Tracheotomy was performed, and the original wound in the skin and superficial tissues was closed in the usual manner.

Recovery without pulmonary complication, hæmorrhage, or interference with laryngeal movements.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

March 5, 1915.

Dr. JOBSON HORNE, *Vice-President, in the Chair.*

Angeioma (Bleeding Polypus) of Nasal Septum.—William Hill.—Female, aged twenty-five. A vascular growth, which has bled on several occasions, is seen springing from the anterior end of the right vestibular surface of the nasal septum. It has been noticed for six weeks, and is increasing. Eradication by surgical diathermy was proposed.

The CHAIRMAN regretted that their President, Dr. William Hill, had been unavoidably prevented from presiding. The nature and treatment of "bleeding polypus" of the septum of the nose was familiar to them all. The situation of the growth, in Dr. Hill's case, on the most anterior part of the vestibular surface of the nasal septum was perhaps a little unusual. The case reminded him of one which he had brought before the Laryngological Society of London many years ago.[1]

Dr. PEGLER agreed with the President's diagnosis; as sometimes happened with these angeiomas, the growth started from the septal wall of the vestibule close to the junction of skin and mucous membrane. He hoped that Dr. Hill would preserve the specimen by removing it entire in the usual manner.

Report upon Dr. Hill's Specimen of Septal Angeioma.—The growth, somewhat mushroom-like in shape, cut vertically, belongs to the close-textured, soft-cell type of *fibro-angeioma.* The convex surface is overlaid by fibrinous plasma containing leucocytes. Around the base is stratified epithelium sending in many prolongations of prickle cells. Thick fibrous trabeculæ ramify into the body of the growth from the pedicle, and merge in the dense meshwork of connective tissue sustaining endothelioid cells and enclosing abundance of blood sinuses, mostly very small. Lymphocytes have freely infiltrated an extensive area towards the periphery. L. H. PEGLER.

Left Recurrent Paralysis associated with Mitral Stenosis.[2]**—L. H. Pegler.**—The patient (deceased) was a Jewish girl, aged nineteen, who came to the Metropolitan Throat Hospital in July, 1914, complaining of hoarseness on awakening and vocal disability which had dated from the previous January. This was found laryngoscopically to be due to

[1] *Vide Proc. Laryng. Soc. Lond.*, 1896, iv, pp. 31, 32.
[2] See also p. 328, of this issue.

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paralysis of the left vocal cord, which was fixed. Dr. T. D. Lister, at Mount Vernon Hospital, had noted some dilatation of the heart, with presystolic and systolic murmurs. She was admitted at the Brompton Chest Hospital on August 11, under Dr. Bosanquet, who has kindly lent the photographs shown, and supplied the following notes taken during her stay, which terminated at the friends' desire on October 26. She died at home four days after her discharge, her local doctor reporting that she gradually sank. On admission to Brompton Hospital the girl, who had suffered formerly from rheumatic fever, complained of cough, pain in left breast, and shortness of breath. A long presystolic murmur was audible at the apex, with thrill. Posteriorly, some râles at the bases of both lungs. The temperature remained at about 100° F. all the time; there were no tubercle bacilli in the scanty sputum. It was thought that some latent infection might be present as suggested by the fever. Dr. Dundas Grant examined her by direct bronchoscopy, and found no abnormal pulsation. Dr. S. Melville X-rayed the thorax on August 17, and reported: "Heart enlarged, purse-shaped. Above the left border is a well-defined shadow more or less in situation of right ventricle. Aorta wider than normal." In the absence of an autopsy, the intimate relationship between the cardiac conditions and the recurrent paralysis must remain a matter for speculation. Sir StClair Thomson in his book quotes Ortner[1] as the first to describe this rare complication of mitral disease, and states that thirty-seven more have been published since, but the instances are few in which the causal relationship has been established *post mortem*.

Dr. Pegler wished to add that Dr. Stanley Melville, who X-rayed the thorax, now held the view that there was a mediastinal neoplasm. There was a number of blotches at the root of the lung in the skiagram, and these had suggested that diagnosis. Mr. E. D. Davis had just told him of a case he had treated in Charing Cross Hospital which had ended fatally, and in which mediastinitis had been found *post mortem*; enlarged mediastinal glands were present, and Mr. Davis had formed the opinion that the recurrent nerve had been stretched by these bodies, and not by the dilated aorta. There was a good deal of recent literature upon the subject, and according to some authors it had been very difficult to clear up the actual relationship between the heart affection and the paralysis in several of the cases, even after a *post-mortem* examination had been made.

