

ABSTRACTS

EAR

On the Treatment and Prognosis in cases of Fractured Base of the Skull with involvement of the Ear. H. LOEBELL. (*Z. Laryng.*, 1935, xxvi., 117-34.)

Among eighty-five cases of fractured base admitted at the Marburg Ear Clinic since 1922, there were twenty-two cases in which a prolonged period of observation was necessary. The present article is based on an analysis of the clinical histories of these twenty-two patients. The cases are divided into those with closed tympanic cavities (ohrgeschlossen) and those with ruptured tympanic membranes and flow of cerebrospinal fluid or blood from the meatus (ohroffen).

There were only two instances of the first group; patients with fractured base of skull without obvious involvement of the ears are usually admitted on the surgical side of hospitals. In this group operation is never necessary unless symptoms develop which indicate increased intracranial pressure or incipient meningitis. In the second group the author also advises an expectant attitude. In this respect the treatment at the Marburg Clinic differs from the line taken by Voss, Link and others who advise early operation if there is a suspicion of sepsis in the middle ear. When the middle ear is healthy, all are agreed that there is little danger of meningitis when the fracture has involved the tympanic cavity.

In the second group, operation may become necessary (*a*) when there are signs of an early endocranial complication; (*b*) when suppuration occurs in a middle ear which is involved in the fracture line; (*c*) when the fracture traverses a tympanic cavity affected by chronic suppuration. Even in such cases the expectant attitude is justified up to a point. When operation does become necessary nothing short of an extensive radical mastoid with wide exposure of the dura suffices. Among the twenty cases in the second group eleven required an operation. All these patients recovered, which compares favourably with other statistics. The last two cases in the list were particularly interesting. (1) A woman, aged 22, with fractured base, the fracture line going through an old radical mastoid cavity. At the operation a posterior branch of the middle meningeal artery had to be tied. (2) A girl, aged 8, who developed a suppurative otitis and signs of an early meningitis after a motor accident

Ear

which caused a fractured base. At the operation the lateral sinus was packed to stop a hæmorrhage. At the end of the article there is an analysis of the condition of such patients in after years. It is pointed out how very completely the vestibular and cochlear functions can recover in some of them.

J. A. KEEN.

Silent Mastoiditis. GEORGE D. WOLF, New York. (*Jour. A.M.A.*, June 29th, 1935.)

Silent mastoiditis may be defined as an insidious, progressive destruction of the mastoid process, with or without otorrhœa. The disease is afebrile and painless in its course. The writer feels the term silent is better than the other terms sometimes employed, such as, atypical, hidden, insidious and idiopathic.

The virulence of the organism and the resistance of the individual play an important rôle. Anatomical variations of the temporal bone, such as a thick cortex, a narrow antrum and a small-celled mastoid, are important factors. Any organism may produce the disease but the *streptococcus mucosus-capsulatus* (type III pneumococcus) deserves special attention.

Although no single sign or symptom is conclusive a co-relation of all the evidence presented will usually lead to a correct diagnosis. A careful history of headaches, sleeplessness, nausea and progressive loss of hearing is very helpful. The patient looks ill, has a pasty appearance, a heavily coated tongue and shows some narrowing of the external auditory canal. A thick, fœtid discharge usually signifies bone necrosis and any discharge persisting over three weeks justifies surgical interference. The surgeon is often surprised at the amount of bone destruction and granulation found at the time of operation. X-ray gives a good idea of the regional anatomy and may show evidence of bone destruction, but it is important to bear in mind that a previous infection in the same ear may confuse the picture. Tuberculosis of the middle ear, with its painless onset and persistent discharge, may add to the difficulty in diagnosis. The large number of chronic cases of discharging ears of many years' standing which do not respond to local conservative treatment is evidence of old, overlooked silent mastoiditis.

ANGUS A. CAMPBELL.

On the Morphology and Histology of the Labyrinths of Fishes, with 27 illustrations. A. DENKER. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, CXXXIX., 321-68.)

