

ABSTRACTS.

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PHARYNX.

Tonsillectomy in Myositis and Arthritis.—H. I. Lillie and H. R. Lyons. "Jour. Amer. Med. Assoc.," April 26, 1919.

In this paper the results of 200 consecutive cases are given. Out of 87 patients of ages up to thirty years, 81·6 per cent. were improved. Out of 113 patients of ages over thirty years, 77·7 per cent. were improved. Twelve per cent. had acute exacerbations after tonsillectomy. Most of these subsided later, but in five instances there was no improvement. The immediate result in cases with enlarged joints was very good. As a rule the swelling went down immediately, and the pain went away. Most of the patients who did not improve were of the very chronic type, and showed marked bony changes in X-ray photographs. Out of a group of twenty-eight selected cases with marked chronic joint involvement, those that showed no changes with the X rays were improved. The patients of over fifty years of age did not as a rule improve much.

In the whole series of 200 cases, only 57·7 per cent. had any history of tonsillitis, while in others there was very little sign of any septic process in the tonsils.

The authors' conclusions are as follows:

"1. It is justifiable to advise a tonsillectomy in every frank case of myositis or arthritis.

"2. A marked improvement may be assured from tonsillectomy alone in 79 per cent. of all cases.

"3. It is necessary to remove all possibility of dental sepsis; by so doing a larger percentage of patients will be improved.

"4. The duration of the myositis or arthritis is a factor in the ultimate results, although benefit and even complete cure is obtained in some long-standing cases.

"5. Forty per cent. of the patients with chronic myositis or arthritis who are invalids will respond favourably to tonsillectomy.

"6. The size of a tonsil has no bearing on its possibility as a focus of infection. A careful expression of the tonsillar crypts and a history of throat trouble, associated or not associated with the myositis or arthritis, is essential in the diagnosis.

"7. An absence of history of a diseased tonsil in no way eliminates the organ as a focus of infection.

"8. A clean tonsillectomy, with the removal of the plica tonsillaris, is necessary in every case."

J. K. Milne Dickie.

Acute Retropharyngeal Abscesses in Children.—J. M. Brown. "The Laryngoscope," January, 1919, p. 9.

The vast majority of cases are due to streptococci. Ninety-six per cent. of these abscesses appear in children under six years of age; 50 per cent.

occur between the ages of six and twelve months. Cases usually have a history of nasopharyngeal infection. The primary lesion may be entirely recovered from, or it may merge into the symptoms due to the retropharyngeal abscess. When the abscess forms there is a return of, or an increase in, the fever. The local symptoms are interference with respiration and deglutition. Many cases are diagnosed as croup as the dyspnoea is inspiratory. The child changes the position of its head frequently in the hope that it may ease its breathing. In any child having trouble with respiration or deglutition one should immediately examine the pharynx, and, if unable to see the throat, one should feel with the forefinger. In one of Brown's cases the child was undoubtedly choked to death by the rupturing of the abscess. Brown does not agree with Pierson, who believes every case ought to be opened and drained externally behind the sterno-mastoid. Brown prefers to have the child lying down, head on one side and slightly lower than the feet, thus allowing pus to run out of the mouth. With the aid of an ordinary tongue-depressor he inserts a pair of fairly sharp dressing forceps into the abscess and widens the blades as he withdraws them. A child usually makes a rapid recovery. Five case-histories are recorded.

J. S. Fraser.

The Surgical Treatment of Peritonsillar Abscess.—Thomas H. Cates.

"The Laryngoscope," October, 1918, p. 764.

Cates asks, Shall we follow the common procedure of sticking a knife in that part of the swelling which appears most prominent, and then repeat it the following day, and so on until relief is obtained? The abscess forms between the tonsil and the pillars of the fauces and the superior constrictor muscle. Pus will first be found somewhere in a space bounded by these tissues, either just external to the tonsil or in the anterior, posterior or superior tonsillar fossa. In severe cases the swelling may be so great and the landmarks so obscured that it is only practicable to open through the soft palate. But if we can choose the point to open, there is no doubt that in most cases the immediate peritonsillar region is the logical point to select, and that this region is most easily and directly entered somewhere between the tonsil and pillars, whether above or to the side of the tonsil. Under local anæsthesia, Cates inserts a semi-sharp tonsil dissector, or Freer's submucous elevator, between the anterior pillar and the tonsil, working it outward and slightly backward until it has reached the outer aspect of the tonsil, and then pushing it further backward and somewhat upward between the tonsil and the superior constrictor muscle. No other instrument is used except a tongue depressor. If care is taken to keep the dissector in close contact with the tonsil during the procedure, it will usually pass between the capsule of the tonsil and the muscle without difficulty. Should pus not be encountered directly, the instrument can be manipulated further upward and backward.

