

## Abstracts

of 2 in. or more. The implantation could be done accurately, and with good results. Therefore it seemed undesirable to perform such an operation as gastrostomy for a similar purpose.

G. KELEMEN (in reply) said that with the artificial œsophagus it was interesting to watch the swallowing movement ; it came only to the lower end of the skin tube. He agreed that the tube was composed only of skin, but it was an elastic tube, and it acted whether the patient sat or stood up, and when he was swallowing in those positions.

A. BROWN KELLY (in reply) said he was glad to hear that among Members of the Section there was no disposition to operate on children with shortening of the œsophagus.

The cause of the temporary obstruction in these children was spasm, which yielded to an endoscope or bougie. He had had a notable case of spasm in a healthy adult lasting two days. He remembered Dr. Guthrie's case, and could confirm all that was said about it.

## ABSTRACTS

### EAR

*Researches on the Hearing Power and Hearing Organs of Fishes.*

B. FARKAS. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

Researches in which the author has been engaged since the year 1931 have led to the following conclusions :

(1) Hearing power has been proved to exist in certain kinds of fish, in particular in the *Lebistes reticulatus*, a species of carp, known as the " guppy ". The present article is concerned mainly with this fish, in which previous attempts to demonstrate hearing power had been unsuccessful. As it has no auditory ossicles, it was usually regarded as being without hearing.

(2) Various electrical sound-producing apparatus were employed, and Pawlow's method of conditioned reflexes showed that most aquarium fish react to tones produced in the air.

(3) With *Lebistes* the range of optimum tone perception lay between F (86 d.v.) and a<sup>1</sup> (435 d.v.) the tone which gave the best and most rapid reaction being c<sup>1</sup> (258 d.v.).

(4) Both optimum and total range of tone perception varied with the age of the fish. The highest tone perceived by *Lebistes* was a little more than 1,200 d.v. but this was exceeded by fish of other kinds, especially those with a chain of ossicles.

(5) *Lebistes* reacted well to the sound of the Budapest church bells transmitted by " wireless ". It could be shown to possess a

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sense of time, and could pick out and react to a single tone mingled with other sounds.

(6) The reflex is affected by various conditions, such as hunger and cold, and the power of sound perception seems to increase in later generations.

(7) Fish begin to react to tones at the age of six or seven months.

THOMAS GUTHRIE.

*Damage to the Ear by Wall-paint containing Arsenic.* E. RUTTIN.  
(*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

An otherwise healthy woman, 52 years of age, was suddenly attacked by tinnitus and loss of hearing in the left ear, together with vertigo, vomiting and headache. When the author first examined her some months later, the vertigo had ceased and the vestibular reactions were normal, but tinnitus and partial nerve deafness in the left ear still persisted.

Definite traces of arsenic were found in a green paint which had been applied to the walls of her room shortly before she became ill and, in the absence of any other likely cause, the ear trouble was attributed to arsenical neuritis of the VIIIth nerve in the labyrinth.

There appears to be no previous record of a case of this kind in the literature, although damage to the VIIIth nerve by salvarsan and similar drugs has often been reported.

THOMAS GUTHRIE.

*Ear Affections Caused by Poisoning with Benzine Vapour.*  
E. RUTTIN. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

Three cases are described in which damage to the labyrinth followed poisoning with benzine vapour. There appears to be no previous record of ear disease from this cause.

In the first case the cochlea was unaffected in either ear, but there was vertigo associated with hypersensitiveness of all the semicircular canals, on rotation. In the second case there was vertigo with normal caloric reaction in one ear, and greatly diminished reaction in the other. In this case the cochlea of each ear was much affected, but this was probably not entirely due to the benzine poisoning, as some deafness (the result of the patient's noisy occupation) had been present before the attacks of vertigo began. In the third case the right cochlea was affected, and the sensation of giddiness was not rotatory but a feeling of swaying, in addition to which such severe vertigo followed upward movement of the head and eyes, that the patient was compelled to walk with the head bent forward. There was, besides, postural vertigo and nystagmus of an anomalous character, so that it was not clear on

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which side the utriculo-saccular apparatus was affected, although the rotatory and caloric reactions pointed to a lesion of the left semicircular canals.

