ABSTRACTS

EAR.

A Contribution to the Study of the Bacteriology of Aural Suppuration due to Aerobic Pyogenic Organisms. J. BONNAHAN (Montpellier). (*Archives Internationales de Laryngologie*, September-October 1930.)

The bacteriological examination of aural discharges should be carried out as frequently as possible, because it supplies valuable information from both a prognostic and a therapeutic point of view.

Most observers agree that the streptococcus and the pneumococcus play the most important causative rôle in acute middle-ear infections. The author's observations support this view.

Middle-ear suppuration complicated by mastoid infection, particularly where there is also a septicæmia, is usually due to the streptococcus. The pneumococcus is less likely to be generalised and the prognosis in these cases is more favourable.

On the other hand, the mucous variety of pneumococcus (pneumococcus mucosus or pneumococcus III) is a particularly malignant form on account of the extensive bone destruction which results, the insidious course of the disease, and the tendency that exists in these cases towards meningeal infection.

In addition to these outstanding types of infection, a few others have been noted, particularly those of the pneumobacillus of Friedlander and the pseudo-diphtheritic bacillus. M. VLASTO.

Case of Perisinusal Abscess with Griesinger Symptom. Y. TAKEUCHI and T. INOUE (Tokyo). (*Oto-Rhino-Laryngologia*, Part 12, Vol. iii., p. 1001.)

The patient, aged 39, had suffered from acute otitis media on the left side for a month, during which he complained of feeling unwell in spite of paracentesis, at which there was no marked flow of secretion. Griesinger's symptom supervened and when the mastoid was opened there was found a perisinusal abscess but nothing further of any importance. The author attributes the Griesinger's symptom to the perisinusal abscess. JAMES DUNDAS-GRANT.

The Action of "Neohypotonin" on Tinnitus Aurium. T. OKAZOE and I. YASUHARA (Tokyo). (*Oto-Rhino-Laryngologia*, Part 12, Vol. iii., p. 1029.)

In 50 cases this was administered daily by subcutaneous injection to the amount of 0·7 to 1 c.cm. The results were as follows:— 27 cases cured, 15 improved, making 42 out of 50. The preparation

is a form of nitrite of soda to which the authors attribute a vaso-dilatation and general lowering of the blood-pressure. They observed no unpleasant side effects. JAMES DUNDAS-GRANT.

Observations on the Preyer Reflex in the Human Subject. KENKICHI ASAI (Osaka). (*Oto-Rhino-Laryngologia*, Part 1, Vol. iv., p. 1.)

Observations were made on a patient, 40 years of age, who was dull of hearing and whose ear moved up and down when exposed to noises. It was found that when the patient was not paying attention there were no movements of the ear, as also when he was instructed not to listen to the tuning-fork or to allow the ear movements to occur. The movements appeared to be entirely dependent on the will and were most marked when the noise was so feeble as to be almost inaudible. It would appear that the cerebral co-operation had most influence in the production of this phenomenon.

JAMES DUNDAS-GRANT.

Syphilis of the Organ of Hearing. A. GUTTICH. (*Münch. Med. Wochenschrift*, Nr. 29, 77 Jahr.)

Syphilis, both acquired and congenital, is a frequent cause of deafness. Whilst it may occasionally involve the external or middle ear, especially in its early stages, it is much more prone to attack the inner ear or the eighth nerve. In the latter case the disease may be recognised as an early and a late manifestation.

Pathologically it is found that in the early stages there is a pleocytosis in the cerebrospinal fluid with an increase of albumen and that therefore there exists a luetic meningitis. This results in destruction of the axis cylinders and atrophy of the nerve, and in the labyrinth with the formation of fibrous tissue and eventually with ossification of its cavities. In the tertiary stage one must consider the additional possibility of arteritis of the terminal internal auditory artery. In congenital cases the sclerosing process appears to operate in both ocular and auditory cases independently of any changes in the central nervous system.

Both the cochlear and vestibular divisions of the nerve may undoubtedly be involved in the sero-negative stages of the disease and may be so involved from six weeks to six months after infection. Such early involvement denotes a severe infection.

Marked shortening of bone conduction occurs in from 10 to 15 per cent. in the early exanthematous stage. In the late stage we get the typical symptoms of nerve deafness.

The involvement of the vestibular nerve is gradual and therefore symptomless. In the early stages there is hyperexcitability of the

vestibular apparatus which in the later stages is succeeded by the converse. This is especially apparent in the comparative absence of rotatory and post-rotatory vertigo. The caloric nystagmus, on the other hand, is usually normal, though, in individual cases the converse may apply, even on the two sides in the same individual.

In congenital cases the organ is injured step-wise from the age of six years until puberty. The onset has been shown by Alexander to occur after some acute general infection. In rare cases it is possible to induce compression and aspiration nystagmus in the presence of an intact tympanic membrane.