J. S. Fraser.

Trichloroacetic Acid in Vincent's Angina.—Thomas J. Gallaher. "The Laryngoscope," July, 1918, p. 551.

Gallaher has no hesitation in pronouncing trichloroacetic acid a specific in this disease. It should be applied pure, as follows: A small applicator is wound with cotton and dipped in pure liquid acid and carefully applied to the entire area affected. In the tonsils the acid should be carried on a thin applicator to the depth of each crypt involved. After the parts have turned white the acid should be neutralised by the application of a saturated solution of sodium bicarbonate.

J. S. Fraser.

NOSE.

Benign Neoplasms of the Nasal Septum.—G. W. Mosher. "Annals of Otology," xxvii, p. 981.

In 1900 Hasslauer found less than 300 cases reported, of which only 115 were true new-growths and 57 of these were angiomas. The remaining 58 were—papillomata 35, fibromata 9, myxomata 6, chondromata 4, adenomata 4. Exostosis was apparently ruled out. Benign growths usually appear on the septum, especially at its lower part. There are no diagnostic symptoms, but inspection and the probe usually render the determination of the character of the growth simple.

The author describes the case of a woman, aged twenty-five, from whom he removed an adenoma growing in the right naris from low down on the septum. The tumour was about $1\frac{1}{4}$ in. long and $1\frac{1}{4}$ in. in vertical measurement. A bibliography of 34 cases is appended.

Macleod Yearsley.

Report of a Case of Osteoma of the Frontal Sinus of Large Size; Operation and Recovery.—J. F. Barnhill. "Annals of Otology," xxvii, p. 1239.

The patient was a girl, aged sixteen. Operation under careful aseptic technique found the tumour lying under the periosteum, the anterior wall of the sinus having been absorbed. The remainder of the anterior sinus wall was removed, and the tumour prised out with elevators. Recovery was uneventful. The osteoma weighed 600 gr. *Macleod Yearsley.*

Adeno-carcinoma of the Nose.—Lee M. Hurd. "The Laryngoscope," October, 1918, p. 757.

Hurd reports four cases of this condition. Case 1: Male, aged fifty-nine, first seen in 1905, with history of swelling of right side of face and hard palate of one year's duration and of a small alveolar swelling of ten years' duration. Right nose blocked. Inner, anterior and lower antral walls absorbed. The superior maxilla was excised *in toto*. In June, 1908, the growth recurred on the hard palate and half of the left alveolar process and hard palate were removed. In March, 1910, Hurd removed the contents of the orbit. In July, 1914, much involvement in orbit and soft palate. The patient was then lost sight of. Apparently there were no metastases. Case 2: Male, aged sixty-five. Ten years ago had first operation for nasal polyps and has had a number of such operations since. Twenty months ago rapid enlargement of the cervical glands at angle of jaw on both sides. Present condition—severe headaches, complete nasal obstruction, mucoid nasal discharge streaked with blood. Left eye shows paralysis of third and fourth nerves; cachexia. A gland was excised and found infiltrated throughout with cells, which suggest that they are metastatic deposits of adeno-carcinoma. Hurd refused to operate, and under another surgeon the patient died on the table from hæmorrhage. Case 3: Male, aged forty-two. March, 1911: Partial obstruction, mucoid discharge, frequent bleeding. Left ethmoid filled with a soft, purplish growth. Report: "Adenoma." Operation: Tied external carotid. The entire contents of antrum, frontal, ethmoids, sphenoid and nose were removed, only leaving the mucosa of the vestibule. There was no evidence of growth except in the ethmoidal cells. September, 1911: Same condition was found in the right ethmoids. The original incision was reopened and the nasal septum entirely removed,

and all of the contents of the right nasal cavity and sinuses removed except the frontal sinus. November, 1912: Growth recurred. April, 1914: Diathermy tried, with some improvement. March, 1917: Radium applied once a week. May, 1918: The mass at root of nose slowly increasing. Case 4: Male, aged sixty-seven, seen April, 1915. Seven years ago had polyps removed. Left ethmoidal region filled with polyps. Hurd removed polyps and ethmoidal labyrinth and discovered soft, yellow and practically bloodless tissue. Radical operation urged, but refused. Patient died twenty months later.

J. S. Fraser.

Multiple Osteoma of the Nasal Accessory Sinuses; Report on a Case Complicated by Syphilis; Operation; Autopsy.—W. L. Culbert.
 "Annals of Otology," xxvii, p. 1203.