THOMAS GUTHRIE.

*Rupture of the Tympanic Membrane by Lightning.*  
DR. HORST WULLSTEIN, Jena (Prof. J. Zange's clinic).  
(*Münchener Medizinische Wochenschrift*, xx., May 15th, 1936,  
802.)

On June 24th, 1935, a girl, aged 14 years, was working in the fields when she was struck by lightning and rendered unconscious. This girl had no previous history of middle-ear disease. She remained unconscious for a quarter of an hour and on recovering she had a hot burning feeling in the body and the hair on the right side of the scalp was burnt. She had a wound on the right side of the head. On the first day she vomited once and complained of vertigo in the next few days. Immediately after the accident she complained of earache and was given some ear drops. Two days later the ear began to discharge. Deafness was noticed.

November 18th, 1935. The girl showed scars on the wounded areas, and there was some purulent secretion in the right external auditory meatus. There was a large central perforation blocked by a polyp. There was some middle-ear deafness and slight lowering of the upper tone limit. Labyrinth tests showed no abnormality. There were slight alterations in the reflexes, those on the right being stronger than on the left. These changes were taken to be due to the lightning.

Doubt arose as to whether the perforation had been present before the accident. However, Prof. Zange had seen the patient on July 17th, 1935, and had then observed a recent perforation. This was taken to remove the possibility of the perforation being present before the accident because of the absence of a history of ear symptoms.

There is only one convincing case previously reported in the literature and that is by Urbantschitsch, *Monatsschrift für Ohrenheilk.*, 59 Jg. 956, 1925.

G. H. BATEMAN.

### NOSE AND ACCESSORY SINUSES

*A Re-examination of Ozæna Patients Treated with Manganese.*

P. MORCH. (*Acta-Laryngologica*, xxiii., 3 and 4.)

Following the publication by Vibede in 1927 of a series of cases of atrophic rhinitis, treated by intravenous injections of colloidal manganese, the author treated a number of cases of the same disease by intramuscular injections of manganese, followed by tablets of

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manganese chloride by the mouth. The preparation used by him for injection was "Metallosal-Mangan 0.02 molär (Leo)", the dose of which ranges between 0.5 and 3.0 c.cm., and is usually about 2.0 c.cm. The correct dosage varies greatly for different patients, but is remarkably constant for each individual. When the optimum dose, as shown by the disappearance of foetor and crusts, has been found, it should be continued unaltered and not increased.

During the course of injections all local treatment was abandoned.

The author re-examined twenty-five of these patients at periods of from 1 to 7½ years after their courses of injections, and he gives in this paper details of the condition found in each.

In reviewing the results he divides the patients into six groups as follows: (1) five cured; (2) two cured, but under observation for only from 1 to 1½ years after treatment (recurrence may take place after 1½ years); (3) five greatly improved, but a slight, chronic, serous, atrophic rhinitis persists; (4) four somewhat improved; foetor is absent, but a definite chronic atrophic rhinitis persists; (5) eight temporarily improved, so that they became for a time wholly or partly free from symptoms; after a longer or shorter latent period, however, a recurrence took place, which was successfully treated by a further series of injections; but repeated courses of treatment were required to prevent return of the foetor; (6) one unchanged.

Disappearance of the foetor is to be regarded as the most important indication of the success of any form of treatment for *ozæna*, and this was complete, and up to the date of re-examination, permanent, in fourteen of the twenty-five cases, while in eight others also it was achieved, although only temporarily.

THOMAS GUTHRIE.