The treatment advocated is that usually employed for the disease. In severe cases of neuritis or neurolabyrinthitis mercury is preferable to salvarsan, though the latter may be employed in congenital cases. In these latter it is recommended to start with a dose of 0·005 gram, and to administer the drug every six to eight days in gradually increasing doses to 0·4 gram. At the same time he administers a weekly injection of hydrarg. salicyl. As ocular usually precede auditory symptoms it is recommended to give a prophylactic treatment with salvarsan on the earliest evidence of the former. J. B. HORGAN.

Animal Experiments on Middle-Ear Inflammation. MAX. MEYER, (*Zeitschrift f. Laryngologie, Rhinologie, etc.*, January 1931, Band xx., pp. 89-123.)

Professor Meyer of Würzburg describes in great detail some animal experiments with artificially induced middle-ear inflammation. The only animals suitable for such experiments are certain of the smaller apes, in which the anatomical conditions resemble those in human temporal bones. In these apes one finds a definite epitympanic recess, a cavity resembling the antrum and a system of pneumatic cells behind the tympanum. Other laboratory animals are unsuitable, as these mostly possess a large hypotympanic bulla which has no analogue in man, and there is generally an absence of any epitympanic recess or of pneumatic cells.

Professor Meyer used chemical irritants (cantharidin) or living streptococci in order to cause the inflammation; the agents were introduced by injection through the tympanic membranes, through the Eustachian tubes or through a small window made into the pneumatic cells behind the ear. In the text there are many excellent microphotographs illustrating the various stages of middle-ear inflammation with full descriptions. The author's main conclusions are as follows:—

(1) Anatomical researches show that the particular apes which he used (Makakus, Hamadryas) are suitable for these researches, as the conditions very much resemble the human tympanum.

(2) It is possible by experiment to produce the catarrhal, suppurative, necrotic and chronic types of inflammation.

(3) The experiments show that even with a *single* application of a chemical or bacterial irritant an acute inflammation results which involves the *whole* pneumatic cell system. Often the outlying cells showed more reaction than the areas in the tympanum where the injections had been made.

(4) The microscopic appearances in each instance were of a multiple nature; frequently they suggested the "hyperplastic infantile" inflammation on which Wittmaack lays such stress. These results tend to weaken the foundations of Wittmaack's theories.

(5) Processes of scarring and resolution could be observed as early as the 7th day after the introduction of the irritant, side by side with well-established suppuration. In some of the animals where the inflammation was allowed to continue for longer periods there was new bone formation, fibrous ankylosis of the ossicles and fixation of the stapes in the oval window. This shows that severe adhesive lesions are not necessarily confined to the slow and chronic forms of otitis. J. A. KEEN.

The Pathway of Sound across the Tympanum. Professor DOTT. A. DELLA CIOPPA. (*Bollettino delle Malattie dell' Orecchio, del Gola e del Naso*, January 1931.)

It is noted continually that deafness of patients with catarrh of the middle ear is greater than that of patients with suppuration, even when the latter is chronic and there has been some absorption of the ossicles. At the same time there is often some alteration in the function of the vestibule, and the author considers it necessary to clarify the knowledge as to how vibrations reach the internal ear from the outside.

(1) According to Helmholtz, sound reaches the organ of Corti by the oval window; according to Scarpa it arrives there by way of the round window.

(2) The theory of Cotugno-Helmholtz suggests that the vestibule of man appreciates the impression of sound in general and of the low notes in particular; without doubt this occurs in the lower animals and reptiles, which lack cochlea or lagena.

(3) Admitting that this theory is correct, it is still necessary to decide whether not only vibrations of low frequency but also musical sounds traverse the oval window only, or whether these low vibrations pass by the oval window, and musical sounds, which must reach the organ of Corti, pass through the round window directly into the scala tympani. F. C. ORMEROD.

Ear

The Endothelial Reticulum in the Auditory Apparatus. PASQUALE RUSSI. (*Archivio Italiano di Otologia*, December 1930.)

The endothelial reticulum is the remains of the endoblastic layer which lines cavities and is found in the submucous, subcutaneous, and subperiosteal layers.

The author has investigated the occurrence of the tissue by staining during life in animals and then cutting sections. He finds that this tissue occurs most frequently in the mucosa of the Eustachian tube and the subcutaneous tissue of the external auditory meatus. The tissue diminishes in amount as the middle ear is approached, but there is a certain amount in the submucous layer. It is more common in the internal ear, especially in the connective tissue and the vascular area of the basilar membrane and around the semilunar ganglion.

It is also found in the subperiosteal tissue throughout the internal ear.

The tissue is partly fibrillary and partly cellular, the latter being separable into two groups—that with a fibroblastic tendency and that with a biological function which consists of processes of phagocytosis, as the cells are able to engulf noxious foreign bodies and organisms.

The distribution of the tissue, in the Eustachian tube and external ear, suggests that its function is to protect the middle and internal ears from invasion from without by pathological processes.

F. C. ORMEROD.

Spontaneous Hæmorrhage from the Middle Ear in Tuberculous Otitis Media. HANS WIENING. (*Zeitschrift. f. Laryngologie, Rhinologie, etc.*, January 1931, Band xx., pp. 159-166.)