Gives a fairly full account of the subject and summarises the author's opinions thus: (a) There is probably an original congenital tendency in all cases of osteoma of the nasal accessory cavities. (b) Such tendencies, unless irritated, probably remain quiescent. (c) Conditions likely to activate osteomatous growths are: (1) The neoformative activity in the frontal regions during adolescence. (2) External traumatism. (3) Endogenous irritations: inflammations and infections (influenza, etc.). (4) Constitutional maladies, especially syphilis. (5) Combinations of all these causes. The case reported was that of an Italian chauffeur, aged forty-three. Duration, seven years. Wassermann showed 4+. An operation was done for removal, and the frontal sinus entered. Pus was met in its recesses, behind the tumour. As the tumour had eroded the inner table the dura was torn. As an X-ray examination showed that the growth had invaded the cranial cavity a second operation was performed. The right middle turbinate was removed and more osteoma found in the ethmoid. Two months later death occurred some twenty-four hours after a sudden attack of unconsciousness. At the autopsy an abscess was found in each frontal lobe.

A useful bibliography is attached.

Macleod Yearsley.

Fatal Epistaxis following Varicella.—Charles C. Jones. "The Laryngoscope," February, 1919, p. 101.

Male, aged twenty-five, admitted to hospital three weeks before for chickenpox, which had run a normal course, and transferred to the otological service on January 29, 1918. For six days he had had a daily attack of epistaxis, easily controlled by adrenalin spray. Two days before being transferred he had a severe pain in his left ear, followed in a few hours by profuse bloody discharge. No history of any bleeders in the family and no previous epistaxis. Wassermann negative, urine normal. Temperature 100° F., pulse 96. Tenderness over the mastoid. Both nares filled with crusts of dried blood, and when these were removed there was such a severe hæmorrhage that it was necessary to pack both the anterior and the posterior nares. January 30: Packing removed but had to be replaced immediately. Twenty c.c. of normal horse-serum given subcutaneously. January 31: Pain in the right ear, with bulging of the tympanic membrane. Paracentesis. Epistaxis continued. More normal horse-serum given. Thromboplasin applied to the nasal mucous membrane by atomiser. February 1: Purulent discharge from both ears. February 2: Nasal hæmorrhage continued.

Patient delirious. Solution of acacia in normal salt solution given intravenously. Attempts to get blood for a transfusion were unsuccessful. Death on February 5. Necropsy: A large amount of pus and blood-clot was found in the nasal accessory sinuses. The mastoid cells and antrum were filled with pus on both sides. Jones remarks that packing in a case of this character is useless, because the blood passes through it.

J. S. Fraser.

LARYNX.

Some Original Methods of Treatment of Laryngeal Stenosis.—S. Iglauer.
 “Annals of Otology,” xxvii, p. 1233.

These are (1) dilatation by means of a rubber tube doubled upon itself, based upon the effect on cicatricial tissue of continuous elastic pressure. (2) Insertion of a single rubber tube from below. (3) Intubation by traction. By means of strings attached to the lower end of the intubation tube rubber tubes can be passed over the latter.

Macleod Yearsley.

Intubation for Angioma of the Larynx.—John J. Levbarg. “The Laryngoscope,” December, 1918, p. 867.

Levbarg reports the case of a baby boy, aged ten weeks, suffering from severe dyspnoea and stridor. At birth the child had angiomatous spots on the left temporal region, the hard palate, uvula and neck. The laryngeal tumour spread gradually every day. On admission the child was struggling for air, there was marked retraction of the supra-clavicular space and upper part of the abdomen, and severe cyanosis. Direct laryngoscopy by Glogau revealed the tumour spreading downward. After intubation the dyspnoea gradually diminished. X-ray treatment was given that same day. During the following ten days the intubation tube had to be replaced or changed on numerous occasions. The angioma diminished in size and the child was discharged.

J. S. Fraser.

Treatment of Laryngeal Stenosis by Corking the Tracheotomic Cannula.
 —Chevalier Jackson. “The Laryngoscope,” January, 1919, p. 1.

Jackson's method consists in corking the cannula with a specially shaped rubber cork that does not completely occlude the cannula. The amount of leakage past the cork can be regulated so as to force the patient to make strong inspiratory efforts to get sufficient air. The effect of this is to increase the lumen of the larynx. The corks are made by grinding pure rubber cord of suitable size on a high-speed emery wheel. A foot-power polishing lathe with such a wheel will answer nearly as well, *e. g.* that used by the dentist, the jeweller or surgical instrument maker. Any properly fitted cannula should permit the patient to wear the “one-third” cork, if any appreciable amount of air is going through the larynx. When this can be worn with ease, the “half cork” should be substituted. Next the “three-quarter cork” should be tried, and then the complete cork inserted. When the patient can sleep quietly with the complete cork in place, he is ready for decannulation. In old cicatricial cases a few weeks or a few months may be required.

J. S. Fraser.

The Training of the Speech Instructor.—Walter B. Swift. "The Laryngoscope," December, 1918, p. 869.