*X-ray Examination of the Maxillary Antrum after filling with Contrast Fluid.* K. KETTEL. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

In most cases of antral disease the diagnosis can be made with certainty by direct inspection of the nasal cavity, simple X-ray examination, and proof puncture. Sometimes, however, proof puncture gives a negative result, and yet the X-ray picture shows a shadow, the pathological significance of which may be doubtful. Again, it may happen that the symptoms point to antral disease, while ordinary methods of examination disclose nothing abnormal. In such cases and many others further information may be obtained by X-ray examination after contrast filling.

For this purpose the author prefers a watery to an oily solution, and he uses Umbrenal which has the further advantage of being much cheaper than lipiodol. He introduces the fluid by direct injection and not by the Proetz displacement method which is too

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uncertain. He has examined in this way 100 antra, the result in each case being verified afterwards by operation.

Reproductions of a number of the skiagrams show well various abnormal conditions, such as transient and permanent inflammatory thickening of the lining membrane, polypus, cyst and new growth. In determining the presence of a malignant neoplasm, the contrast method is of the greatest value ; it is, indeed, in many such cases the only means of reaching a diagnosis.

THOMAS GUTHRIE.

*The Sphenoidal Sinus and the Spheno-palatine Ganglion as Factors in so-called Atypical Trigeminal Neuralgia.* H. W. LYMAN. (*Annals of O.R.L.*, 1935, xliv., 653.)

Sluder in 1908 called attention to a set of neuralgic phenomena which in his opinion were due to lesions affecting the spheno-palatine ganglion. In 1919 he elaborated this and pointed out that in these cases the pain would begin at the root of the nose and extend backwards over the zygoma of the ear and thence to the occiput, neck and shoulder.

Cases of this type have frequently been described as atypical trigeminal neuralgia but section of the sensory root fails to give relief from the symptoms. The author describes five such cases.

The diagnosis of spheno-palatine neuralgia was made only if cocaineization of this ganglion gave temporary relief. In all five cases a pathological condition of the sphenoid or posterior ethmoid was found. In two cases, both of which had formerly had a sensory root section, permanent relief was obtained by injection of the ganglion with a 5 per cent. phenol in alcohol solution and the drainage of the infected sinus. Of the remaining three, two had immediate relief but the pain recurred later with re-infection of the sinus which again responded to treatment. In the last case the injection of the ganglion was unsuccessful but drainage of the sinus relieved the condition for a time : several re-infections of the sinus occurred, each accompanied by a similar attack of neuralgia.

E. J. GILROY GLASS.

## LARYNX

*Ossification of the Cartilages of the Larynx and its relationship to some types of Laryngeal Disease.* H. MARSHALL TAYLOR. (*Annals of O.R.L.*, 1935, xliv., 611.)

The literature on the ossification of the cartilages of the larynx is reviewed in detail. Although it is generally considered that age is the principal factor in determining the advance of the process of ossification the great variability of the age at which it occurs

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suggests that there may be other factors in the ætiology, i.e. the process has been found well advanced in a youth 12 years of age and absent in a man aged 103. In general the appearance of ossification is later and the advance slower in women than in men. Generally the thyroid cartilage is first affected but is soon followed by the cricoid and, lastly, the arytenoid.

Tuberculosis appears to delay the onset and the calcification is less dense. Syphilis, on the other hand, tends to produce a more rapid although irregular ossification. In slow-growing malignant disease ossification is hastened, but in the more rapidly invasive types, the bone thus formed may be rapidly destroyed.

The X-ray appearance of patches of ossification may lead to a mistaken diagnosis of foreign body. Seven cases have been reported of inflammatory conditions of the larynx in which an ossification area has been cast off as a sequestrum and to these the author adds one case in which the superior cornu was cast off in a case of malignant disease treated by deep X-ray therapy.

An extensive bibliography is appended.

