

clinically to be benign, but pathologists report on last specimen that it is a squamous and polygonal-celled carcinoma. Patient now shows some fulness over the left Eustachian orifice, but there is no ulceration. Opinions as to the nature of the tumour and the treatment to be adopted are invited.

The PRESIDENT said he had seen seven cases of endothelioma of the lateral wall of the naso-pharynx. The cases had all been fatal. They usually produced deafness, with serous effusion in the tympanum, anæsthesia of the third division of the fifth nerve, and mechanical fixation of the levator palati. At first he thought this case was endothelioma, but the history seemed too long for this view to be maintained. Each of his cases recurred in six or seven weeks to two months after operation.

Mr. PATTERSON replied that he had had an endothelioma in a patient aged over fifty. He removed it as far as he could through the soft palate, but it recurred in two or three weeks. There was great pain in the occipital region and a discharge from the ear.

Swelling of the Larynx.—W. H. Kelson, M.D.—Female, aged forty, suffering from swelling of the left arytenoid, left ventricular band, and adjacent part of pharyngeal wall. Discomfort had come on directly after a meal about a week previously. The left cord did not seem to be affected. No history or indication of tubercle or syphilis could be obtained. The affected parts looked very œdematous. Subsequent history: A week after the exhibition of the case a free discharge of pus took place and the whole swelling subsided.

Dr. WRIGHT said the case looked to him like one of acute perichondritis with abscess, or possibly sub-perichondrial hæmorrhage resulting from the strain of vomiting. The patient had a similar attack a year ago, and she had now got considerable swelling on the left side, apparently fluid, involving the arytenoid and the false cord region, practically blocking up the whole of that side of the larynx.

PROCEEDINGS OF THE SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

Meeting in the Royal Infirmary, Edinburgh, November 30, 1912.

DR. J. S. FRASER *in the Chair.*

Reported by DR. W. S. SYME.

(Continued from p. 164.)

Naso-pharyngeal Fibro-sarcoma; Operation; Recovery.—W. Milligan, M.D.—Patient, F. L.—, male, aged fourteen, was admitted to the Royal Infirmary, Manchester, in September, 1909, complaining of nasal obstruction, marked deafness upon the right side, and progressive loss of weight of twelve months' duration. The naso-pharynx was blocked by a large and hard growth, springing apparently from the junction of the vault with the posterior pharyngeal wall upon the right side. The right nasal passage was completely occluded by a prolongation

of the growth. The right membrana tympani was much retracted and the tympanum contained fluid.

Operation.—A Kuhn's per-oral intubation tube was first passed and the anæsthetic administered through it. The right half of the upper jaw was removed and an excellent view of the growth obtained. The growth was removed by means of an ecraseur, which was very gradually tightened. Its point or surface of origin was scraped with a sharp ring knife, and then cauterised with an electro-cautery needle. Hæmorrhage was not at any time serious.

Up to date the patient has been free from recurrence and his general health is excellent. He now wears an obturator, and is able to talk well. Specimen shown.

Œsophageal Pouch ; Removal ; Recovery.—W. Milligan, M.D.

—A male, aged fifty-six, seen February, 1912, had suffered for two years from difficulty in swallowing and from frequent regurgitation of food, often from an hour to two hours after having swallowed it. There had been considerable loss of weight and strength. Examination with a bougie showed that there was a diverticulum about the level of the cricoid cartilage projecting slightly to the right side. Examined with X rays, bismuth porridge was seen to pass readily into the pouch, a small portion trickling slowly into the stomach (photograph shown).

Operation.—Under general anæsthesia an incision was made along the anterior border of the right sterno-mastoid muscle and the lateral wall of the œsophagus exposed. The bougie, previously passed, was used to make the pouch project and to define its size and attachments. The pouch was then carefully cut away from the œsophagus, and the opening in the œsophageal wall closed with a double row of sutures. Rectal feeding was adopted for four days, after which time the patient was given sterilised milk by the mouth. Rapid improvement followed, and by the end of three weeks the patient was taking ordinary food without any difficulty. There has been no relapse and the patient has gained weight.