Professor Denker's research covers many species of fish, which are subdivided into three main groups. Fishes with a cartilaginous skeleton (Elasmobranch), such as dog-fish and different varieties of

Abstracts

shark. Fresh water fishes with a bony skeleton (Teleostier) are considered in two groups, a small subdivision of fish who possess a swim-bladder and an ossicle apparatus (Ostariophysis) like carp, eel, and a larger group without such an apparatus, e.g., trout, perch, minnow, goldfish. After discussing the technique of labyrinth dissection in small fishes and methods of making preparations, the author gives a very full account of the labyrinths of one type in each of the groups. The illustrations of the macroscopic appearances and of the relations of the semicircular canals to the brain are particularly successful.

In fishes there are no structures resembling the outer and middle ear, and only the one group possesses an ossicular apparatus which corresponds to the ossicular chain of higher vertebrates. In the bony fishes the membranous labyrinth is never completely shut off by a bony capsule. The labyrinth is relatively much larger than in the higher vertebrates, and therefore it comes into relation with many of the skull bones. One often finds large portions of the semicircular canals lying free in the cranial cavity or embedded in grooves on the inner surface of the skull.

The existence of an ossicular apparatus in certain fishes was discovered by Weber in 1820. There are three ossicles, as in higher vertebrates. The malleus is much the largest and is the bone in contact with the swim-bladder, which is situated at a considerable distance from the membranous labyrinth.

In cartilaginous fishes the membranous labyrinth is completely surrounded by a strong cartilaginous capsule, and a characteristic feature is a ductus endolymphaticus with an opening on the surface.

The otoliths in bony fishes are compact little stones, while in *mustelus vulgaris* (dog-fish) the otoliths consist of transparent particles (Otoconien). The lagena, a small outgrowth of the sacculus is better marked in some than in others and it is the recognized forerunner of the cochlea. The question of sound perception in fishes is also briefly discussed without any definite conclusion being reached.

J. A. KEEN.

What is the Structure of the Cupula? O. Voss. (*Acta Oto-laryngologica*, xxii., 3.)

Wittmaack, it is well known, believes that the interior of the cupula is completely shut off from the endolymphatic space, while Bowen, like Hensen and Lang, regards the cupula as non-existent during life, and due simply to coagulation, during fixation of the specimen, of the fluid above the crista. This latter view is disproved by the fact that, following trauma due to fracture of the base of the skull or resulting from violent rotation, the cupula has been found intact at a distant part of the labyrinth. Wittmaack's view,

Ear

moreover, is negated by a case of fracture of the base, in which the Author found, both in the endolymph and also in the interior of the cupula, numerous red blood corpuscles, which must have gained entrance to the cupula through some communication between its interior and the endolymphatic space.

THOMAS GUTHRIE.

The Function of the Sacculus. C. E. BENJAMINS. (*Acta Oto-laryngologica*, xxii., 3.)

Experiments have failed to confirm the older view, founded on purely theoretical considerations, which regards the function of the sacculus as static. In fishes it has been proved to be an organ of hearing. In the higher vertebrates a like function must be ascribed to it, although in them it may have been more or less superseded by the evolution of the cochlea, which is so much better adapted for fine differentiation. In man also, the cochlea must be responsible for the perception of the finer differences of tone, while the perception of confused tone combinations or noises must be attributed to the sacculus.

Recently Ashcroft and Hallpike have shown by means of a special technique that, in the frog, the sacculus is sensitive to auditory vibrations.

THOMAS GUTHRIE.

Observations on the Comparative Anatomy of the Endolymphatic and Perilymphatic Sense Organs of the Labyrinth. H. M. BURLET. (*Acta Oto-laryngologica*, xxii., 3.)

When the otic vesicle in the course of its development acquires the complicated form of the membranous labyrinth, the originally single sensory area is split up into a number of islands, large and small, each of which, in the fully developed organ possesses its own well-defined site and function. The sensory cells are directed inwards and bear coverings of various kinds, which project into or are suspended in the endolymph. All of these sensory areas may, in fact, be correctly regarded as endolymphatic and of like origin. The Author is therefore opposed to distinguishing certain of the areas as "perilymphatic", since they originate in the same way as do the others, and project with their coverings into the endolymph.

The aim of this paper is to make a brief comparative study of those labyrinth end-organs whose function is dependent upon a neighbouring portion of the perilymphatic system. The anatomical relations of these end-organs are easy to appreciate. It is less easy, however, to say what rôle they play in the life of their possessors. In mammals and birds the function of the organ of Corti is not in doubt. On anatomical grounds it seems certain, also, that crocodiles and birds have good hearing.