Dr. de Havilland Hall said that in the discussion of some months previously he brought forward a similar case, and he had known several other cases in which mitral stenosis was associated with left recurrent paralysis. Unfortunately it was not possible to verify the result in his own case, as in other cases, by necropsy. So far as X-ray examination went, his own case was undoubtedly due to pressure upon the left recurrent, owing to the dilated condition of the heart.

Sir StClair Thomson said that his experience of this condition was only second hand, but he had read up the literature of the subject. There were few if any cases in which the *post mortem* had proved that the enlarged left auricle was the cause of the paralysis. It would be a very good subject for exact investigation by young laryngologists with material. Killian had written, since his (the speaker's) book was published, to the effect that in his opinion it was anatomically impossible for the left auricle to produce any pressure on the recurrent laryngeal.

Dr. Dundas Grant had seen this case at Brompton Hospital, and

[1] *Wien. klin. Woch.*, 1897, x, p. 753.

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had sought to determine whether there was any evidence of pressure on the œsophagus and on the air-passages, on the part of the left auricle, as revealed by œsophagoscopy. No abnormal pulsation was to be made out in the œsophagus; certainly there was no pressure there. The bronchioscopic examination was rather indecisive. In any case, the question of a direct pressure on the laryngeal nerve by the left auricle seemed to be very uncertain. They knew, from the relation of the left auricle to the aorta, that there was between the two the pulmonary artery—a very large structure, which would act as a sort of cushion separating them. The probability was that there had been some coincidental neuritis, perhaps associated with pericarditis, which was almost always present in extensive dilatations of the cavities of the heart. There was on record a case in which hoarseness disappeared after two days on digitalis, but in this particular instance, in spite of treatment in bed and the administration of digitalis, there was no disappearance of the paralysis of the left vocal cord. The question as a whole seemed to be undecided, and he only regretted that in this particular instance they did not have an opportunity of clearing up the case, as Dr. Pegler would have wished, by means of an autopsy.

Mr. Stuart-Low recalled the case of a girl, aged nineteen, who had been very thoroughly examined by Dr. Hawthorne, and who reported on the condition of the heart. In this case the auricle was very large indeed, and he considered that pressure was direct on the recurrent nerve. In this particular instance, a long rest in bed had been effective, and movement of the vocal cord had partially returned under this treatment.

Superior Maxillæ, exhibiting Abnormal Conditions of the Nasal Fossæ and Maxillary Antra —L. H. Pegler.—The exhibitor is indebted to Dr. Macphail, of St. Bartholomew's Hospital Medical School, for showing him, and permitting him to bring forward No. i, and, similarly, to Prof. Symington, of Queen's University, Belfast, for Nos. ii, iii, and iv. They are anatomy room specimens, and therefore without histories.

(i) *A Left Side Superior Maxilla, from an aged Female Subject.*—[This specimen was shown at the December meeting.] There is a linear congenital deficiency in the outer wall of the inferior meatus, running nearly the whole length of the floor, and on a level with it. This morphological change is rare, and, according to Prof. Keith, its correct interpretation is to be found in conjunction with a study of the upper jaw of a catarrhine monkey of the baboon class (a bisected skull of a baboon, and also of a chimpanzee, lent by the Royal College of Surgeons' Museum, and an illustrated paper by Prof. Keith upon it, were shown[1]). The abnormality should be considered as a distension outwards of the inferior meatus, that has done duty for, though not homologous with, the maxillary antrum in this subject. In this light the true antrum in this subject is represented by a small chamber in the malar apex of the cavity, cut off from it by a bony partition, and communicating through a normally placed ostium with the middle meatus: this is the normal location of the maxillary antrum in the baboon. It is somewhat puzzling to understand what has been gained from a physiological standpoint by the closing in of this well-placed drain aperture in the outer nasal wall, a change which in the ascent through the anthropoid apes—gorilla and chimpanzee—to man, has gradually evolved. The middle turbinate in this specimen is enormously hypertrophied and cystic.

[1] *Journ. of Anat. and Phys.*, 1902, ii, pp. 47-50.