Photographs shown illustrating the pouch distended with bismuth porridge. Pouch shown.

Dr. Milligan agreed with Dr. Fraser that these pouches were not really œsophageal but hypo-pharyngeal; they occurred just as the hypo-pharynx passed into the œsophagus. There is a perfectly good anatomical reason why they should form there between the oblique and the fundiform fibres of the inferior constrictor. It was an entirely different thing from the traction pouch. The pressure pouch was invariably on the posterior wall of the food passage.

Traumatic (Rabbit-bone) Perforation of Œsophagus into Aorta ; Necrosis of Mediastinal Tissues ; Hæmorrhage into Œsophagus, Stomach and Bowels.—W. Milligan, M.D.

—Male, aged nineteen, was admitted with a history of hæmatemesis, attributed to having swallowed a small piece of rabbit-bone ten days previously. On admission the patient was found to be pale and anæmic, with a small and rapid pulse. With the fluorescent screen no evidence of any bone could be seen in the œsophagus. Under chloroform the œsophagus was carefully examined with the œsophagoscope (dorsal position). About the level of the carina a small red granulation was seen projecting from what appeared like an ulcerated surface, but there was no evidence of any bone, or, at the time of examination, of any hæmorrhage. No attempt was made to disturb the granulations. Death took place two days later, after

very severe attack of hæmatemesis. *Post-mortem report*.—At the level of the tracheal bifurcation and on that part of the wall of the œsophagus contiguous to the aorta is an irregular ulcer about three eighths of an inch in diameter, with irregular margins, not thickened, and with a necrotic, blackened, slightly depressed base. The base of the ulcer lies against a blackish mass of necrotic tissue in the mediastinal cellular tissue which connects the œsophagus with the arch of the aorta; this mass of tissue covers the area of the little finger-nail. There is a perforation in a zone of black necrotic tissue affecting the whole coats of the aorta over a small area, about one eighth of an inch in diameter, lying on the wall of the aorta below the origin of subclavian artery. On the œsophageal wall there is another necrotic patch on the opposite wall to that above affected, and about three quarters of an inch lower down the gullet. This necrosis is confined to the mucous membrane, and is not definitely ulcerated and only covers an area of about one-eighth of an inch in diameter. Specimen and photograph shown.

Chronic Sinusitis of Ethmoid and Sphenoid, giving rise to Oculo-orbital, with absence of Intra-nasal, Symptoms.—**J. Malcolm Farquharson, M.B.**—Mrs. B —, aged thirty-four, referred on November 23, 1911, from the Ophthalmic Department for examination. Complained of frontal headache, accompanied by swelling over the lower part of forehead, eyelids, and extending downwards to the upper part of cheek; a fortnight's duration. Previous health and family history good. Examination showed considerable swelling and œdema of the lower frontal region; proptosis of eyeball; marked ptosis; diminution of muscular movement of the eyeball, sixth nerve being least affected; pupil dilated; fundus and disc normal. Vision: right eye at two feet; left eye $\frac{3}{4}$.