Abstracts

In tortoises and snakes anatomy leaves us uncertain. Peculiar relations exist in them between the perilymphatic space and the middle ear, the physiological meaning of which cannot be gathered directly from a specimen. In amphibians the relationship of the perilymphatic spaces to the brain capsule becomes increasingly important, and it can only be supposed that this relationship must have some bearing on function.

It is clear that there are very great differences in the methods by which impulses from the perilymph channels reach the labyrinth end-organs, even apart from the fact that an end-organ in one class of vertebrates may be stimulated by endolymph only and the corresponding organ in another class by perilymph. This is exemplified by the relations of the macula sacculi in the Ostariophyses (Cyprinoides, catfish, etc.) and of the macula utriculi in the Clupeidae (herrings). In the other classes of vertebrates, the amphibians, reptiles and mammals, stimulation of the three maculae, the three cristae, and the papilla neglecta, if present, is never dependent on the perilymph. THOMAS GUTHRIE.

NOSE AND ACCESSORY SINUSES

Catheterization and Puncture of the Sphenoidal Sinus. JACQUES RICHTER.
(*Les Annales d'Oto-laryngologie*, May, 1935.)

There appears to be some confusion of thought when referring to these diagnostic or therapeutic measures, although their very names would appear to make such confusion impossible. Puncture of the sinus is always a dangerous procedure. Indeed, in view of the fact that even after thorough local anæsthetization, it is extremely painful, it may be called brutal. As puncture connotes the evacuation of a liquid, the instrument which is employed must possess a relatively large calibre. In view of the fact that it has to traverse a very narrow passage, it makes the approach shot a completely blind one. Catheterization, on the other hand, is merely an attempt to see if the ostium is or is not patent and viable. Catheterization can be carried out by a very fine instrument by a very delicate and almost painless manœuvre. True, it is also blind, but it is quite devoid of danger. The technique of catheterization by the methods of (1) Canuyt and Terracol, (2) Ramadier, are described. This operation was carried out according to Ramadier's technique on thirty cases taken haphazard, and in nineteen of these cases the sphenoidal sinus was entered and the fact was confirmed by radiography. Whatever the technique employed certain conditions must be realized: (1) Perfect shrinking of the tissues of the nasal fossae, (2) the use of as fine an instrument as possible with very gentle introduction, (3) complete familiarity with the technique, (4) bearing in mind that the sphenoidal ostium is never visible under

Nose and Accessory Sinuses

normal conditions, and that the rallying points are the only guide to its position. The information to be derived from catheterization may be described as follows in the order of frequency: the permeability or otherwise of the ostium, the issue of pus on the introduction of the catheter, the impression of striking denuded bone, detection on cotton wool of foetid pus. The article concludes by insisting on the dangers and the futility of sphenoidal sinus puncture. The author enters a plea that this particular diagnostic measure should disappear from rhinological practice.

M. VLASTO.

Acute Angio-neurotic œdema of the Mucous Membrane of the Frontal Sinus (Vacuum sinusitis). G. WORMS and J. LEROUX-ROBERT. (*Les Annales d'Oto-laryngologie*, June, 1935.)

The "vacuum sinus" described by Sluder is characterized by paroxysmal pain over the frontal sinus region, sometimes complicated by giddiness and vomiting. The clinical picture is that of an acute frontal sinusitis and yet there is no pyrexia and there is no pus in the frontal sinus. The accepted explanation of the "vacuum sinus" is that there is some obstruction of the fronto-nasal duct which, according to some, leads to the resorption of the enclosed air; according to others, to the retention of secretions. The object of this article is to produce confirmation of the view held by Halphen that the pain is of sympathetic origin. Halphen states "we shall refer less and less to vacuum sinus and hyperplastic sinusitis, and more and more to anaphylactic crises, colloido-clasis and endocrine lesions, which react distantly on the sympathetic system and provoke spasmodic rhinorrhœa and trigemino-sympathetic neuralgia . . ." He ascribes the good effect of surgical intervention designed, in the majority of cases, to enlarge the fronto-nasal duct as due, primarily, to the intense cocaino-adrenalization of the field of operation which frees or destroys the sympathetic fibres. The two cases described by the authors support this view. In the second case, a fragment of the frontal sinus mucous membrane was examined microscopically, and the points of histological interest are described. To sum up the position, one may state that any form of local therapy may succeed, providing that it is capable of modifying the vaso-motor disequilibrium of the mucous membrane.