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(ii) *The Superior Maxillæ with Nasal Septum (detached) of a Subject showing Membranous Adhesion of the Inferior Turbinates to the Nasal Floor.*—On both sides rather more than half the central part of the lower border of the inferior turbinate is fused with the mucous lining of the inferior meatus, establishing a supplementary channel. In consequence of the outer and anterior direction of the adventitious wall, the front aperture of this channel is contracted and much lateralised externally, but the posterior end is larger and points directly backwards. For purposes of demonstration, the left maxilla has been divided coronally into three parts, and shows the relation of the synechia, which Dr. Malcolm, of Belfast, in a well-illustrated paper on this specimen,[1] states to be 4 mm. thick, and made up of mucous and submucous tissue; this structure might not impossibly be inflammatory, but the close similarity of the two sides does not favour this view.

(iii) *The Superior Maxillæ with portions of adjoining Bones, from a Male Subject, aged sixty-two.*—The two specimens which are remarkably similar, show free communication between nasal fossa and antrum. This is effected through a round opening, about the diameter of a sixpenny-piece, with membranous margin, in the centre of a large shallow depression involving almost the whole of the outer nasal wall, and incorporating the normal ostium. Fibrous string-like bands of tissue slightly contract the right opening, and on the left side the vestige of middle turbinate that remains is adherent to the wall by radiating bands of a similar nature. A remnant of the anterior extremity of the inferior turbinate is seen in the left fossa. There are good evidences that the destruction has been wrought by syphilis.

(iv) *The Lower Part of the Head and Face, with Roof of Mouth and Soft Palate of a Male, aged twenty-one.*—Separation has been made from the upper part through a line carried below the orbits in a plane parallel with the central horizontal axis of the septum nasi, and met by a coronal cut through the nasopharynx. Professor Symington states that the man had slight mental weakness. The palate is arched and shows a congenital median aperture, part of a fissure which in the soft palate has been closed by sutures. The cicatricial tissue suggests the existing displacement of the upper lateral incisors behind the central, following operation; the bicuspids are also slightly out of place. The nasal cavities are ill-developed and extremely narrow in the plane of section, which exposes a right-sided angular deflection of the septum. The posterior part of the middle and inferior turbinates are bulbous and hypertrophied, encroaching much upon the space, and recalling familiar abnormalities of lymphoid and mucous structures in this region, in cleft palate subjects.

Mr. Herbert Tilley said the only clinical condition which somewhat resembled Dr. Pegler's first specimen occurred in a patient in whom a chronic left-sided antral empyema failed to be cured after the radical operation through the canine fossa. A second operation led to the discovery of a cavity occupying the malar recess, which communicated with the main antral cavity by a very small opening. When this recess was freely drained the suppuration ceased.

Dr. Pegler said that the baboon-like antrum was destined for the museum of the Royal College of Surgeons, and would always be available there for inspection, as would also the illustrations in the Anatomical Society's Journal.

[1] Read before the Ulster Medical Society, April, 1914.

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Synechiæ and Contraction of the Vestibules.—L. H. Pegler.—Private H. H——, aged twenty-five, Grenadier Guards, was wounded in the nose whilst entrenched at Ypres, by the bursting of a shell. The condition when he came to hospital, was mainly one of stenosis of both nostrils, the end of the nose having been stitched up after being nearly severed, and a higher wound on the lateral aspect healed, whilst in France. The vestibules are almost closed by adhesions, and the columella thickened and shortened by inflammatory deposits. The same influence had affected the turbinals, which had probably been previously hypertrophied, so that the fossæ were also much stenosed and nasal breathing prevented. According to the soldier's account, his speech was altered by the accident, and so remains, excepting that much of his nasal resonance has been restored.

Treatment consisted in paring away cartilage and sawing off bony projections from the septum by the older methods, aided by the spoke-shave and punch, submucous resection being impracticable. Thus a way was cleared for reducing the right middle and left inferior turbinate in the usual manner, and for an indiarubber tube of about $\frac{2}{5}$ in. calibre being inserted in each nostril. These were worn continuously for a month, but on removing them the vestibular contraction from re-growth of tissue threatened to recur. It was not until two lesser operations had been performed, and the tubes had been worn for a few more weeks, that a good permanent airway became established. One would have liked to improve the external appearance of the nose, but the scars are becoming less and less conspicuous, and the patient is returning to duty breathing quite satisfactorily.

Tuberculous Inferior Turbinate.—Cecil Graham.—Mr. Cecil Graham showed a photomicrograph of the tubercle bacilli in one of the sections, and said that he took the material away from the nose a few days after he showed the case at the last meeting of the Section [1]; Dr. Kettle then injected the material into guinea-pigs. The injection was made three weeks ago, and up to the present the guinea-pigs seemed to be perfectly healthy. The Section would have the result of the test before them at the next meeting.