Severe hæmorrhage in tuberculous middle-ear disease is said to come from the internal carotid artery; but there are few cases where this has been demonstrated by serial sections, as it has in the present instance. The patient was a baby, aged $1\frac{3}{4}$ years, with bilateral mastoid abscesses. Death occurred five weeks after operation and was due to repeated arterial hæmorrhages from the right ear. The right temporal bone was examined histologically. The sections, many of which appear in the text, show destruction of the bony carotid canal, and also the actual erosion of the internal carotid artery with typical tuberculous granulations in the immediate neighbourhood.

J. A. KEEN.

Thrombosis and Embolus. ARTUR BLOHMKE. (*Zeitschrift. f. Laryngologie, Rhinologie, etc.*, January 1931, Band xx., pp. 123-132.)

This is a review of our knowledge of the pathology of lateral sinus thrombosis and an attempt to bring it into relation with the processes of thrombophlebitis in the wider field of general surgery. *Contact*

infection is the main principle in the etiology, although the sinus wall can resist the influence of a collection of pus for a very long time. It is well known that very severe symptoms can be cleared up by the simple removal of the diseased focus from the neighbourhood of the sinus. The many different forms which the disease can take are explained by the type, the numbers, and the virulence of the particular organisms; by differences in the resistance power of the patients and by differences in the anatomical arrangements of the parts.

In chronic middle-ear suppuration the most important factor is the so-called *acute exacerbation* by which one means a sudden alteration for the worse, attributable to a momentarily lowered resistance of the patient or to the access of some new infecting organism. The patient very suddenly becomes acutely ill with high temperatures and rigors.

The influence of the bacterial infection on the formation of a thrombus has been explained in two different ways:—

(*a*) Thrombosis may occur through the chemical action of the bacterial toxins on the blood, while the organisms are only found in the tunica adventitia and media of the sinus wall. The thrombus is at first free from organisms and only becomes infected secondarily.

(*b*) The other school holds that thrombus formation cannot occur until the tunica intima, *i.e.*, the endothelial lining, is infected by organisms. The thrombus therefore should contain bacteria from the start.

Haymann proved experimentally that both methods come into play at the same time. When the normal sinus was incised aseptically or occluded by a gauze tampon no symptoms ever developed. But if at the same time bacteria were introduced into the blood stream at some distant point, *e.g.* the femoral vein, then an infective sinus thrombosis at once developed.

There seems to be little doubt that a *lesion of the endothelium* precedes thrombus formation in nearly all cases. Specimens have been described where the sinus wall was so thickened by inflammation that it bulged into the lumen and nearly occluded it; yet no thrombus was present because the endothelium was still intact. There is one important exception, viz., certain rare cases where thrombosis of a whole section of the sinus arises suddenly through the influence of bacterial toxins and possibly other factors which have to do with a slowing of the blood current. In these rare cases there is no lesion of the endothelium which can be demonstrated histologically. After incising the sinus in such a case and holding the edges apart for inspection, a 4 to 5 cm. long blood cast is suddenly thrust out with a rush of blood. The prognosis is favourable as the temperature, as a rule, drops at once after operation and no further rises occur.

The prognosis is much less favourable in the case of the *mural thrombus* which develops slowly after the endothelium is damaged. One makes a diagnosis of a mural thrombus when, on incision, the blood still flows but only in a very small stream. The principle in the operative treatment is to excise the diseased area of the sinus wall as far as possible, and to convert the partial thrombus into a complete one by packing with gauze.

The thrombus sometimes extends even after operation and this "*growth*" may take place

(1) by *continuity*, *i.e.*, the adjacent blood columns thrombose in both directions. In the upward direction the thrombus is nearly always arrested at the torcular.

(2) There is a method of spread called "*discontinuance*" where fresh areas of septic thrombosis arise away from the original focus and not in contact with it.

Metastases are discussed and it is explained why these so often arise in the neighbourhood of joints. This depends on the size of the particles, which are generally small enough to pass through the lung capillaries and are most frequently arrested in subcutaneous capillaries near joint surfaces, where the vessels have a certain stiffness or loss of elasticity (Starrheit). Larger particles are held up in the lung capillaries and cause infarcts and small abscesses, but a lung embolus so large as to cause instant death is practically never seen as a complication. As a rule the thrombus is very adherent and only small particles get detached. Also, should a very large thrombus become loose, the knee bend in the bulb would not allow it to pass on into the jugular vein.

Spontaneous healing of infective thrombosis with re-establishment of the blood flow through the lateral sinus occurs far more often than we have assumed up to the present. J. A. KEEN.

The Condition of the Blood in Suppurative Otitis Media and its Complications. N. JERKOVIC. (*Otolaryngologia Slavica*, Vol. iii., No. 1.)