M. VLASTO.

The rôle of Stagnous Elements in Frontal Sinusitis.
J. VAN DER HOEVEN LEONHARD. (*Annales d'Oto-laryngologie*, May, 1935.)

The initial treatment of cases of chronic frontal sinusitis is well known and follows the usual lines. Our first effort is to free the

Abstracts

fronto-nasal duct by prescribing drugs which shrink the nasal mucosa. Although this line of treatment is successful in cases of acute frontal sinusitis, it usually fails in the chronic cases and the nasal discharge continues. Radiographs are taken which show both the vertical and transverse extent of the sinuses. These are absolutely necessary when one proceeds to the next step which is the artificial enlargement of the fronto-nasal duct by intra-nasal surgery followed by lavage. If the discharge still continues, one has to resort to external operation. In this extremely interesting article the author gives us his views as to how one may anticipate which cases are likely or not to respond to simple treatment, and how, therefore, valuable time may be saved and serious complications avoided. He endeavours to give an answer to the question, "Why is it that some of these microbic infections heal spontaneously and others pass into a chronic condition?" The solution of this question, he states, is largely anatomical. It is due to the encroachment of a large cell which blocks the exit of secretion from the sinus and creates a stasis of inflammatory products. The mucosa degenerates, more pus is formed and a vicious circle is created. Later on, an osteo-myelitis may result. The author next proceeds to explain how, by measuring the transverse extent of a frontal sinus from the X-ray negative, one can deduce with considerable accuracy whether or not the barrier to drainage is present and whether or not, therefore, the "stagnous" condition of the sinus is present. Roughly speaking the small sinuses with a transverse measurement of less than 18 mm. are likely to be cured with ease. Those of more than 30 mm. are very likely to prove intractable and will eventually be found to require an external operation.

M. VLASTO.

Intranasal Operation for Chronic Maxillary Sinusitis.
HENRY L. WILLIAMS, Rochester, Minn. (*Jour. A.M.A.*,
July 13th, 1935.)

The surgical principles laid down by Küster in 1889 are sound and accomplish the desired result. The technique used in this series is Hempstead's modification of the Mikulicz and the Caldwell operations. The inferior turbinate is fractured upwards and an opening made into the antrum large enough to afford inspection of the lining mucous membrane. Any grossly diseased tissue is removed with a curette, but no attempt is made to remove all the membrane. The after treatment is by the dry method. The Caldwell technique is reserved for those cases in which there is a suspicion of malignancy. The intranasal technique affords the possibility of *greater rapidity in operating*, a shorter convalescence, and a freedom from infra-orbital neuralgia. Symptomatic relief

Tonsil and Pharynx

can be obtained in 80 per cent. of cases of chronic maxillary sinusitis by the intranasal route, as is shown by the study of two hundred cases, all of whom had had symptoms for over a year. Bad results are caused by failure to secure an adequate and permanent opening for drainage, failure to remove the diseased membrane, and poor selection of cases.

ANGUS A. CAMPBELL.

TONSIL AND PHARYNX

The Schick Test and Active Immunization in Relation to Epidemic Diphtheria. H. J. PARISH and J. WRIGHT. (*Lancet*, 1935, i., 600.)

This is a lengthy report from the Wellcome Laboratories. With severe diphtheria in many areas, some isolated cases and small outbreaks have been reported S-negative, usual infecting strains being *C. diphtheriæ gravis*. Most cases have been mild. Animal experiments indicate that the circulating antitoxin, whether acquired passively or induced actively, controls infection of any of the three types of bacillus. The "Schick level" in man shows considerable individual variations. A population which has been S-negative will not experience an epidemic of severe diphtheria. Where a fairly high general level is maintained, either by latent immunization or artificially by repeated injections of prophylactic, the risk of clinical infection with *C. diphtheriæ* appears to be negligible. The general principles underlying active immunization are sound, but the amount of circulating antitoxin required to ensure safety is higher than that indicated by the present Schick level. Further research to determine the level of immunity necessary to confer protection is suggested. The author's data suggest that an immunizing course of F.T., T.A.M. or T.A.F. should consist of at least three 1 c.cm. doses, and not two. "Natural" S-negative reactors may be given one injection of prophylactic at the time of the Schick reading. In addition, it may be advisable to give periodical injections to all, whether S-negative on primary test or after a course of immunization. The authors have obtained very high immunity by this procedure.