Anterior Nares.—Beyond a slight hypertrophy of right middle turbinate, which was touching septum, normal; posterior rhinoscopy; absence of crusts, pus, atrophy, hypertrophy, or œdema of turbinates; Fränkel's posture test negative. Transillumination: Frontal and maxillary sinuses illuminate well. Patient advised to come into hospital for immediate operation, but was unable to do so till the 26th, when she returned with a marked cellulitis over the swollen areas. Next morning on removal of bandage she complained of blindness, only being able to distinguish light from darkness. Edges of right disc blurred; vessels full; left fundus normal; right pupil does not react to light. Operation. Periosteum detached from the inner nasal wall and floor of frontal sinus to close proximity to optic nerve. No pus or any bone lesion observed. On dissecting sac from lachrymal bone a drop of pus was found between these structures. The ascending process of superior maxilla was resected; anterior ethmoidal cells opened and found healthy. Some granulations were found in the posterior ethmoidal cells, especially in one large cell just in front of sphenoid; one or two points of pus also observed. Sphenoid: large cavity; full of œdematous granulations; no pus, frontal sinus opened; healthy; very large, extending outwards to external anterior process, and high up vertically. Some infected wandering fronto-ethmoidal cells met with and removed. Right middle turbinate amputated, and the fronto-nasal passage enlarged. Patient did well, wound healing without suppuration and the œdema rapidly disappearing. By December 6 could distinguish shadow of two fingers. Movement of globe increased; upper eyelid can be partially elevated. Dr. Paterson reports that there is a marked pallor of disc, with commencing atrophy. Fingers at a foot and a half; light reflex present, though sluggish. December 20—left

infirmity; vision not improved further; globe movements now normal, no deformities. May 28—Returned with a slight swelling over the inner surface of ala of nose just internal to lachrymal; small fistula, probe passing up to frontal sinus. Frontal sinus reopened and a Killian performed. Case took normal course; dismissed well on June 28; no perceptible deformity. Since then patient has kept well. No further improvement in vision.

Large Cyst of Arytænoid and Ary-epiglottic Fold.—**J. Malcolm Farquharson, M.B.**—Male, aged forty-six, sought advice on May 23 last for difficulty in breathing. No previous illness until five years ago when he gradually became husky without apparent cause. This varied much in intensity. Six months before admission suddenly lost his voice and could only speak in a whisper. Absence of pain, cough, or secretion. On admission, was suffering from marked dyspnoea. The whole of the right arytænoid and ary-epiglottic fold was very swollen, of a dark red colour, giving the appearance of a solid pear-shaped mass. At one spot—the most anterior part of the ary-epiglottic fold—dilated vessels coursing over the surface could dimly be made out. Swelling so large as to interfere with air-way. Edge of right cord only seen on account of swelling of ventricular band; a portion of the latter only visible. Rest of structures of larynx normal. Movement of cords and of crico-arytænoid joints normal. Efforts made with punch forceps to remove a portion, but owing to very tense condition of walls, unable to get a bite. Incision made into most prominent part of swelling; large quantity of watery fluid of a faint yellowish colour escaped under pressure; fluid unfortunately lost. Examination now showed normal configuration of larynx. Portion then cut out of cyst-wall. Kept in bed; ice for twenty-four hours, followed by steam benzoin inhalations. Did well for four days when suddenly seized with increasing dyspnoea and sensation of choking. Examination showed entire larynx intensely inflamed. Enormous swelling of the entire arytænoid and ary-epiglottic fold up to and involving the lower half of epiglottis. Right cord and crico-arytænoid joint fixed. Incisions made over swelling; very free hæmorrhage: great relief obtained. Swelling gradually disappeared under rest and steam inhalations. Dismissed ten days later, when swelling had almost disappeared. Some movement of right crico-arytænoid joint, which is slightly swollen. Present condition of larynx normal.

Intra-nasal Radical Maxillary Antrum Operation.—**J. D. Lithgow, M.B.**—The purpose of the operation is to provide free and permanent access to the maxillary antrum for intra-nasal inspection and drainage. The operation is performed under local anæsthesia and consists of two stages, separated by an interval of a month or so; the second stage is preceded with only in the event of a cure not resulting during the intervening period. *First stage:* The region of the inferior turbinate and meatus is carefully dried and packed with 10 per cent. cocaine and adrenalin solution. After ten minutes the packing is removed from the inferior meatus and Blegvad's strong solution of cocaine substituted:

Cocaine	1·0
Salicylic acid	1·0
Adrenalin	gtt. 1·0
Absolute alcohol	2·0

In five minutes the plugs may be removed, and the antrum is punctured with Myles' antral trocar about an inch from its anterior extremity

and as near the floor as possible; the handle of the instrument is then rotated around its long axis through a half circle and slowly withdrawn until the back-cutting edge of the trocar is felt to be impacted near the antero-inferior angle of the antrum; the instrument is then inclined more towards the septum of the nose and withdrawn with a screwing movement. A slot of about an inch in length by one eighth of an inch in breadth is thus cut in the inferior meatal wall of the antrum. The corresponding strips of bone and mucosa will be found adhering to the ring of the trocar and may be examined microscopically. The contents of the antrum may then be aspirated through a silver Eustachian catheter and lavage performed. When the outflow is at last clear the patient should occlude the nostrils and blow out the remaining fluid in the antrum *via* the catheter. The inferior meatus is now plugged with bismuth gauze, which may be removed during the course of the day. Lavage of the antrum should be carried out at regular intervals by means of the catheter, which can hardly fail to hit off some portion of the slot in the antral wall on the subsequent lavages. If, at the end of five or six weeks, the discharge still continues, one then passes on to the *second stage*: The antrum is douched and dried as before; the patient then inclines the head towards the affected side, and thirty drops of the 10 per cent. cocaine-adrenalin solution is injected into the antrum through the catheter, and on withdrawing this the anterior half of the middle and inferior meatuses are packed with gauze similarly impregnated. The head is then inclined well towards the healthy side and slightly forwards. After ten minutes the plugging is removed from the middle meatus and the anterior half of the inferior turbinate is smeared all over with Epley's solution, working well up to the antral wall of the middle meatus and towards its anterior extremity. In a few minutes the mucosa assumes a snow-white appearance. The plug is now removed from the inferior meatus and the anaesthesia is complete.

The lower movable blade of Struycken's turbinotome is inserted into the antrum through the anterior extremity of the slot in the inferior meatus; the upper and fixed blade passes over the anterior extremity of the inferior turbinate at an angle of 45° ; the blades are then closed and a slot cut through the turbinate and antral wall. Before removing the forceps they are bent somewhat forcibly towards the septum, when the anterior extremity of the turbinate and the adjacent portions of the antral wall attached to it will appear in view. A strong snare is then passed round the projecting portion—the loop towards the septum, the barrel towards the antral side. On drawing up the loop one cuts through and removes a large triangular portion of antral wall with the anterior third of the inferior turbinate attached to it. The antrum should now be packed with a continuous strip of gauze wrung out of peroxide of hydrogen. The cut edges are powdered with orthoform or anaesthesin and then smeared with vaseline. The antral plug will be removed after the reactionary hæmorrhage has passed off.

The after-treatment consists in spraying the antrum with peroxide of hydrogen, douching with saline solution, and then insufflating a $\frac{1}{2}$ per cent. solution of menthol in parolene. This may be entrusted to the patient. A large portion of the antrum may be seen on inspection by anterior rhinoscopy with the aid of the lateral rhinoscopic mirror; and should a Holmes's pharyngoscope be available, then the whole extent of the cavity may be seen. This in part answers one of the principal objections to the intra-nasal route, that the antrum can neither be inspected nor curetted.

Dr. SYME said that though Dr. Lithgow's operation was ingenious he did not see the need of it. The Caldwell-Luc operation could be carried out under local anæsthesia, and the results were so satisfactory in the great majority, he was almost tempted to say in all of cases, that he did not understand the indication for an extended intra-nasal procedure.

Dr. LITHGOW replied that he looked upon his method as more simple than the Caldwell-Luc, hence its indication both from the surgeon's and the patient's points of view.

Retro-Pharyngeal Abscess in an Adult aged fifty; Incision - Cure. Patient shown.—J. D. Lithgow, M.B.