Pathological Report upon the Case of Tuberculous Inferior Turbinate shown at the last Meeting by Mr. Cecil Graham; by E. H. Kettle, M.D.—"Sections show active tuberculosis. Numerous small foci are present, consisting of proliferating endothelial cells with occasional giant cells. In places there is some necrosis. A few bacilli are present, which in shape and staining reaction resemble tubercle bacilli."

The Chairman said, in view of the fact that at times acid-fast bacilli resembling tubercle bacilli, but of a non-pathogenic nature, were found in nasal secretions, a diagnosis of tuberculosis might be vitiated by depending solely upon the microscopic evidence. He was therefore glad to learn from Mr. Graham that in this case animal experiment had been resorted to. The result of the inoculation of the guinea-pigs must be awaited before the point whether it was or was not a case of primary tuberculosis of the nose could be definitely established.

Bullet Wound through Face; both Antra and Septum perforated; Operation.—G. Seccombe Hett.—Corporal M——. Bullet wound of head on December 1, 1914. First field dressing applied at

[1] Journ. of Laryngol., Rhinol., and Otol., July, 1915, p. 288.

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once. Injection of anti-tetanic serum. At the time the patient was rendered unconscious; both eyes swollen up; teeth loose. Arrived in England complaining of headache, discharge from nose, and left-sided deafness, stiffness of jaw, and inability to open his mouth.

On admission to hospital on December 10 there was an entrance wound over the left malar bone 1½ in. anterior to auditory meatus, and an exit wound through the right cheek. The left lower eyelid was œdematous. The nose was full of crusts and pus, and there were adhesions between the anterior ends of both inferior turbinals and the septum, which were separated by Mr. Herbert Tilley. On December 15 a sequestrum was removed from the left nasal cavity, probably from the inner antral wall. A skiagram showed a number of tiny metallic filaments (probably of nickel casing) along the track of the bullet. On transillumination and X rays both antra were dark, but this was more marked on the left side. The photographs further showed fractures of the left malar, of the first upper molar on the left side, and of the first upper bicuspid on the right. On January 14, under anæsthesia, the nose was explored, a perforation found involving the vomer, and sequestra were removed. The left antrum was opened anteriorly and found to be full of pus, granulations, and splinters of bone. The Caldwell-Luc operation was completed and portions of both inferior turbinals removed. Splinters of bone were also found in the exit wound. The jaw was opened by means of a gag gently applied. Local treatment to the nose has been subsequently employed for the crust formation. The bullet, after passing through the face, embedded itself in the clay at the back of the trench, from which it was extricated by patient's brother. The core had evidently separated after the bullet's exit, from the nature of the wound, and only the casing was found. This casing is shown, and it will be noted that the point is only slightly blunted. The range is said to have been only 70 yards, and the patient is sure that the bullet came through a sandbag.

Mr. Seccombe Hett said that this case was of great military interest. It was an extraordinarily neat wound, made at a 70 yards' distance, and one felt that the bullet must have gone through with its core intact. Five openings had been made through the bone, each opening being of a size only just large enough for a bullet to pass through. The malar bone was fractured. Mr. Hett described by means of a skiagram the track of the bullet, which, he said, was so perfectly straight that a probe could be passed from entrance to exit. The patient had a good airway through the nose.

Bone impacted in Left Bronchus for Six Months; Removal; Recovery (Bone shown).—Sir William Milligan.—History as given by patient: "On July 29, 1914, whilst at luncheon I felt a piece of bone slip into my throat. It appeared to go into the windpipe, and caused great difficulty in breathing, with gasping, coughing, and sickness. Relief in about a quarter of an hour, but had frequent attacks of coughing during the afternoon. Went to Scotland on August 1. During the month of August the cough continued intermittently, and was always worse at night. On one occasion, after cycling uphill, I had a severe attack of breathlessness and wheezing, and was quite unable to speak. Towards the end of the year I got very quickly out of breath, and on one occasion, after running to catch a car, breathed with great difficulty and in gasps. On January 19, 1915, I had a very violent attack of breathlessness after running upstairs, followed by cough, expectoration of blood, and pain in the back, shooting from the back of the chest to the front.

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I had to sit up for hours at night to stop the cough, and for the last three nights before the operation could neither lay upon my back nor right side on account of severe pain accompanying every attack of coughing."