Swift states that speech instruction is spreading rapidly through the schools of the country and teachers are asking how they may best fit themselves for the work. The answer must be determined by the plans of the applicant. If he wishes merely to acquire that minimum of information which fits one to do corrective work in the public schools the answer is simple enough. If he wishes to become a speech expert a vastly different answer must be made. The speech expert deals with theory; the speech teacher in the public schools is concerned with practice. The true speech expert must be a master of general medicine, laryngology, neurology and psychiatry. A close knowledge of dramatic art or vocal expression is also necessary. Finally, he must have had training in psychology, laboratory methods and scientific procedure. Only a few such past-masters are needed in any one generation. Only those who have had such a training are fitted to instruct the teachers who are to be responsible for the speech instruction to be given in public schools.

The public school teacher, on the other hand, only requires a course of lectures (one hour three days a week for one month) and attendance at the clinic which is conducted in connection with this course. Stuttering, phonetics and the treatment of mental defectives must be dealt with.

J. S. Fraser.

Report of a Case of Steel in the Larynx.—F. Allport and B. Wilson. "Journ. Amer. Med. Assoc.," May 3, 1919.

A fragment of steel struck the patient in the neck below the point of the chin. He was taken to hospital, where the wound was sutured. He returned to work. Since the accident he could not talk above a whisper.

On examination several weeks later there was a slight prominence on the left side of the thyroid cartilage. It was solid to the touch and moved with the larynx. The left vocal cord was immobile, and the larynx was moderately inflamed. A radiogram showed a splinter of metal $1\frac{1}{4}$ inches long lying antero-posteriorly and penetrating the thyroid cartilage. It was removed under local anæsthesia. Soon after the operation the patient's voice had returned, but was very hoarse, and at the end of a week the voice was rough but almost normal. The cords now had a normal appearance.

The writers think that the foreign body had probably not actually penetrated the laryngeal cavity.

J. K. Milne Dickie.

MISCELLANEOUS.

Surgical Diathermy.—E. P. Cumberbatch. "Proceedings of the Royal Society of Medicine," July, 1918 (Section of Electro-therapeutics), p. 115.

The object of this paper was to invite a discussion on the methods of performing diathermy, the complications and the immediate and remote results.

Patients do not suffer from surgical shock after diathermic cautery. On the day after the operation there is usually a rise of temperature, but it rarely lasts for more than a day and the patient has little discomfort.

On the third day the patients are usually able to get up and walk about without bad effects even after the removal of massive growths from the throat. The patients are able to swallow fluids on the day after the operation and to eat solid food early. The part treated by diathermy rarely becomes œdematous. A copious discharge of lymph occurs and may last for several days. Hæmorrhage is to be feared when the coagulation has extended to the region of an artery. Septic broncho-pneumonia has occurred in very few cases, and is less frequent than after cutting operations on growths of the mouth and pharynx. Œdema of the glottis is likely to occur when diathermy is performed for growths in the region of the larynx and tracheotomy may be necessary during the operation or later.

One case of malignant disease of the tonsil, tongue and mucous membrane of the upper and lower jaw was treated with diathermy in November, 1911. The operation was repeated for recurrent growths in July, 1912, in June, July, October and December, 1913, and again in March, 1914. The patient died in July, 1914. He had been free from discomfort up to the last three months of his life. Other patients have survived for shorter periods, but in nearly all there was freedom for a considerable time from symptoms such as expectoration, salivation, pain and discharge in the throat. All the cases mentioned were surgically inoperable.

Diathermy is an excellent method of treatment for certain non-malignant growths. A nasopharyngeal fibroma had been removed surgically, but recurred and was treated by diathermic cautery. This was repeated two months later and again after four months. The growth was effectually destroyed without hæmorrhage.

Archer Ryland.

The Pathogenesis of Bronchial Asthma.—Wolf Freudenthal. "The Laryngoscope," November, 1918, p. 781.

Freudenthal believes that an attack of asthma is brought about, not by spasm of the constrictor fibres of the bronchioles coming from the vagus, but rather by a paralysis of the dilator fibres. If we suppose that the asthmatic paroxysm sets in with a paralysis of the dilator fibres, we have to assume that a constriction of the bronchioli must follow immediately in the same manner as in facial paralysis, where the face is drawn to the non-affected side; *cf.* also bilateral abductor paralysis of the larynx. The existence of constrictor fibres has been proven by Einthoven and Baer, and the existence of broncho-dilator fibres running side by side with the former has been demonstrated by Dixon and Brodie. The vagus may be held responsible in either case. Clinicians, seeing the almost immediate effect of adrenalin in an acute attack of asthma, were of the opinion that it caused a dilatation of the bronchioles. Golla and Symes, however, found that adrenalin usually produces constriction. When the bronchioles, however, were initially constricted by other drugs, the normal effect of adrenalin was reversed, and bronchial dilatation produced. In the function of respiration, both the respiratory centre and the autonomous nervous system participate, so that by a sort of self-regulation the vagus acts like an antagonist to the automatism of the centre. It may be concluded that paralysis of the sympathetic and stimulation of the vagus show the same symptoms, and are closely related, not only symptomatically, but also ætiologically. We are justified in speaking of the asthmatic paroxysm as due either to an irritation of the vagus or to a paralysis of the sympathetic. The writer is inclined

towards the latter theory. As regards treatment, the endobronchial method has given the writer much better results than any other measure.