The author has investigated the value of the leucocyte picture in aiding in the diagnosis, indication for operation and prognosis of cases of otitis media and its complications. Qualitative and quantitative examinations were made in 85 cases and the following conclusions were drawn:—

(1) It is impossible to differentiate from the leucocytic examination between an uncomplicated case of otitis media and one complicated with mastoiditis.

(2) The blood picture permits of a probable diagnosis of extradural or peri-sinus abscess in cases where the streptococcus mucosus is the infecting organism.
(3) The leucocytic examination aids in disclosing acute exacerbations in the course of a chronic otitis media.
(4) Serious complications can generally be detected by this means,
(5) and in such cases the picture is of value in establishing prognosis. E. J. GILROY GLASS.

NOSE AND ACCESSORY SINUSES.

Remarks on the Ætiology of Ozæna: Is Ozæna an Infectious Disease? ACHILLE PERONI. (*Archives Internationales de Laryngologie*, September-October 1930.)

From the result of the author's investigations, the Perez-Hofer bacillus can definitely be excluded as the causative agent of ozæna. Out of 27 cases investigated by the author this bacillus was only once identified.

Of greater importance appears to be the bacillus of Belfanti. But in the case of this bacillus, although it can be identified in 90 per cent. of cases of ozæna, the author is convinced that its presence is only due to the fact that it is a saprophytic organism which flourishes on macerated epithelium, and whose development is facilitated by the expansion of the nasal fossæ. In cases where the nasal cavities have been reduced by paraffin injections the bacillus of Belfanti ceases to exist.

To sum up, there is no evidence that ozæna is due to an infection. Indeed, ozæna is not a contagious disease. No one has ever succeeded in reproducing the disease by introducing atrophic crusts into the nasal fossæ; none of the organisms isolated from typical cases are capable of reproducing the disease and negative serological reactions deny their specific activity. In reality, the disease is essentially constitutional. When the capacity of the nasal fossæ is increased saprophytic organisms settle and flourish. M. VLASTO.

Effects of Foreign Bodies retained in the Sphenoidal Sinuses. EGIDIO G. CIARDULLO. (*Bollettino della Malattie dell' Orecchio, del Gola e del Naso*, February 1931.)

Two cases are described in which a pistol bullet lodged in the sphenoidal sinus and remained in position for three and two years respectively.

In the first case, which occurred in a youth of 15 years, there was

an alteration in the rate of growth of different parts. The skull was unusually large in its horizontal diameters, the upper and lower limbs were longer and the hands and feet larger than usual. There was headache referred to the occiput after work. The cranial nerves were normal. There was polyuria and marked sleepiness.

The second case, aged 31, had a spontaneous nystagmus, unsteadiness of gait when the eyes were closed and unsteadiness during Romberg's test. The patient became hypochondriacal, easily irritated and could not work or concentrate for any length of time. There was also polyuria and sleepiness.

The author considers that these groups of symptoms were both due to damage to the pituitary gland, first in a growing youth and secondly in an adult, giving quite different symptoms.

F. C. ORMEROD.

LARYNX.

Combined Unilateral Laryngeal Paralyses. M. HIGUCHI, Nagasaki. (*Oto-Rhino-Laryngologia*, Part 1, Vol. iv., p. 27.)

The affected nerves were the glossopharyngeal and vagus of the left side but with no involvement of the spinal accessory or hypoglossal. There was a slight loss of taste in the posterior third of the tongue and left-sided paralysis of the soft palate with simultaneous recurrent laryngeal nerve paralysis. The autonomic nervous system reacted to adrenalin and pilocarpine. The author takes it to be a peripheral paralysis, the nerves being compressed somewhere at the base of the skull through an effusion of blood. The patient recovered completely after the administration of iodide of potassium for three months.

JAMES DUNDAS-GRANT.

Laryngeal Cyst in the Aryepiglottic Region. K. KOJO (Kubo's Clinic). (*Oto-Rhino-Laryngologia*, Part 12, Vol. iii., p. 1019.)

The patient, a woman aged 28, complained of snoring stridor during sleep. A cyst, the size of the tip of the thumb, was seen in the left aryepiglottic region and flapped up and down during respiration. On removal by the cold snare it was found microscopically to be a retention cyst.

JAMES DUNDAS-GRANT.

Symptoms, Pathology and Treatment of Perichondritis Laryngis. HELMUTH RICHTER. (*Zeitschrift. f. Laryngologie, Rhinologie, etc.*, January 1931, Band xx., 141-159.)

The author gives an account of three cases of this condition, and using their very instructive clinical histories as a basis, draws attention to certain features of perichondritis and chondritis of the larynx which

are not sufficiently recognised. When we are faced with an obscure laryngeal condition, *e.g.*, swelling of the false cords, fixation of the arytenoids, narrowing of the glottis, and perhaps some ulceration, we instinctively think of three conditions, viz., syphilis, tubercle, or neoplasm. But the diagnosis of perichondritis should also be borne in mind.