X-ray examination upon January 21 (Dr. A. E. Barclay): "Slight thickening at root of left lung; no evidence of any bone." Examined by Professor George Murray, January 23: "Breath sounds near left bronchus similar to the sounds produced by a large goitre pressing on trachea; no pulmonary disease." Admitted to surgical home on January 27. Examination and removal of bone (per oral bronchoscopy) the following day. Complete recovery.

Subglottic (? Tracheal) Growth; Removal; Recovery.—Sir William Milligan.—Patient, male, aged sixty-six. Suffered from slight respiratory obstruction and intermittent attacks of aphonia from four to five years. No pain or expectoration. Respiration gradually becoming more difficult. Pedunculated growth seen arising from middle line of anterior tracheal wall; attachment about ¼ in. below vocal cords. Both cords normal. Growth occasionally seen to swing up between vocal cords.

Removal by the direct method. Application of liq. ferri perchlor. fort.

The CHAIRMAN said that he had one remark anent the case to make on behalf of their President, who, although not able to be with them that afternoon, had nevertheless studied the notes of the cases brought forward. Dr. Hill raised the question whether the situation of the growth justified its being described as tracheal. The note stated that the growth was attached a quarter of an inch below the vocal cords. It would be better, in Dr. Hill's opinion, to describe it as a laryngeal and not as a tracheal growth. With that opinion he (the Chairman) fully concurred. In the literature, tracheal growths were comparatively rare, but the more common laryngeal growths were not infrequently subglottic in their attachments.

Sir FELIX SEMON asked what was the nature of the growth.

Dr. KELSON asked whether the growth was connected with the thyroid gland. Some three years ago he showed before the Laryngological Section a case in which the growth consisted of thyroid tissue.[1] It was well known that growths in that region were sometimes of this nature, and they were of interest developmentally.

Dr. DAN MCKENZIE said that subglottic growths were not uncommon, but pure tracheal growths were rare. Some two or three only had been published in the JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY within the last few years.[2] The question was whether this was purely a tracheal growth.

Dr. DUNDAS GRANT asked what were the dimensions of the growth.

Sir WILLIAM MILLIGAN said that with regard to the question of calling the case a growth in the trachea, there was certainly something in the criticism which had been made from the Chair. He had thought of calling it a sub-glottic growth, but the attachment was fairly large. Whether the growth absolutely originated in the trachea, or was just above the origin of the trachea, it is extremely difficult to say. But he was quite willing to alter the title and call it a subglottic growth, although he thought part of the pedicle was attached to the mucosa of the trachea. With regard to the nature of the growth, he did not think it contained thyroid tissue; according to microscopic examination it was a local

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., vol. xxvii, p. 322.
[2] *Ibid.*, 1912, vol. xxvii, pp. 123, 322; 1913, xxviii, pp. 376, 509, 596.

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lymphangiectasis with a fibrous capsule. As to its dimensions, it was just under $\frac{1}{2}$ in. in diameter.

Dentigerous Cyst of the Lower Jaw; Operation.—Sir William Milligan.—Boy, aged fifteen. Indefinite history of pain upon right side of face. Six months previously progressive swelling of right side of face; more marked recently. Slight pain, especially at night. Examination with finger in mouth causes pain and a definite papyraceous sensation.

X-ray Report.—"It is one of the most perfect cases of dentigerous cyst I have ever seen. It is very extensive, and in the lower part is a molar tooth. The bone is expanded to a thin shell, but there is no indication that the condition is anything other than an uncomplicated dentigerous cyst."—A. E. Barclay.

Opening of cyst and removal of lining membrane (section shown) and tooth.

[*Note.*—This case produced an interesting discussion on the treatment of dentigerous cysts of the upper jaw.]

Mr. Herbert Tilley said that cysts in the upper jaw as large as the one described could not be cured by simply scraping them out, because the granulation tissue nearly always suppurated, and this entailed a very long convalescence. In such cases he had always adopted the method of breaking into the antrum, removing the cyst wall, making a large communication into the nasal cavity, and sewing up the buccal wound at the time of the operation. If one opened these large cysts and packed the bony recess daily, in the hope that the cavity was going to granulate, the after-treatment would be a prolonged business.