J. S. Fraser.

Asthma from a Wider Aspect.—Harry L. Pollock. "The Laryngoscope," July, 1918, p. 543.

Pollock holds that the treatment of asthma belongs primarily to the rhino-laryngologist, but is convinced that the underlying ætiological factors can be traced to a disharmony of the ductless glands. That the spasm of the bronchi is due to an irritation or stimulation of the vagi is now also accepted by nearly everyone. Many cases are associated with some pathological conditions of the upper respiratory tract. After having these conditions cleared up, all cases are benefited to a greater or less degree. Zueblin states that the vagal centre is influenced by impulses that depend on the secretion of the posterior part of the pituitary body. This complex organ containing many different nerve-cells is associated with co-ordinate involuntary motor impulses. The pituitary vagal centre is the terminal of sensory impulses from the nose. Cyon's experiments demonstrate that the destruction of the pituitary body completely destroys the reflex sensibility of the nasal mucosa. The predisposing cause of bronchial asthma is a hypersensitiveness in the posterior pituitary body, which may arise from irritation of the bronchial mucous membrane by (1) substances contained in the inhaled air, or (2) from toxic products of imperfect catabolism. Under normal conditions the afferent impulses from the bronchi evoke just sufficient efferent motor and secretory impulses to create periodical contractions of the bronchi and secretion of mucus. When, however, a hypersensitiveness of the vagal centre exists, excessively violent stimuli are sent in the direction of the bronchial muscles. Vaughan has shown that split protein poisoning is the causative agent of many unexplained phenomena. The poisons may act as an exciting factor in asthma by causing an irritation of the posterior lobe of the pituitary body. Chandler Walker determines the exciting cause by subjecting the patient to vaccination with various substances and ascertaining the one to which the patient reacts. In those cases in which there is no reaction to any of the proteins, pollen or dust from animals, he tests the blood for agglutination with the *Staphylococcus pyogenes albus*. If such cases show agglutination he vaccinates them with a stock vaccine. If it does not agglutinate, he isolates a diphtheroid bacillus from the sputum and uses a vaccine of this. These agents, however, are only exciting and not predisposing factors. Another partially successful line of treatment is that suggested by Ephraim, and consists of endobronchial applications of medicaments. Ephraim found that novocaine-adrenalin solution gave excellent results. In many cases only one treatment was necessary to obtain from six to nine months' relief. Kahn and Emsinger have tried injection of autogenous defibrinated blood. Their theory is based on the supposition that the attack is due to anaphylaxis. Pollock gives a warning against this line of treatment. A hypodermic injection of adrenalin (10 to 15 mm.) immediately stops an attack of asthma. If given with equal amount of normal salt solution the action is more efficacious and of longer duration. It is bad practice to place adrenalin and a hypodermic syringe at the patient's disposal, as they very rapidly acquire the "adrenalin habit," which is more difficult to combat than is the morphine habit.

J. S. Fraser.

Effects of New Toxic Gases, etc.—Grivot and Got. "Revue de Laryngologie," March 31, 1919.

In the early stages there is great hoarseness. About the second day there is diffuse redness and swelling of the mucous membrane. On the third or fourth day superficial ulceration occurs. The patches are ivory white, and usually disappear in two or three days. In the larynx the ulcers are usually symmetrical and on the free edges of the cords. In addition to this there is much muscular paresis of the cords. There is usually a considerable functional element. The hoarseness is very persistent and lasts for weeks.

J. K. Milne Dickie.

Absolute Repose of the Jaws as a Treatment for Traumatic Parotid Salivary Fistulæ.—P. Pietri. "Annals of Otology," xxvii, p. 1333.

Based on thirty-eight cases. In asking the question—Can we say that this way of treating parotid salivary fistulæ by an absolute repose of the jaws is infallible? the author replies that this is far from his opinion, in spite of the uniform success up to the present time, but it is so harmless, so easy to employ, and the results obtained are so encouraging that he believes it is worthy of trial. The apparatus used is a sewed bandage, which prevents opening the mouth. A fixation appliance for the teeth is used where fracture of the jaw is present.