Singer's Node removed by Indirect Method.—W. G. Porter M.B.—The case illustrates the possible pathology of some of the cases. M. C——, aged twenty, a rubber-worker, gave a history of hoarseness of a year's duration. On examination a small white projection was seen on the edge of the right vocal cord and near its centre; it had the typical appearance of a singer's node. It was removed by Moritz-Schmidt's forceps by the indirect method. The section shows a pear-shaped projection composed internally of a young vascular connective tissue showing very little sign of reaction. The central part of the growth is occupied by some blood-clot, which in one part is undergoing slight organisation. The surface is covered by normal epithelium, in character similar to that which covers the vocal cord. Dr. Shennan concludes that the growth is of the nature of simple papilloma.

Singer's Node in Ozæna Subject; Node cauterised: Ozæna improved by Vaccine.—W. G. Porter, M.B.—N. B——, aged twenty-five, has a good alto voice, although suffering from ozæna, for which she has been treated by daily lavage for two years. This kept the symptoms in abeyance. Hoarseness developed in July, 1911, and at that time a very slight projection was seen on left cord. Voice rest was ordered, but the condition got worse and singing was impossible. In November, 1911, a typical singer's node had developed; it was destroyed by the cautery by the indirect method. The burn was slow in healing, but the functional result has been perfect. The patient has had symptoms of ozæna for five years. Dr. Struthers Stewart investigated the bacteriology of the discharge (February, 1912), and isolated an organism resembling Abel's bacillus in almost pure culture. From this he prepared a vaccine. The first inoculation of 10 millions was given February 29, 1912; the inoculation was repeated weekly thereafter for four weeks, the dose being increased to 50 millions. The crusting had by this time definitely diminished. Five more injections were given between March 29, 1912 and June 6, 1912, and since the latter date syringing has been entirely stopped. The dose has now been increased to 300 millions, and, in all eighteen inoculations have been given. The nose when examined on November 14, 1912, was free from crusts, and there was no trace of odour. The patient is free from headaches, and there is no feeling of dryness in the throat.

Ozæna treated by Vaccine.—W. G. Porter, M.B.—L. L——, aged fifteen, suffered from symptoms of ozæna for a year, blocking of nose, discharge from back of nose, headache and fetor. Discharge examined by Dr. Struthers Stewart, an organism resembling Abel's bacillus isolated, and vaccine prepared; first inoculation 10 millions, March 7, 1912

After six inoculations the lavage of the nose was stopped on May 30, 1912; the crusting had then diminished, and the subjective symptoms were greatly relieved. Since that date had had six inoculations, the last, August 1, 1912, of 40 millions; the nose has remained free from crusts and there is no odour.

Dr. PORTER said that he had another case under treatment by this method, but that there had not yet been time to judge of the effect. The two cases shown did not now require douching. He did not claim that these cases proved anything, but they were suggestive, and he thought the method of treatment by vaccine worthy of further trial.

? Fibroma of Pharynx.—J. M. Darling, M.B.—Male, aged forty-five, complains of something moving about loosely in his throat when he swallows. There is a pendulous pyriform mass between the left faucial pillars; situated often below the level of the depressed tongue, and not visible on first examination; free at upper pole; attached to and slung from the anterior pillar; hanging towards the middle line; smooth; no ulceration; glides freely up and down with the movements of deglutition; no glandular enlargement. A piece was snipped off from upper and inner aspect for microscopic examination. Structure—fibroma (? malignant). Section also shown.

Dr. BROWN KELLY said cases such as Dr. Darling's were rare. He had had one in which the growth was attached to the lateral wall of the pharynx, and there was no recurrence up to the time of the man's death seven years later. He knew of three other cases in which a similar growth sprang from the soft palate, epiglottis, and lateral wall of the pharynx respectively. All of these were malignant.

Keratoses of Larynx and Trachea.—A. Brown Kelly, M.D.—Man, aged twenty-one. Hoarseness set in gradually about eighteen months ago; at present not so marked as previously. No other symptom. Local appearances have remained almost unchanged since coming under observation three months ago. On the anterior two thirds of the slightly red left vocal cord is an irregular white formation, like curd. In the trachea, on its anterior wall, are three or four tiny white prominent points. No keratosis in pharynx. The excrescence on the vocal cord was removed, but recurrence took place in a few days. Dr. Abel prepared films and sections from the excrescence, and found that the former showed a few leptothrix filaments and small cocci or bacilli, while the latter were mainly composed of strata of flattened epithelial cells, surmounted by broken strata similar to those of the cornified layer of the skin.