E. J. GILROY GLASS.

### TONSIL AND PHARYNX

*Naso-pharyngeal Fibroma with invasion of the Ethmo-sphenoidal area, particularly from the points of view of Diagnosis and Treatment.*  
G. WORMS. (*Les Annales d'Oto-Laryngologie*, March, 1936.)

The patient was a young man of 21 who had had a naso-pharyngeal fibroma removed by the oral route four years previously. The hæmorrhage at operation had been very profuse. The whole of the left nasal fossa was filled by a dark red mass which bled when touched. The nasal septum was pushed over to the right. A similar growth was visible post-nasally. All the symptoms to which such a growth would give rise were present: nasal voice, obstruction, epistaxis, etc. Radiography indicated that the paranasal sinuses on the left side were invaded by the growth. The surgeon decided to approach the tumour by lateral rhinotomy. A preliminary laryngotomy was performed through which the anæsthetic was administered. The nasal fossa was entered by snipping through the mucous membrane at the free border of the nasal bone and the maxillary sinus was entered by the removal of a portion of the lateral nasal wall. It was found to contain an extension of the tumour. The growth was partly freed from its bony attachment with elevators and the finger was slipped along the floor of the nose and assisted by traction on the anterior part of the growth. The whole of the tumour was delivered with surprising ease. There was very little hæmorrhage. The author points out that it is very unusual to find such extensive sphenoidal involvement without

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some signs of pressure such as exophthalmos and nerve pareses. It is in a case such as this one that radiography proves so useful in determining the degree of invasion and consequently the correct method of approach.

M. VLASTO.

*A Case of "Malignant Granuloma" of the Pharynx.* S. KANAS.  
(*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

A very complete description is given of the case of a man, 47 years of age, with destructive ulceration, which began on the posterior surface of the soft palate, and in a few weeks spread so as to involve the whole of the nasopharynx and a part of the pharynx. Secondary infection of the extensive, gangrenous, ulcerated surface was severe, and hæmolytic staphylococci were found both locally and also in blood cultures. No treatment was of any avail, and in about 3½ months from the beginning of the illness, death followed hæmorrhage from an eroded vessel.

Microscopic examination of several specimens, removed during life, showed only ordinary granulation tissue. Further examination after death, however, showed that the disease was in reality an atypical lympho-sarcoma.

In recent years a number of cases have been recorded of so-called "malignant granuloma". They differ from one another in many respects, for example, in the duration of the disease, from nine weeks to six years. In some of them the histological examination has been insufficient, and further investigation after death might have shown, as in the author's case, an atypical sarcoma. It may indeed be doubted whether the facts really justify the conception of "malignant granuloma" as a separate disease.

The paper includes an analysis of the literature.

THOMAS GUTHRIE.

### ŒSOPHAGUS AND ENDOSCOPY

*Investigation of the Pathological and Anatomical Developments in Corrosive Œsophagitis in Men.* DR. MARKOW (Sofia).  
(*Münchener Medizinische Wochenschrift*, xxvii., July 3rd, 1936, 1085.)

The swallowing of corrosive poisons causes necrosis of the mucosa of the œsophagus, but a coagulation necrosis is also found in the deeper layers of the œsophagus and a crust of coagulated material is built up. Only with very concentrated poisons are all the layers of the œsophagus necrosed.

The first process of reaction is an infiltration with polymorpho-nuclear leucocytes shutting off the necrosed area. These are followed

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by mononuclears and fixed cell elements. This stage can be seen as early as the second day. Granulation tissue is produced and this increases in quantity. This granulation tissue spreads beyond the limit of the necrosed area into the muscle layers. It will thus be seen that in the later sclerosis of the œsophagus all layers are involved and even the pericœsophageal tissue in some cases. The scarring begins in the second week and has been clearly seen on the twelfth day, but it continues and it is sometimes as much as a year before the area is epithelialized and the scarring completed.

Stenosis usually begins in the third or fourth week and continues for months and even years.

There is a description of the microscopic changes.