Sir StClair Thomson supported Mr. Tilley's views. The treatment of cysts of this type in the upper jaw was most unsatisfactory. Two of his cases never got well. There were cases in the clinic for months and years, in which there was a continual history of stopping, and scraping, and waiting for this granulation which never filled it up. Therefore he had adopted the plan of trying to make them communicate either through the antrum, or directly, into the nose, and even then he had not been able to cure the suppuration.

Dr. Dan McKenzie said that he had been very much interested in hearing these remarks because in a recent case which he saw there was an enormous cyst which occupied the greater part of the antral cavity. In the course of the operation he accidentally broke through the small casing of shell-like bone, and having done that he obliterated it and made communications in the way that had just been suggested. The suppuration ceased promptly, and the patient got quite well except that, from the distension of the antrum and the superior maxilla, it was impossible to keep closed the opening between the mouth and the antrum. The dentist had now made a plate which closed the opening. The speaker had tried to do a plastic operation, but the stitches broke down, the traction being too great.

Mr. H. L. Whale asked how this growth had been approached—through the alveolus or the antrum wall?

Mr. Tilley, replying to Mr. Whale, said that it was his practice to make an incision into the mucous membrane, over the most prominent portion of the cyst, to reflect this carefully, and then remove all the cyst wall, before reuniting the lips of the original incision of the buccal mucous membrane.

Sir William Milligan said that the operation took place two or three weeks ago, and absolutely the whole of the cyst wall was taken out;

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so far the case was going on satisfactorily. There was already contraction to the extent of at least two thirds of the original size. He certainly looked forward to a good recovery. Had the cyst been in any way connected with the upper jaw or antrum, his treatment would have been different.

Perithelioma of Maxillary Antrum.—H. L. Whale.—Female, aged fifty-two, has had an increasing lump under the right eye for four years. She came to hospital in September, 1914. The swelling was then limited to the antrum, bulging chiefly outwards and inwards, hardly at all towards the orbit and not at all downwards. Puncture revealed a solid tumour. Chloroform being administered, the antrum was approached from under the cheek; the intention was merely to remove a piece for examination, but a large mass of growth was shelled out, and finally the appearance was almost normal. However, the exhibitor felt sure that some growth remained at the upper margin. The mass now seen at and below the inner canthus has grown since then; but exhibitor, immediately after the former operation, went to France and lost sight of the patient.

Histological Report by Pathologist.—A somewhat friable tumour, studded throughout with many small spicules of bone. In section: in parts the tumour presents irregularly circular areas, richly cellular, separated from one another by delicate fibrous tissue in which particles of bony structure are found. These cellular areas present internally a roughly circular space filled with red blood-corpuscles. Bounding the space externally is a layer of flattened cells, suggesting the internal lining epithelium of a vessel. External to this are many closely packed, small, ovoid cells, with a well-defined nucleus, arranged in a concentric manner around the lumen. In other parts of the section, irregular columns of similar cells are seen infiltrating the fibrous tissue. These appearances suggest a perithelioma originating in the small blood-vessels.

Mr. Herbert Tilley suggessed making a small incision in the growth and burying a strong radium tube within it.

Dr. Wylie thought it would be difficult to treat this growth by any surgical measures, and he suggested that the exhibitor should treat his patient by exposing her to erysipelas. He had a case of epithelioma, in which the disease was extensive, and the patient was considered hopeless. Erysipelas broke out in the ward, and the patient contracted it and was very ill for several weeks. On recovery the epithelioma was cured, and there had been no recurrence. The treatment was drastic and dangerous, but the disease was dangerous, too. Dr. Wylie was so struck with the result that he had been trying Coley's fluid once more in such cases.

Dr. Dundas Grant said that a material point in this connection was as to whether the tumour in Dr. Wylie's case was identical in nature with the one under discussion in Mr. Whale's. The one, he thought, was an endothelioma and the other an epithelioma.

Mr. Stuart-Low said that he had had a similar case which had apparently got well, but after an attack of erysipelas the malignant disease returned in six months' time in an aggravated form, and the patient died.

Mr. W. D. Harmer said that the difficulty in these cases was to know exactly the nature of the growth, whether it was sarcoma or endothelioma. The latter type of growth would sometimes disappear in three weeks after a large dose of buried radium, but it was not yet known whether per-

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manent cures could be obtained by this means. He believed that the earliest case of endothelioma reported as cured by radium only dated back three or four years, and that in some of these cases it would be found that the cure was only a temporary one.

Sir WILLIAM MILLIGAN urged that if radium was to be used it should be used in massive doses and with needles—at least a dozen needles—so as to get the benefit of very intense cross-firing.