Macleod Yearsley.

EAR.

The Value of Ear Examination to the Neurologist.—Isaac H. Jones. "Annals of Otology," xxvii, p. 881.

By ear-test the neurologist can obtain additional data as to whether he is dealing "with a lesion of the internal ear, of the brain-stem, or cerebellum." It is essential therefore that the physician should keep in mind the various pathways constituting the vestibular apparatus, and that he should be accurate and painstaking in the technique of his ear examination. The differential diagnosis between peripheral and central lesions by ear-tests depends on certain general principles. Impairment of function of cochlear and kinetostatic labyrinth, history or presence of tinnitus, proportionate impairment of responses from the horizontal and vertical canals, and proportionate impairment of nystagmus and vertigo suggest a peripheral lesion of labyrinth or eighth nerve. A central lesion, on the other hand, is suggested by normal cochlea and canals, normal responses from horizontal, but absent responses from vertical canals or *vice versa*, normal vertigo, but impaired nystagmus from the horizontal canal, or *vice versa*, normal vertigo, but impaired nystagmus from vertical canals, or *vice-versa*, together with other phenomena. The paper requires to be read *in extenso*.

Macleod Yearsley.

Spontaneous Recovery from Lateral Sinus Thrombosis.—Richmond McKinney. "The Laryngoscope," January, 1919, p. 13.

Boy, aged eleven. For two months right ear had discharged off and on and he had had a severe earache for two days. Examination showed a median perforation of the membrana; temperature, 100° F.; slight mastoid tenderness. Boracic syringing and ice-bag to the ear.

Two days later, temperature 104° F. Blood examination: polynuclear percentage of 92. Paracentesis performed. Temperature reached 105° F. next day; no rigors or sweats. A simple mastoid operation showed a little pus in the antrum. Next morning temperature again rose to 105° F., pulse 120, and the child complained of pain in the right shoulder. Hectic fever continued in spite of evacuation of two small metastatic abscesses. A blood-culture was negative as to bacteria. Second operation (twelve days after first one). The sinus-wall was greatly thickened and greyish. It was determined to wait a few hours before opening the sinus. The temperature gradually settled down and the patient made an uneventful recovery.

J. S. Fraser.

Bilateral Acute Suppurative Otitis Media with Symptoms of Sinus Thrombosis.—**Otis D. Stickney.** "The Laryngoscope," February, 1919, p. 90

Stickney reports the case of a female, aged fifty-two, who on June 24 developed pain in both ears following sore throat. Spontaneous perforation of both drumheads occurred within twenty-four hours, followed by profuse discharge. On July 3 the discharge from the right ear stopped. The right membrane was red and bulging, the mastoid tender, and temperature 102° F. Paracentesis. The left ear became painful, and the membrane was freely incised. On July 7 temperature was 102·8° F. and there was pain in the left ear. On July 8 pain in right arm and left ankle. On July 10 three chills; pain in back of neck. Patient irritable, restless and impatient; temperature 101·2° F. Stickney advised bilateral mastoid operation and exposure of both lateral sinuses. Both mastoids were filled with pus. Sinus walls looked normal. Stickney aspirated each sinus in an upward and downward direction. The blood withdrawn subsequently proved negative on culture. July 13 to July 16 temperature varied from 100° to 102° F. Incision of the right elbow liberated at least an ounce of pus (streptococcus, which was also the infecting organism in both ears). On July 23, 50 c.c. of the antistreptococcal serum were given intravenously. A few hours later the patient had a chill and a rise of temperature to 103·6° F. July 24 to July 27 marked urticaria. July 27 to August 3 temperature 100° to 103·4° F., nausea and vomiting. Stickney felt that the patient had sinus thrombosis, but was unable to decide which side to attack. On August 4 he reopened the right mastoid and incised the right lateral sinus. Bleeding less free than normal, but no thrombus was discovered. The internal jugular vein was exposed, its branches ligated, and a portion resected. Left lateral sinus also exposed and incised; hæmorrhage very profuse. No blood was now passing through either lateral sinus, but the patient did not manifest any marked signs of increased intra-cranial pressure. On August 12 temperature was normal; packing removed. From this time she made uninterrupted recovery. Stickney thinks too much dependence should not be placed upon blood examinations. The eye-grounds were examined several times, but nothing abnormal was observed.

J. S. Fraser.

Tubal Function and Aviation.—**G. Gradenigo.** "Arch. Ital. di Otol.," xxx, 1, January, 1919.

Modern aviators are subjected to very rapid changes of barometric pressure in rising and descending. Thus one can descend from 6000 metres in a few minutes with a difference in atmospheric pressure of 360 to 760 mm. of mercury.

