three weeks—the tonsils were removed as being possibly responsible for the bronchitis, and even the removal of the appendix was discussed.

At the end of twenty months, however, a more expert radiographer demonstrated a metal paper fastener in the left bronchus, lying with clips fully spread and pointing upwards.

This was removed under general anæsthesia, the chief difficulty experienced being hæmorrhage from granulations surrounding the foreign body.

T. RITCHIE RODGER.

Additional Experimental Studies in Bronchial Function. J. G. H. BULLOWA and C. GOTTLIEB. (*Laryngoscope*, Vol. xxxii., p. 284.)

In a previous paper the authors, by injecting radio-opaque substances into the bronchi of dogs, observed that the lungs emptied

Peroral Endoscopy

themselves by a bellows-like action of the trachea and bronchi, and also demonstrated a peristaltic wave of the bronchial muscles.

In the present series, by introducing opaque capsules, foreign bodies, barium in oil, etc., the trachea and bronchi were kept under observation. Without cough the dogs were able to get rid of the foreign bodies in remarkably short periods. Attempts to produce a stricture by placing obstacles proved unsuccessful; therefore, in the next series of experiments, the bronchial walls were cauterised. When the dog had recovered from the immediate effects of the traumatism, an injection of barium in oil might remain in the bronchus for months. On examining the lungs, the terminal alveoli showed thickening of the walls and were filled with barium. The cauterised bronchus was denuded of epithelium.

ANDREW CAMPBELL.

Simple Treatment of Cardiospasm. J. OEHLER. (*Münch. Med. Wochenschrift*, Nr. 42, Jahr 69.)

Having confirmed the existence of spasm by passing a stomach tube, Oehler keeps the patient in hospital for a few days until the latter has learnt to overcome the resistance and to pass the tube into his own stomach. The patient is then discharged from hospital, taking his stomach tube with him, and instructed to pass it at lengthening intervals as required.

JAMES B. HORGAN.

Local Spasm of the Esophagus and Impairment of Deglutition following Local Injury of the Pharyngeal and Esophageal Mucosa. A. J. CARLSON, M.D., Chicago. (*Jour. Amer. Med. Assoc.*, 18th March 1922, Vol. lxxviii., 11.)

The patient, while working on a problem in physiological chemistry, received a boiling concentrated solution of sodium hydroxide in the back of the throat, without it having touched the lips or anterior part of the tongue. Within five minutes the throat was swabbed with dilute acetic acid, but five minutes later he was unable to swallow. Marked œdema of the epiglottis and ventricular bands took place twenty minutes later. Deglutition was impossible for five days, and when in a small degree restored, it was found that about one-third of the epiglottis had sloughed. Body weight was reduced 20 per cent. in six weeks. As only fluids could now be swallowed, the œsophagus was dilated after the method of Sippy and was eventually followed by normal swallowing.

PERRY GOLDSMITH.