Mr. WHALE said that he was very much obliged for the suggestions. He did not, however, feel that he would like to give the patient erysipelas. He had been thinking of trying diathermy, and two members on seeing the case had strongly recommended surgical operation. The case differed in nature from Dr. Wylie's, which was, he understood, an epithelioma.

Dr. DAN MCKENZIE said that on seeing the case he had urged that it be dealt with surgically, and he still maintained that opinion. He would certainly be inclined to attack that growth by a Moure's incision and free exposure, and thought it could be treated successfully.

Patient from whom the Piece of Tin was removed by Posterior Œsophagotomy.[1]**—H. L. Whale.**—The scar is linear and so far back as to be invisible when the patient is clothed and wears a high collar. This is one advantage of approaching the œsophagus from behind the sternomastoid.

Œsophageal Stricture in Children.—C. W. M. Hope.—*Case* 1.—Male, aged seven and a half, was admitted to hospital with the history of having vomited at least once a day since about the age of two months. An X-ray photograph shows a well-defined stricture of the œsophagus behind the pericardium. At Dr. Frew's request I examined the child with the œsophagoscope on February 17, 1915, and found enormous dilatation of the upper œsophagus. The dilated portion contained much undigested food; the lining membrane above the stricture was very unhealthy, in parts denuded of epithelium, and bled easily on swabbing, and towards the right side were seen some very definite areas of scar tissue. The mouth of the stricture was well defined, and admitted with difficulty a bougie of 5 mm. diameter. It was dilated up to a bougie of 10 mm. diameter. To date of reporting (February 26) the boy has only vomited once, and has gained in weight about a pound a day. Up to now he has never had solid food, but has lived purely on liquid or sloppy food.

Case 2.—Baby, aged eighteen months, was admitted to hospital on February 17, 1915, with history of daily vomiting since birth. Not emaciated. On examination the same day with the œsophagoscope, the whole of the thoracic œsophagus was found greatly dilated, but no food lying in the dilated area. The mucous membrane of the sub-diaphragmatic portion was found thrown into large transverse folds, but bougies, as well as the second largest Killian tube, could be passed into the stomach without any difficulty. There had been no more vomiting to date of report (February 26), and child can now eat bread and butter. This case is apparently of the same type as that of the congenital hypertrophic stenosis of the pylorus, which does so well with simple dilatation with Hegar's dilators through a gastrotomy opening. Skiagram shown, taken three days after dilatation.

Mr. HOPE said that since writing his notes he had obtained more history relating to the condition of the elder boy (Case 1). The child

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., July, 1915, p. 290.

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had had solid food given to him, but this never reached his stomach. Sometimes he would keep a whole meal in the dilated œsophagus, or sometimes only a portion, and then vomit it up, this occurring eight, ten, or twelve times a day. There was no history of any corrosive having been swallowed. About four years ago he (the speaker) saw at Newcastle a case under Mr. Martin's care in which there was a very tight fibrous stricture in a child aged four, the stricture coming on directly after an attack of diphtheria. There was very marked scarring in the dilated upper part of the œsophagus, and one could not get even the finest filiform urethral bougie through the stricture. A gastrostomy had already been performed when the case was seen, and the child eventually died. Mr. Hope also said that the children in neither of his cases were emaciated, although they were never properly fed. Even the small child was quite well covered. With regard to the condition of the stricture in the small child, there were very marked rugæ seen at the lower end of the œsophagus, and dilatation certainly as big as was seen above the malignant stricture in any grown-up patient. Dr. Still rather thought that there was a predisposing condition of spasm. He knew that the existence of spasm was doubted, but Dr. Still appeared to think that there was such a thing in the case of the œsophagus, similar to the condition occurring at the pylorus in young children.

Œsophagus from a Child, aged two and a half years, showing Escharotic Stenosis.—Dan McKenzie.—History: In May, 1914, the patient swallowed half a teacupful of a poison for bugs. The mother induced vomiting by tickling the pharynx with her finger, and half the quantity was regurgitated. After swallowing the poison the tongue was protruded and swollen and the lips were bluish. Great limpness followed the swallowing of the liquid. After that he was unable to swallow solid food and sometimes not even liquids, the food returning before it entered the stomach. He came under my care on November 20, 1914, quite unable to swallow solids and semisolids, and only getting down small quantities of liquids. The X-ray examination showed complete impaction in the œsophagus, at the level of the sterno-clavicular articulation. Seven or eight attempts to dilate the stricture were made. All failed. At first I succeeded in passing fine tubes and bougies, but the immediate effect of these efforts upon the strictures was discouraging. Feeding was mainly carried on *per rectum*. After a distressing illness the patient died on February 1, 1915.