By careful questioning one is often able to elicit the history of some injury which may date several months back. *E.g.* in *Case* 1, the patient had swallowed some corrosive fluid three months before and he had been treated for dysphagia with bougies, with apparently complete recovery. In *Case* 2, the patient remembered having swallowed what she thought was a bone five months before, but no foreign body was found later. In *Case* 3, there had been a strangling injury of the larynx due to a scarf catching in the transmission of a machine. A hæmatoma in front of the thyroid cartilage was noticed one week after the injury, but symptoms of perichondritis were not obvious until two months later.

A definite *interval* where the patient is free from symptoms except perhaps slight hoarseness, is very characteristic of perichondritis.

Severe dyspnœa brings the patient to hospital, and the first line of treatment is generally a tracheotomy, which should be planned as low in the neck as possible, *i.e.*, away from the incisions which may have to be made over the thyroid for draining abscesses and for removing pieces of necrotic cartilage. During these operations it is very important to preserve the inner perichondrium; this prevents scarring inside the larynx, and new formation of cartilage from the uninjured perichondrium is possible.

In the first case an upper tracheotomy had to be performed rather hurriedly under local anæsthesia; the patient died suddenly during operation, and this was ascribed to reflex paralysis of the respiratory centre to which he had been predisposed by severe dyspnœa. The specimen of the larynx and neighbouring parts (illustrated) showed a fistula in the hypopharynx leading into a necrotic abscess cavity; this had burrowed into the areolar tissue between the hypopharynx and the posterior aspect of the larynx. The fistula was the result of the original injury by a caustic, which had been treated at the time by bougies. There was marked œdema of the glottis affecting chiefly the arytenoids and both aryteno-epiglottic folds. J. A. KEEN.

Cinematography of the Vocal Cords with the Aid of the Stroboscope and the Ultra-Rapid Camera. B. HALA and L. HONTY. (*Oto-Laryngologia Slavica*, Vol. iii., No. 1.)

A full description of apparatus and technique of photography by the simple cinematograph camera, the stroboscope and the ultra-rapid

camera is given, and the following conclusions are arrived at by comparison of the three methods:—

> "Simple cinematography gives us only the gross movements of the vocal cords; with the aid of the stroboscope a minute analysis of the vibrations of the cords is obtained; the ultra-rapid camera reproduces the movements in the most accurate manner and not only the periodic vibrations but the various anomalies of movement, aperiodic vibrations, perpendicular movements, etc."

It is claimed that the method is simple and practicable and that the images are relatively large and rich in detail which enables them to be thrown on the screen without loss of clarity.

(A diagram of the apparatus and reproduction of several films is given.) E. J. GILROY GLASS.

PHARYNX.

Primary Carcinoma of the Hard Palate giving the appearance of Benign Tumour. ARICHIKA SAKAI (Kyoto). (*Oto-Rhino-Laryngologia*, Part 1., Vol. iv., p. 20.)

A man of 55 had a circumscribed tumour which during ten years had gradually developed on the right half of the hard palate, reaching the size of a hen's egg. Recently dull pains had come on in the right cheek. When the tumour was extirpated there was found at its base an eroded area in the hard palate. The microscopical examination showed it to consist of basal-celled cancer.

JAMES DUNDAS-GRANT.

Case of Functional Rhinolalia Clausa, an unusual Vocal Symptom. T. DAITÔ (Prof. KUBO's Clinic). (*Oto-Rhino-Laryngologia*, Part 12, Vol. iii., p. 1024.)

In those who are very dull of hearing or deaf the more delicate acoustic control of the individual's speech may account for a functional rhinolalia clausa. Apart from this there is a possibility that diseased conditions in the nasopharynx may exercise an irritation of the soft palate and with it a functional closed rhinolalia. In the case under observation the irritation was excited by inflammatory products in the posterior ethmoidal cells and antrum. After treatment of these conditions the closed rhinolalia disappeared but open rhinolalia followed. It disappeared, however, after a few weeks.

JAMES DUNDAS-GRANT.

Abstracts

Endothelial Tumours of the Palate. Prof. PIAZZA MISSORICI. (*L'Oto-Rhino-Laringologia Italiana*, Vol. i., No. 1, August 1930.)

Endothelioma of the palate has been considered rare by many authors, whilst others seem to regard it as almost as common as inflammatory changes.

The endotheliomata present definite histological characteristics—marked polymorphism of the cells, their arrangement in columns, the intimate connection between these columns and the connective tissue, fairly definite intercellular substance, and hyaline degeneration of the connective tissue, but never any keratinisation. To these can be added the clinical signs—very slow growth, a tendency to recur and very rare metastases. On the whole they behave like malignant tumours.

The author considers these tumours rare but describes four cases of hæmangio-endothelioma of which two were cylindromas. He cured all four with injections of Citelli's autovaccine therapy which he recommends. If surgery is attempted it should consist of complete resection of the upper jaw, and even then there is danger of recurrence. These tumours can be cured by radium or radiotherapy only with great difficulty. F. C. ORMEROD.