In general the investigation shows that in severe cases of poisoning the necrosis and reaction are so widespread and deep that one can expect very little improvement from local treatment.

G. H. BATEMAN.

## BRONCHUS

*Foreign Bodies in the Bronchi, and Pneumonia.* E. RUTTIN. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

The question whether removal of a foreign body from the bronchus of a patient with acute pneumonia should be undertaken at once, or delayed until the acute condition has subsided, is one to which little or no reference has been made in the literature.

It may be argued that, as the foreign body has caused the pneumonia, its immediate removal is necessary to allow recovery of the lung condition. On the other hand a general anæsthetic, which the author always uses in these cases, at least in children, adds to the risk in acute pneumonia, especially as prolonged administration may be necessary, since no one can tell beforehand how long may be required for removal of a foreign body.

The author relates the case of a girl, 8 years of age, with a glass button, which she had inhaled three weeks previously, impacted in the left main bronchus. When first seen the child had acute pneumonia with rising temperature, and operation was postponed until six days later when the temperature was falling. A tracheotomy was then performed and inferior bronchoscopy attempted. This, however, had to be abandoned almost immediately, as an accident happened to the mirror of the bronchoscope and no other suitable instrument was at hand. The operation caused a recrudescence of the pneumonia with renewed high temperature. After a further interval of five days this had again subsided, and the foreign body was removed with some difficulty by inferior bronchoscopy. This operation was followed by a rise of



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temperature for two days only, and a week later recovery was complete.

To wait in this way for subsidence of the acute condition is, of course, advisable only when the foreign body, as in the author's case, does not completely occlude the bronchus.

THOMAS GUTHRIE.

### MISCELLANEOUS

*The Practical Value of Sialoadenography in the Diagnosis of Intermittent Swelling of the Salivary Glands.* A. CSILLAG. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

In addition to calculi, which have hitherto been regarded as the most frequent cause of intermittent swelling of the salivary glands, account must also be taken of obstruction due to pathological changes in the ducts themselves. Acute inflammation of the glands, as in mumps, is sometimes followed by connective tissue thickening (fibrosis) with strictures of the ducts. Inflammatory diseases of the mouth may lead to catarrh of the salivary ducts with swelling of their mucous membrane and thick secretion which blocks the already narrowed lumen. There may thus be formed localized dilatations of the ducts (sialodochitis cystica), which tend to become more numerous and larger, the more often the inflammatory attacks (parotitis intermittens acuta) are repeated.

The diagnosis of these conditions has been rendered possible by X-ray examination with "contrast-filling" (sialoadenography), and there remain few cases of swelling of the salivary glands the cause of which cannot be determined by this means, together with clinical examination (e.g. the use of a sound).

The author reports eight cases (six women and two men) of intermittent salivary gland swelling, in all of whom obstruction by calculus could be excluded by contrast-filling with lipiodol and X-ray examination. In four of the cases it was shown by sialoadenography that the salivary passages were free from obstruction, and the diagnosis of regional lymphadenitis, probably of tonsillar origin, was thus confirmed. In the four other cases the sialoadenogram showed widening of the ducts and ectasia of the smallest canals, so that the X-ray picture suggested a cluster of grapes. There was reason to suppose that in each of these patients the condition was the result of patches of cicatricial thickening in the duct system, due originally to epidemic parotitis.

Contrast-filling with lipiodol was of practical value not only in the diagnosis, but also in the treatment of those patients in whom there was disease of the ducts or glands.

THOMAS GUTHRIE.

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*The Neurovascular Symptom-complex.* E. LÜSCHER. (*Acta Oto-Laryngologica*, xxiii., 3 and 4.)

The writer discusses the essential nature of the various forms of vasomotor rhinitis, and deprecates the present tendency to class them together under the term "allergic symptom-complex". This term is indeed correctly applied to such conditions as hay fever, and excessive sensitiveness to flour, certain plants and many other substances. Here the cause is evident, but much more frequent are those conditions in which, although the clinical manifestations are those of allergy, there is no real evidence of their allergic nature.