MACLEOD YEARSLEY.

The Various Forms of Lung Complications after Tonsillectomy. W. SCHÜTZ. (*Arch. Ohr-, u.s.w., Heilk.*, 1935, cxxxix., 369-77.)

Acute lung infections after tonsillectomy are not as a rule serious, and clear up rapidly. As regards their cause there are three

Abstracts

possibilities : 1. Aspiration of blood into the bronchi. 2. Spreading infection *viâ* the lymphatics. 3. Blood stream infection by means of emboli. The aspiration theory is almost given up now. In animals it is practically impossible to produce a lung abscess by introducing blood and pus into the bronchial tubes. On the other hand, an injection of infected material into the jugular vein at once produces a septic infarct in the lung.

In the clinical cases described, the symptoms began usually in the first twenty-four hours after operation and signs indicating small broncho-pneumonic foci were present almost immediately. The author implies that such infections are clearly embolic in origin. At the same time he admits that the condition may be simply an acute flare-up of a mild bronchial or broncho-pneumonic infection which is already present at the time of operation ; especially at periods when "colds" are prevalent.

As is usual with German writers the large number of lung complications mentioned in American literature are attributed to the use of general anæsthesia. In German clinics tonsillectomies are mostly done under local anæsthesia or a very short ethyl chloride inhalation (Chloräthylrausch).

J. A. KEEN.

Gangrenous Phlegmons of the Tonsillar Fossa. Dr. LAPOUGE, Nice.
(*Les Annales d'Oto-laryngologie*, June, 1935.)

After presenting two full clinical records of cases which terminated, one fatally and the other with recovery, the author sums up his conclusions as follows : A gangrenous phlegmon of the tonsillar fossa should be clearly distinguished from the more common peritonsillar abscess. It occurs in debilitated subjects, and particularly in those with a history of kidney disease. The onset is very sudden. The morbid entity is established in a few hours, and the usual preliminary stages are absent. Indeed, abscess formation appears to be the primary stage. Dysphagia is violent, and unilateral œdema and glandular reaction are marked. There is a high temperature and rigors. Hæmaturia, and slight albuminuria are often present. The pus is characteristic : as soon as it is evacuated, it appears dark brown and has a revolting odour. The edges of the abscess cavity are gangrenous. In both the cases quoted, hæmoculture was negative so that there was no definite septicæmia, but the patient's general condition indicates a high degree of toxæmia. Treatment should be carried out as soon as possible, and the opening into the abscess should be as wide as possible. Treatment of the general condition is most important and the injections of Propidon are regarded as essential.

M. VLASTO.

Larynx and Trachea

LARYNX AND TRACHEA

Roentgen Radiation Necrosis of Larynx and other Structures of the Neck. PETER A. NELSON and EDWIN F. HIRSCH, Chicago. (*Jour. A.M.A.*, May 4th, 1935.)

The writers report the case of a man aged 26 who in 1933 consulted another physician complaining of an enlarged right upper cervical lymph node. Without biopsy, but believing it to be sarcoma, the physician gave four courses of radiation therapy during the next eight months. Three months later the patient was admitted to hospital and seen by the writers, who made a clinical diagnosis of bilateral metastatic carcinoma of the cervical lymph nodes, secondary to a primary growth in the right tonsillar pillar. During the next four weeks he received twenty radiation treatments on alternate sides of the neck with 800 kilo-volts of X-ray. During the treatment biopsy specimens, from both the tonsil pillar and the gland, were negative for malignancy. The patient had a severe reaction following the second irradiation and died within six months. The *post mortem* examination showed gangrenous ulceration of the pharynx, larynx and upper parts of the trachea and œsophagus.

The experience related here is given as a warning that röntgenologists should safeguard their patients against radiation injuries, especially when treating the sensitive tissues of the neck.

ANGUS A. CAMPBELL.