Dr. LOGAN TURNER showed a coloured sketch of a case which had been under his care where there were the same microscopic findings. Neither in Dr. Kelly's case nor in his was there any pharyngeal keratosis. His case was published in the *Edinburgh Medical Journal*, April, 1906.

Osteo-Fibroma of Superior Maxilla.—James Adam, M.D.—Female, aged twenty-five. Case was shown at the last meeting¹ as one of osteomata of both antra with symptoms of painless increase for seven years, causing bulging of alveolar ridge and of hard palate downward, of nasal walls inwards, of antral walls forwards, and, on the left side, of nasal floor upward, and of orbital floor upward resulting in slight exophthalmos. Opinions expressed were that it was a case of tumour, of leontiasis, of cyst. Operation under infiltration anæsthesia; incision in

¹ JOURN. OF LARYNGOL., RHINOL., AND OTOL., vol. xxvii, p. 389.

gingivo-labial fold. The right anterior antral wall was as thin as paper, and dimpled on pressure; on the left the lower part of this wall had been quite absorbed, and the tumour lay under the mucous membrane. A solid tumour about the size of a Tangerine orange, filling the whole antrum with a few adhesions, was removed on each side; on the right there was a bony pedicle external to the pyriform orifice necessitating cutting with strong forceps; floor of orbit was opened on this side. No fistula remains.

Pathologist reports tumours to be fibromata with osseous changes. Sections shown.

Drs. W. G. PORTER and A. LOGAN TURNER showed skiagrams illustrating the mastoid region of the skull.

Dr. H. H. BOLTON showed a series of cultures of the *Bacillus proteus vulgaris*.

Drs. A. LOGAN TURNER and W. T. GARDINER showed pathological specimens illustrating tubercular ulceration of the trachea, syphilitic necrosis of the larynx, stenosis of the larynx after diphtheria and tracheotomy, meningitis secondary to sphenoidal sinus suppuration, frontal lobe abscess and meningitis secondary to accessory sinus suppuration and orbital abscess.

Dr. J. D. LITHGOW showed:

(a) An improved form of guillotine for extra-capsular enucleation of the tonsils by the Whillis-Pybus method.

(b) A pair of mirrors, right and left, for lateral intra-nasal rhinoscopy (in connection with intra-nasal maxillary antrum operations).

(c) Some tonsils enucleated with the above guillotine.

Abstracts.

LARYNX AND TRACHEA.

Kellock, Thomas H.—Pneumonotomy for Foreign Body. "Proc. of Roy. Soc. Med.," vol. vi, No. 3, January, 1913, Clinical Section, p. 64.

A boy, aged four and a half, swallowed a shawl-pin one and a half inches long, and was admitted four days later, on June 3, to hospital. A skiagram showed the pin at the level of the third rib, pointing upwards, apparently in the right bronchus. Attempts were made on four occasions, at first through the larynx, and latterly through a low tracheotomy wound, to remove the pin with the bronchoscope, but although the pin was grasped more than once, the attempts failed. On June 22 a skiagram showed the pin lying near the diaphragm. On June 24 another attempt was made with the help of a gum-elastic catheter, with the bent-over end of the stylet projecting, controlled by the fluorescent screen. No success.

On July 3, operation. The child had a slight cough, offensive breath, no expectoration, was slightly anæmic, otherwise fairly well. The patient was placed on the left side. The marks made during localisation formed a guide where to open the chest-wall. The chest was opened by two flaps reflected backwards. The first consisted of skin and muscles, the second of parts of four ribs, intercostal muscles and pleura, making a window three inches square. The finger located a hard spot about the centre of the diaphragmatic surface. The lung was pushed up and an