The Lymphoid Nodules in the Tonsil. ETTORE GIUFFRIDA. (*L'Oto-Rhino-Laringologia Italiana*, Anno 1, No. 2, November 1930.)

The lymphoid nodules of the tonsil vary according to the age of the individual.

In the first, second and part of the third decades the prevalence of solid nodules of lymphoid tissue or of nodules provided with a secondary node of lymphoblastic tissue is noted. In the succeeding decades the disappearance of the central reticulo-endothelium is noted frequently.

In the hypertrophied palatal and pharyngeal tonsils, regardless of the age of the individual, large nodules provided with enormous central areas of lymphoblastic tissue are observed, and similar changes are noticed in chronically inflamed tonsils.

Such changes suggest that the tonsils in young subjects exercise the function of forming lymphocytes. This function disappears as age increases, and is followed by a definitely defensive function characterised by the disappearance of the central reticulo-endothelium.

The hypertrophic tonsil can be considered as an expression of an abnormal increase of the lymphocyte production, which normally takes place in infancy, and it implies that there is a reduction of the normal resistance to infection in the tonsil. F. C. ORMEROD.

Œsophagus and Endoscopy

ŒSOPHAGUS AND ENDOSCOPY.

Case of Peri-Œsophageal Abscess opening into the Trachea. I. YAMANAKA (Kochi). (*Oto-Rhino-Laryngologia*, Part 1, Vol. iv., p. 36.)

This was the case of a man aged 59, who complained of sudden stoppage of his œsophagus after eating. He could take liquid food, but two days later there was a rise of temperature and by the œsophagoscope there was found, at a distance of 21 cm. from the teeth, an œdematous swelling of the wall of the œsophagus so that a tube could not be inserted any further. Three days later the tube passed 3 cm. further and there was then found a lesion of the left wall of the œsophagus, which was covered with a white exudation. From this a small quantity of pus could be sucked out. The temperature then fell to normal again. The patient then suddenly coughed out a considerable quantity of pus and blood. Suffocation supervened and the patient died. JAMES DUNDAS-GRANT.

Bronchial Neoplasms: Clinical Features. THOMAS M'CRAE. (*Archives of Oto-Laryngology*, Vol. xii., No. 6, December 1930.)

Bronchial new growths are not only more frequently recognised than formerly, but appear to be actually more common. Prolonged suppuration, especially in persons over 50 years of age, may play a part in the etiology, but there is no proof that tar from roads, petrol fumes, or tobacco smoke are causes of the disease. As regards pathology, the growth may be an epithelioma or an adenocarcinoma. Metastases to the nervous system are not uncommon. In the writer's series of 61 cases metastases in the brain occurred in six and in the spinal cord in two. Cases of cerebral tumour have been reported in which the primary bronchial growth had been overlooked.

The average age, 50 years, is an earlier age than that usually associated with malignant growths, and the majority of patients are males, the proportion being three males to one female. The onset is usually gradual, and the most common symptom is a cough. It is most important to determine at an early stage the cause of every persistent cough and not merely to regard it as the result of pharyngeal irritation. Purulent sputum was present in 20 per cent. of the series, and pain was a symptom in fully 75 per cent. Hæmoptysis occurred in 46 per cent., and fever at some time in 55 per cent. of the present series of cases. The physical signs may commence as slight irritation of a bronchus followed by gradually increasing obstruction, and the picture therefore varies according to the stage. One should aim at recognising a neoplasm of the bronchus before the appearance of well-marked physical signs. DOUGLAS GUTHRIE.

Abstracts

Bronchial Neoplasms: Roentgenologic Aspects. WILLIS F. MANGES. (*Archives of Oto-Laryngology*, Vol. xii., No. 6, December 1930.)

Discussing the rôle of radiology in the diagnosis of neoplasm of the bronchus, Manges states that the principal appearance is that of a mass or tumour, which may be rounded and with sharp outline or may be diffuse and radiating in all directions. There may be a band of density extending from a mass at the root of the lung towards the pleural surface. The mediastinal structures are displaced to the affected side, owing to bronchial stenosis and atelectasis distal to the growth. One side of the chest may be quite dense as a result of the atelectasis. The pleura becomes involved in the growth at an early stage, and the structures are drawn to the affected side but, if pleural effusion appears, the displacement is to the opposite side.

Differential diagnosis is naturally difficult. It is rare to find tuberculosis affecting the root area of the lung alone in adults, and this fact may aid diagnosis, unless both diseases are present coincidently. Acute infections give radiograms similar to new growth, but are not accompanied by atelectasis. A foreign body of long sojourn and chronic infection may cause fibrosis and displacement of structures, simulating a new growth. A metastatic growth in the lung, from carcinoma elsewhere, has no characteristic picture except that atelectasis is rare.

The comparison of a series of radiograms, taken at intervals, is of great value in diagnosis. Bronchoscopy is more important than radiography, because the growth is well established before there is radiographic evidence of it, except in those cases in which a small growth projects into a bronchus and thus produces atelectasis.

DOUGLAS GUTHRIE.