Endoscopic Appearances of Congenital Laryngeal Stridor. A. LEMARIEY and H. SERGENT. (*Annales d'Oto-laryngologie*, May, 1935.)

The usual conception of congenital laryngeal stridor is an inspiratory "clucking" which runs a benign course without serious effect on the patient's health and which disappears spontaneously during the second or third year. The noise is supposed to be due to the vibration of the ary-epiglottidean folds which are abnormally approximated owing to a congenital abnormality of the laryngeal vestibule. The article points out that as a matter of fact, the epiglottis and the ary-epiglottidean folds are not alone to blame. The other parts of the laryngeal vestibule are also abnormally plastic, but the reason for this is not known. Congenital laryngeal cysts can also be responsible for the stridor. The same remark applies to small congenital malformations of the ary-epiglottidean folds. The only means of effecting a differential diagnosis and deciding on the particular line of treatment is to carry out an endoscopic examination.

M. VLASTO.

Abstracts

MISCELLANEOUS

Infection in Clean Operative Wounds. (Presented before the Clinical Congress of American Surgeons, Boston, 1934.) MELENY. (*Surgery, Gynaecology and Obstetrics*, February, 1935.)

In this very critical study the author shows that many accepted practices with regard to asepsis in operative technique are not strict enough, and that the number of clean wounds which become infected may reach 30 per cent. or more. The infecting organisms in the author's clinics, where the percentages reached 15 per cent., consisted of staphylococci, more rarely streptococci, and still more rarely *bacillus coli*, *subtilis*, *pyocyaneus*, *proteus* and diphtheroids.

The first step was to find the cause of the more severe hæmolytic streptococcal infections. Cultures of all material prepared for the sterile field were negative, as was also the air, but the hands, noses and throats of the staff were positive. In one case the streptococci from an infected wound were found by agglutination to be identical with those of an unmasked theatre nurse. Adequate masking of the nose and mouth with four-ply gauze masks, which must cover the nose, reduces this incidence to casual numbers.

To kill spores by autoclaving it was found necessary to sterilize for thirty to forty-five minutes at 18 lb. pressure, preceded by evacuation of air at minus ten for fifteen minutes.

Boiling for the full five to ten minutes will kill all pathogenic spores, but there is a danger of this being reduced when an instrument has been forgotten and is wanted in a hurry.

The sterilization of cutting instruments and catgut tubes is a real problem, as fifteen minutes in 70 per cent. alcohol was found to be quite inadequate for instruments which were experimentally contaminated with suspensions of mixed organisms. Boiling or soaking in pure carbolic is effective but the disadvantages are obvious.

Catgut can be a source of infecting organisms of the tetanus and gas gangrene group, though improved methods of preparation have almost eliminated this danger. The heat-susceptible organisms such as staphylococci and streptococci are very rarely found though, as shown later, catgut undoubtedly favours the growth of organisms introduced at the time of operation.

The hands of operators are important factors. If the scrub up time is reduced, cultures from the hands and nails are more frequently positive. The outside of wet gloves are easily contaminated and should not be used.

For the preparation of the skin no antiseptic better than iodine was found, and it is suggested that the protection of the skin edges during the operation is important.

Miscellaneous

As regards air infection the air from theatres situated on upper floors was found to contain fewer organisms than those on the ground floor. The opening and shutting of doors should be minimized and street shoes, etc., should be covered.

It is obvious that every wound becomes contaminated at the time of operation, but by care very few become infected. Rough handling of tissues and extravasation of blood must be avoided. In the author's clinic thyroid operation cases healed better and without a trace of inflammatory reaction when fine silk was substituted for catgut. This practice was extended to radical breast, hernia, and open reduction of fracture cases with considerable benefit. This was the experience of such pioneers as Kocher and Halstead, and the author has proved it experimentally on animals. Silk must however, only be used by surgeons who strain every effort to obtain asepsis; otherwise it acts as a foreign body.

Special precautions with regard to masking must be taken when there is an epidemic of streptococcal throat infections, as there is a "peak" of streptococcal wound infections at these times.

Theoretically, there is an irreducible minimum in the incidence of wound infections; every clinic should strive to reach this minimum.

T. D. DEIGHTON.

Researches on Anaphylaxis by Sensitization through the Air Passages.