Two colleagues were experimenting with an air-tight decompression chamber, when by an error they were decompressed in a few seconds to a degree corresponding with an altitude of 6000 m. In response to their signals of alarm the pressure was restored to normal again, also in a few seconds. Both victims suffered from violent pain in the ears and temporal region, grave asthenia, nystagmus, vertigo, subjective noises, and hæmorrhage from mouth and nose. In both there was great hyperæmia of the drum-membranes, with petechial hæmorrhages, and also effusion into the middle ears. In one a perforation was caused.

The writer had opportunity of examining aviators whose Eustachian tubes were pervious immediately after descents of about 6000 metres, and in most there was no change in the ears. In a few, however, there was slight transitory dulness of hearing and slight hyperæmia of the drum. Subjective noises were attributed to the roaring of the engine.

Similarly experiments in the decompression chamber showed that if the tube is open there is no damage to the ear from rapid changes of atmospheric pressure.

The case was very different when the tube was not pervious. Acute pain in the ear was caused by changes of pressure in spite of movements of deglutition. In those cases examination showed marked redness and indrawing of the membrane with minute hæmorrhages in the drum membrane itself. There was diminution of hearing and vestibular symptoms which passed off only after a few days.

Gradenigo comes to the conclusion that for purposes of aviation the best means of determining whether the tube is patent is by the use of the decompression chamber. By this one can also determine the effect of respiration and the circulation.

J. K. Milne Dickie.

The "Feel of the Airship."—Eugene R. Lewis and Henry Horn. "The Laryngoscope," February, 1919, p. 65.

In order to appreciate the part that the ear mechanism plays in aviation, all that any physician need do is to take a flight in an aeroplane. As you guide an aeroplane in a straight flight, your incessant effort is to correct minute deviations from the level position by tiny movements of the joy-stick. This sense of the "detection of movement" is what the experienced aviator calls the "feel of the airship." It is that sense which distinguishes the born flier from the mechanical flier, who is forced to rely upon his sight. Some men give evidence of possessing this sense-complex during the first one or two hours of instruction; others never acquire it. Motion-sense is dependent upon information derived from (1) muscle sense, (2) sight, (3) vestibular sense, and (4) tactile sense. Lewis and Horn tried by elimination of any two of the first three factors to estimate the value of the third. Tactile sense may be ignored. Blindfolding eliminates sight; the use of deaf-mutes with destroyed vestibular apparatus eliminates the vestibular sense; blindfolding these deaf-mutes eliminates sight and vestibular sense, leaving deep sensibility as the remaining factor. Tilting perception: It has been shown by various observers, experimenting upon thousands of aviation applicants, that there exists a very clear appreciation of tilting. Fifteen normal people were selected from the surgeons in the Medical Research Laboratory. The subjects were blindfolded, were then taken up in the 'plane, and manœuvres were carried out. Experiments were conducted only during ideal weather. The angles were checked by a clinometer. The intercommunicating 'phone system was used. As soon as a proper

altitude was reached, where the air was smooth, the subject blindfolded himself, and as soon as he was able to appreciate whether he was going up or down, or banking to the left or to the right, he would so report to the pilot. The downward angle was detected in every case more accurately than the upward angle. One of the beginners was unable to detect the upward angle even to 70 degrees. Subsequent examination showed that this man's vestibular reactions were very much subnormal, as evidenced by ten seconds' duration of "after-nystagmus," no past-pointing after turning, and only very slight tendency to fall. Banks to the left were more accurately detected by the subjects than similar banks to the right.

Several deaf-mutes were the subjects of these experiments. Two showed normal vestibular function, four showed absolute lack of vestibular function. Those with absolutely no vestibular function showed total inability to detect changes in the series of movements of the 'plane. They had nothing to inform them except their deep sensibility and tactile sense. Many of them admitted that they were entirely "in the dark," and felt as if they must tear the bandage from their eyes—in other words, they were completely "lost" in space. These aeroplane experiments should correct the peculiar impression that deaf-mutes might make better aviators than normals, because whirling cannot make them dizzy. Deaf-mutes in which only a vestige of vestibular function remained gave results almost identical with those of the first group. Those in full possession of vestibular function showed a marked improvement over the others, and practically the normal index as to accuracy of detection of movements of the 'plane in the later flights.

Three professional fliers and one professional trick motor-cyclist showed their superiority over ordinary people in detecting angles.

It is demonstrated by this series of experiments that man's ability to sense motion is measured by his full possession of visual acuity, deep sensibility, vestibular sense acuity, and tactile sense. And particularly, that the "feel of the airship," which is the sense-complex that makes for a first-class pilot, requires normal vestibular motion-sensing. One who shows good responses in the turning-chair shows good detection of movement in the air; one who shows poor responses in the turning-chair shows poor detection of movement in the air.