Benign Bronchial Neoplasms: Bronchoscopic Aspects. ELLEN J. PATTERSON. (*Archives of Oto-Laryngology*, Vol. xii., No. 6, December 1930.)

A search of the literature reveals that ten cases of innocent growth of the bronchus have been reported as diagnosed post-mortem, and sixteen have been reported as diagnosed by bronchoscopy (the only means of diagnosis) making a total of twenty-six cases.

Papillomata and fibromata are the most frequent varieties; aberrant thyroid, lipoma, adenomata, granulomata and amyloid tumours are rarer. Chondromata are liable to become malignant, though primarily they are innocent.

Von Eicken, in 1907, was the first to diagnose and remove, by bronchoscopy, an innocent growth of a bronchus—an enchondroma of the left main bronchus in a man aged 41. Three years later Speiss reported a similar case, and in 1915 Jackson described the removal

of a fibroma from the left upper lobe bronchus of a boy aged 16. Brief details are given by the present writer of all cases which have been recorded since 1915. In 1927 Syme of Glasgow removed papillomata from both bronchi in a woman aged 42, and in the same year Negus of London removed a fibroma from the left lower lobe bronchus of a woman aged 23, whose only symptom had been continuous hæmoptysis for eighteen weeks.

The histories of all the reported cases illustrate the value of bronchoscopy in obscure conditions of the lungs.

In all the cases which have been diagnosed post-mortem extensive bronchiectases have been found in the portion of lung distal to the obstruction. Early diagnosis and removal may prevent these pathological changes in the lung. DOUGLAS GUTHRIE.

Malignant Growths of the Lung: Bronchoscopic Diagnosis. CHEVALIER JACKSON. (*Archives of Oto-Laryngology*, Vol. xii., No. 6, December 1930.)

Primary endobronchial cancer may be diagnosed in its earliest stage by bronchoscopy, and the number of successful removals will increase as more early cases are referred to the bronchoscopist. The great majority (87 per cent., according to Lord) of malignant tumours of the lung are bronchial in origin. In all cases of endobronchial cancer a biopsy is indicated, but it is not advisable to bite through normal tissue in the hope of reaching a peribronchial growth. When a malignant growth ulcerates inflammatory granulations form, and the histological appearance may then be misleading. A bronchoscopy should not be performed until the Wassermann reaction is proved to be negative, or if positive, until an adequate course of treatment has been given. The concurrence of syphilis and cancer of the lung has been noted.

The association of cancer of the lung with pulmonary tuberculosis is not very rare, in Jackson's experience. Although bronchoscopy is the only means of making an early diagnosis of endobronchial growths, other diagnostic methods (X-ray and general medical examination) must not be neglected. For example, an aneurysm may explain the symptoms and contra-indicate bronchoscopy, tuberculosis may render bronchoscopy unnecessary, and active syphilis may indicate postponement of further examination.

As regards treatment, the bronchoscopic removal of a malignant growth has been accomplished, with no recurrence, in a few cases. The results of bronchoscopic implantation of radon seeds are encouraging although the cases are not yet numerous. In the opinion of thoracic surgeons, cancer of the lung is often of a low degree of malignancy, and lobectomy offers an opportunity for surgical cure, if the growth

is limited to one lobe. Cancer of the lung is sensitive to deep roentgen therapy and freedom from recurrence, for as long as six years, has been noted in histologically-proved cases of carcinoma of the lung.

DOUGLAS GUTHRIE.

Thoracic Stomachs. A. WILFRED ADAMS. (*Brit. Med. Journ.*, 9th August 1930.)

The reports of three cases form the basis of this paper:—

CASE 1.—Male, aged 62, with a thoracic stomach at the upper end of the œsophagus (pharyngeal pouch) on whom a two-stage diverticulectomy was successfully performed.

CASE 2.—Male, aged 50, with cardiospasm, and Case 3, male, aged 48, with cardiospasm, on both of whom Mickulicz's digital dilatation, as practised by Walton, was done with success.

The site of origin of both the upper and lower types of thoracic stomach corresponds with a transition stage in alimentary transport—the upper, from voluntary to automatic action; the lower, from simple tubular œsophagus to the specialised function of the normal stomach.

The method of origin of the upper type is described and illustrated by three diagrams.

Regarding the development of the lower thoracic stomach, the different theories, namely, whether this is inherited, brought on by the irritation of imprudent feeding, reflex from distant foci of disease, or the result of local neural degeneration, are discussed, and the author feels that they broadly encourage the belief that there is defective neuro-muscular action at the œsophageal exit.

R. R. SIMPSON.

Hæmorrhagic Dry Bronchiectasis. A. SCOTT PINCHIN and H. V. MORLOCK. (*Brit. Med. Journ.*, 30th August 1930.)