W. UNDRITZ. (*Acta Oto-laryngologica*, xxii., 3.)

In recent years a series of experiments on both animals and man have been carried out in the author's clinic in order to determine the permeability of the respiratory organs to a number of different substances. The enquiry is of interest on two accounts: (1) the permeability of the mucous membrane of the air passages plays an important part in the development of many diseases, for on it depends in great measure the nature and the amount of the harmful substances which enter the body: (2) it is possible by this means to introduce into the organism various therapeutic materials more advantageously than in any other way.

It has been shown (1) that in general the permeability increases from above (in the nose and throat) downwards to the pulmonary alveoli: (2) that absorption is more rapid the finer the division of the substance: and (3) that although all the tissues are to a certain degree permeable, the differences are very great.

The present paper is concerned chiefly with the permeability of the mucous membrane of the nose and alveoli of the lung to the albuminous colloids responsible for such allergic diseases as vasomotor rhinitis, hay fever and asthma. It was found (1) that the alveolar wall is to some extent permeable to such colloids, but (2) that it does form a barrier to them, the efficiency of which varies in different circumstances: (3) that after inhalation of horse serum

Abstracts

by guinea pigs, the uterus showed anaphylactic phenomena: (4) that the vegetative nervous system plays the chief part in the genesis of allergic manifestations in the respiratory organs: and (5) that there is room for an increased use of inhalation as a method of local and general treatment, and especially as a means of introducing immunizing substances.

THOMAS GUTHRIE.

Extensive Diphtheritic Membranes Removed and Photographed.

M. G. TULL, Baltimore. (*Jour. A.M.A.*, June 1st, 1935.)

The writer reports two cases, in patients of 6 and 9 years of age, who had been slightly ill with what was thought to be a cold until they were suddenly attacked with dyspnoea and brought to the hospital *in extremis*. The first patient had both intubation and tracheotomy without relief. The second child died shortly after admission to hospital without any surgical interference. Both children had received large doses of anti-toxin, but neither had been immunized by toxin-antitoxin or by toxoid. After death almost perfect membranous casts of the bronchial tree were removed. In the first case the membrane extended from the larynx, down past the bifurcation, and on the left side divided again for upper and lower lobes and finally reached the small subdivisions of the lung. In the second case the membrane began at the bifurcation and extended throughout the right bronchus, which it filled so completely that the right lung contained no air.

The article is illustrated with photographs of the casts.

ANGUS A. CAMPBELL.

Infectious Mononucleosis. C. A. MCKINLEY, Minneapolis. (*Jour. A.M.A.*, September 7th, 1935.)

The above name is used in order to avoid the rather loose use of the term "glandular fever", which is sometimes found in the literature and embraces such conditions as cervical adenitis. Owing to the benign character of this disease it frequently may be overlooked and confused with such acute infections as tonsillitis, pharyngitis, cervical adenitis and influenza. The present study is based on observations made on fifty cases of University students who have been seen during the past twelve years.

A generalized enlargement of the lymphatic glands was the outstanding and constant clinical feature. The adenopathy apparently began and reached its maximum in the cervical triangles, and was out of all proportion to the intensity of the lesion in the pharynx. Suppuration did not occur, but the enlargement of the lymphatic glands sometimes persisted up to twelve months. The symptoms were malaise, headache, sweating and chills, listed in the order of frequency. The throat signs were injection of the fauces

Miscellaneous

with swelling of the lymphoid tissue and, occasionally, a membranous angina indistinguishable in appearance from diphtheria.

The total leucocyte count varied, the maximum being 32,550. Lymphocytosis, relative and absolute, was 50 per cent. greater in all cases at some time during the course of the disease. The percentage of granulocytes noted in initial counts was known to drop as much as 63 per cent., as the leukopenia gave way to moderate leucocytosis.

Direct smears and cultures from the throat showed occasional Vincent's organism, but no characteristic observations were made. Blood cultures were repeatedly negative. Emulsions of fresh glandular substance, made during the acute stages, were injected into monkeys and guinea-pigs without demonstrable effect.

The constancy of the adenopathy suggests that the essential lesion and habitat of the ætiological agent is in the lymph nodes.

Another article follows in which the blood findings are described in detail.

ANGUS A. CAMPBELL.