For all of these the author suggests the comprehensive and non-committal term "neurovascular symptom-complex". It will be the aim of further research to determine their real nature and cause. Hitherto only the allergic symptom-complex has been thoroughly investigated.

The neurovascular symptom-complex is merely a local manifestation of a general disease or of a special constitution. Local treatment is therefore treatment of symptoms only. The cause can be dealt with only by some rational form of general treatment of the nature of either specific desensitization or some alteration of the patient's constitution. In order to make this possible our present knowledge must be greatly extended.

THOMAS GUTHRIE.

*Sodium Chloride in Diphtheria.* ALEX. MACLEAN. (*Lancet*, 1936, ii., 129.)

The author concludes from a number of cases that the administration of extra sodium chloride to a series of patients with diphtheria is associated with an improvement as compared with a series not so treated. The beneficial effect is present throughout the series and is not merely shown by an increase in the number of dismissals at the minimum period of treatment and by a decrease in the number of deaths; the changes in the intervening stages are hidden, because such a class of cases, for example, as "recovery with severe paralysis" will receive cases from the class which rank as "deaths after fourteen days' treatment", and simultaneously give cases to the class "recovery with mild paralysis", and thus will leave its own number with little obvious variation, when such a beneficial effect is at work.

The finding that the administration of sodium chloride to cases of diphtheria is associated with better results accords with expectations, if the view is accepted, that in diphtheria there is a considerable deficiency in the secretion of the suprarenal cortex. The writer discusses the relation of diphtheria and the adrenals and calls attention to the biochemical changes noted in research work on suprarenal cortex deficiency. There is a deficiency of sodium and

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chlorine (particularly the former) in the blood serum in the acute stage of diphtheria. Definite evidence has not yet been produced of the value that injections of an extract of suprarenal cortex would have on the acute stage of diphtheria, but it seems that sodium chloride is distinctly beneficial. In Dr. Maclean's cases the sodium chloride was given by mouth.

MACLEOD YEARSLEY.

*Further Study of the Effects of Drugs on Ciliary Activity: a New Method of Observation in the Living Animal.* D. M. LIERLE and P. M. MOORE. (*Annals of O.R.L.*, 1935, xliv., 671.)

Previous experiments were carried out on extirpated human mucosa and the nasal mucosa *in situ* of freshly-killed guinea pigs, but it was thought that considerable differences may arise in the living animals.

The authors operated on rabbits; an opening was made into the maxillary antrum and a glass window with two small holes to facilitate introduction of drugs was inserted. The animals were allowed to recover from the anæsthetic and various observations could be made up to periods of a month or more. The drugs were applied to the mucosa with medicine droppers and no effort made to wash the mucosa either before or after.

In no case did the action of the drug on the living animal differ materially from the previous series of experiments but in some cases there were slight differences and in most, recovery was more complete. 5 per cent. cocaine in Lock's solution produced no effect but 10 per cent. and 20 per cent. cocaine produced a more rapid and more marked effect in the living rabbit than in the freshly-killed guinea pig. 3 per cent. ephedrine in Lock's solution had no effect. Under certain conditions the mucous sheet changed its character. Phenyl mercuric nitrate immediately produced a glazed uneven surface. A similar effect was seen with zinc sulphate and mercuriochrome, but in addition there was a precipitate of the mucus which prevented any visualization of the underlying cilia and presumably inhibited their action.

The effects produced by the use of tampons—ephedrine and argyrol being used, showed that if the pack was soft and gently applied, the effect was the same as that noted when the drugs were dropped on the mucous membrane, but if the pack were firm or wedged against the membrane, no ciliary activity could be visualized after its removal—a point which the author considers of very considerable clinical importance.

E. J. GILROY GLASS.