Hæmoptysis very often leads to the suspicion of tuberculosis and, although the differential diagnosis may be very difficult, the authors wish to emphasise the reality of the condition of hæmorrhagic dry bronchiectasis. Fifteen cases were seen by them during the last two years and in most of them the presence of tuberculosis had either been diagnosed or suspected. It is possible that most cases of bronchiectasis, commencing after pneumonia or empyema, start as the dry type and become infected at varying periods; only rarely do necropsies reveal the dry type, for the patient with bronchiectasis dies from toxæmia after the cavities have become infected. The introduction of lipiodol has made it possible to demonstrate the presence of bronchiectasis in cases in which the amount of sputum is negligible. Nine cases are described of hæmoptysis in which, by means of

lipiodol, it was demonstrated that dry bronchiectasis was present in each case. In all cases the sputum was negative for tubercle bacilli. The hæmoptysis is usually copious (3 to 15 oz.) and recurrent, but there is an absence of constitutional signs. The physical signs are indefinite, often nothing more than a slight degree of fibrosis; the interpretation of the signs is rendered more difficult by the fact that often there has been an empyema or pneumonia on that side.

In treating the cases no radical measures were found necessary because all the patients were in good condition. The authors have therefore hesitated to suggest artificial pneumothorax, phrenic avulsion or thoracoplasty, these being the only available methods for dealing with the disease. It is a point for consideration whether some form of treatment should be undertaken to avoid infection of the cavities.

R. R. SIMPSON.

MISCELLANEOUS.

Agranulocytosis: Report of a Case. STEWART R. ROBERTS and ROY R. KRACKE, Atlanta, Ga. (*Journ. Amer. Med. Assoc.*, 13th September 1930, Vol. xcv., No. 11.)

The authors first review the literature and report the case in great detail. It is claimed that no case heretofore has been followed through from the first to the second attack with daily blood-counts and clinical observations combined.

The patient was a rather frail but active woman, aged 72, who had previously been under the observation of the authors for over five years and had had blood-counts made. On 10th March 1929 she became very ill, temperature 102° F., rapid pulse and stupor. The right tonsil and pillar were very red and œdematous. The throat condition extended to the left side and a necrotic area appeared on the right tonsil and on the anterior right border of the tongue. The anterior cervical and submaxillary glands were greatly swollen, the neck and face were œdematous. Multiple embolic abscesses appeared on the skin of the abdomen, legs, and feet. The blood-count was: white blood cells, 2050, polymorphonuclears, 0; lymphocytes, 100. The blood culture was positive for *Streptococcus hæmolyticus*. Five days after the attack the white cells were 5075, with 1 mature and 5 immature neutrophils, the other lymphocytes and monocytes normal. Two days after the granulocytes began to appear in the blood-stream the patient rapidly improved, although sepsis developed with extreme rapidity and distribution. By 28th April the period of sepsis was over, the patient out of bed, and the white blood-count practically normal. On 18th May the leucocytes showed the first dramatic evidence of the second attack and while the granulocytes were gone from the blood

she presented every evidence of health, strength, and well-being, for about three days. Then the throat and mouth lesions recurred, she became very ill and died in four days. The blood-culture in this attack was negative. She lived seven days without a demonstrable polymorphonuclear leucocyte. The throat smears showed no Vincent's organisms. The treatment consisted of blood transfusions and irradiation over the long bones.

The article occupies twelve columns, is illustrated, has a table of daily blood-counts and a bibliography. ANGUS A. CAMPBELL.

The Local Lesions in Diphtheria and their Significance for the General Infection. Prof. EUGEN KIRCH. (*Zeitschrift f. Laryngologie, Rhinologie, etc.*, January 1931, Band xx., pp. 81-88.)

Löffler's teaching was that the diphtheritic infection is entirely localised to the upper air-passages and that complications are due to toxins which are formed only in the disease focus, and then enter the general circulation. Since then, researches on the blood after death have shown that in many cases there is also a dissemination of Klebs-Löffler bacilli into the blood-stream. Prof. Kirch has done extensive researches on the subject of the relation between the local lesion and the general dissemination of the organisms. He distinguishes two kinds of local lesions in diphtheria:—

(1) The superficial form (called "Krupp") which affects *columnar* ciliated mucous membranes, *e.g.*, nose, trachea and bronchi. The columnar type of epithelium is bounded by a strong basement membrane which limits the spread of the inflammation. The fibrinous effusion or "membrane" is of the superficial type and is easily removed. Dissemination of Klebs-Löffler bacilli never takes place, and if complications occur they are due entirely to the toxins.

(2) The deeper lesions which affect mucous membranes with *stratified* epithelium, *e.g.*, palate, tonsils, parts of the larynx and the vestibule of the nose. There is no basement membrane and the diphtheritic process penetrates easily into the subepithelial connective tissue. The lesions are deep, the "membrane" thick and very adherent, and healing always causes scarring. Klebs-Löffler bacilli can be demonstrated histologically in the deep connective tissue and in the surrounding musculature. The bacilli frequently penetrate small blood vessels and enter the general circulation.

Examination of the blood and other organs in fatal cases confirms this view of the pathology of the diphtheritic infection. When Klebs-