J. S. Fraser.

BRONCHI AND ŒSOPHAGUS.

Observations on the Pathology of Foreign Bodies in the Air and Food Passages; Based on the Analysis of 628 Cases.—Chevalier Jackson. "Surgery, Gynæcology and Obstetrics," March, 1919.

Chevalier Jackson has had probably more experience than any other laryngologist in foreign bodies in the air and food passages. In this paper he contrasts the pathological effects of recently aspirated foreign bodies with those of prolonged sojourn.

Metallic foreign bodies, glass, pebbles and vulcanite cause comparatively little reaction. Soft rubber, on the other hand, causes fairly severe reaction. Organic vegetable substances such as beans, peas, maize and peanuts cause a very violent reaction and are generally rapidly fatal if left alone. Roasted peanut kernels are the worst of all in this respect, causing a diffuse tracheobronchitis in a few hours. Bone and meat cause very little irritation. The amount of reaction of hard bodies

depends upon whether they completely occlude the bronchus. If they are rough a certain amount of local trauma is caused, but no general reaction.

Nearly all foreign bodies in the bronchi tend to migrate continually downwards and outwards towards the periphery. Finally, the foreign bodies become fixed and a septic cavity is formed. Long, pointed foreign bodies, such as pins, tacks, etc., pass downwards by a ratchet-like movement.

Foreign bodies are more common in the bronchi of the right side. They are rare in the bronchus to the middle lobe. The lodgment is usually immediately below a branch bronchus, as the bronchi do not taper, but narrow suddenly at each branching. The most common site for foreign bodies is just below the branch to the right upper lobe. The next most common site is the corresponding position on the other side. Dorsal branches are more commonly affected than ventral ones.

In 23 cases where foreign bodies had been present for periods varying from three months to eighteen years clinical signs of tuberculosis supervened, but in no case was the tubercle bacillus found, even after repeated examination. Of these cases, 16 recovered rapidly and completely after the removal of the foreign body. The power of recovery of the lung after the prolonged presence of a foreign body is remarkable. The longest case was one where a glass collar stud was twenty-six years in the bronchus. The patient had emaciated through septic absorption to 93 lbs. Two years later she weighed 182 lbs. and the lungs were normal. The writer always takes a skiagram of the chest after operation for comparison with that taken beforehand. There is usually an immediate clearing from the pumping and swabbing of secretions.

When a bronchus is occluded the secretions accumulate below and soon become purulent. This "drowned lung" gives the same note as an area of atelectasis. This may develop in a day or two. If relieved early, recovery is prompt and complete. If not relieved, bronchiectasis or abscess occurs. Out of the 23 cases of prolonged sojourn 10 had bronchiectasis, 6 had abscess formation, while in the others it was difficult to differentiate.

In old-standing cases of foreign body pus was very copious, foul, and dark in colour. In peanut cases the pus was pink. In 16 cases there was a stricture of the bronchus. The foreign body is always at the upper end of the pathological mass. Where there is a cavity the foreign body is always at the neck of the cavity. In recent cases, when a bronchus has been blocked for a day or more, the mucous membrane above the foreign body always swells and forms a stricture. Absorption of air occurs below and the foreign body is fixed more tightly than ever.

"Participation of the other lung in the bronchitis of foreign body origin does not usually occur in recent cases except when the intruder is of an extremely irritating class, such as peanut kernels and maize. In these, diffuse bronchitis of both lungs is the rule, so much so that the bronchoscopist is deprived of one of his best guides for finding the location of the foreign body, namely, the evidences of pathology at or near the orifice of the particular bronchus invaded."

Subglottic œdema is very liable to occur in children under nineteen months, especially in peanut cases. Tracheotomy may be required. In children, also, there is a tendency to œdema of the lungs and the patient is apt to be drowned in his own secretions.

The writer has observed that the main flow of secretion by ciliary action is up the posterior wall of the trachea and through the interarytænoid region.

In Jackson's clinic there were 98·1 per cent. of successes. The mortality was less than 0·5 per cent. directly attributable to endoscopy. The total deaths from any cause whatsoever one month after endoscopy were 1·9 per cent.

J. K. Milne Dickie.

LISTS OF ORIGINAL PAPERS.

Amer. Journ. Med. Sci., January, 1919. (Abstracted by THOMAS GUTHRIE.)

REGAN (New York).—"Anatomic Points Determining the Direction of the Needle and the Proper Route for Lumbar Puncture in Children and Adults."

March, 1919.

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Arch. Ital. di Laryngol., Anno xxxviii, fasc. 3-4, 1919. (Abstracted by J. K. MILNE DICKIE.)

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TORRINI, U. L.—"On the Infective Origin of Ozæna—Experimental Researches."

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