Pathological Report by Dr. Wyatt Wingrave.—Œsophageal stricture: The specimen was removed entire, from tongue to duodenum inclusive. About 3 in. from the cricoid level stricture commences abruptly and gradually diminishes towards stomach, involving about 1½ in. It consists of apparently dense cicatricial tissue involving both mucous membrane and muscle, with some extension to cellular tissue around. The lumen is reduced to 1 mm., only admitting a probe. Above the stricture the tube is dilated, and its mucous membrane is thrown into well-marked transverse rugæ, but not markedly reduced in thickness. Below it is not dilated, and the cicatricial tissue *gradually* ceases, not abruptly, as at the upper boundary. The stomach is very small and walls very thin, altogether smaller than a normal stomach at that age. Above and below the stricture the mucous membrane is normal, and there are no signs of present or past erosion in any part of the tract above or below stricture. The aorta is normal and there is no arteria aberrans.

Dr. Dan McKenzie said that Dr. Wyatt Wingrave felt very strongly

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that the stricture in this case was more likely congenital stricture of the œsophagus than due to corrosive fluid. He (the speaker) did not agree with him, but in justice to Dr. Wingrave and his opinion, he thought it only right that it should be stated.

Epithelioma of Pharynx, Tongue, and Cervical Glands in Male.—W. Stuart-Low.—Since the last meeting, when this case was shown,[1] the tongue, pharynx, and glands have, on three occasions, been treated by diathermy. Free incisions having been made over the enlarged cervical glands, and the tissue reflected, punctures were made in the stony-hard glands with beneficial effect, the enlargements being greatly reduced and the pain much diminished.

Rabbit's Vertebra in the Right Lower Bronchus removed by Superior Bronchoscopy.—J. Dundas Grant.—Bone swallowed twenty weeks before admission to hospital. Physical signs indicated bronchiectasis in the right lower lobe. Expectoration copious, extremely fœtid, sometimes tinged like anchovy sauce, and 9 to 10 oz. daily in amount. Radioscopy confirmed these signs, and showed further a discrete dense opacity at the level of the fourth interspace anteriorly and the eighth rib posteriorly, probably foreign body.

Dr. Grant performed bronchoscopy and removed a rabbit's vertebra from right inferior bronchus at a distance of about 12½ in. from the teeth on February 18. The patient refused bronchoscopy under local anæsthesia (having previously been submitted to it elsewhere) and was, therefore, anæsthetised in dorsal position. The field of operation in the trachea and right bronchus was swamped with fœtid, blood-stained mucopus. The bone was removed by means of Killian's toothed forceps, and the bronchoscope had to be withdrawn along with it. There was no subsequent laryngitis, and the symptoms have nearly disappeared, the sputum now averaging 4 oz. daily, and later ½ dr. Dr. Grant said that at the time of the extraction he gave instructions for tracheotomy instruments to be kept at hand, but no need for them arose.

Removal of Epithelioma of Larynx.—W. M. Mollison.—F. B——, aged forty-five, complained of hoarseness of about four months' duration He was seen in November, 1914; there was then a sessile swelling about the left cord. Laryngo-fissure was performed. The whole left cord was removed, together with the tip of the vocal process of the arytænoid: the growth involved also the anterior quarter of the right cord, and the anterior half of this cord was also removed. The specimen is shown. Recovery was rapid. Two months later a distinct swelling was seen at the anterior commissure: this swelling is still present but much smaller. However, with suspension laryngoscopy, a small piece was removed which proved to be fibrous tissue only.

Dr. Dundas Grant said that in such cases an apparent re-growth about the anterior commissure sometimes caused anxiety, but it was usually simply granulation tissue. It was thought to be more apt to take place when a suture was used, and it ultimately disappeared.

Sir StClair Thomson said that these appearances of re-growth always gave rise to anxiety during the first few months of convalescence. One learned by experience how to distinguish them. He thought that the fresh growth in this case was nothing more than a simple granuloma. These granulomas were much more pedunculated or semi-pedunculated

[1] Journ. of Laryngol., Rhinol., and Otol., July, 1915, p. 287.

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than the original growth. He pointed out that in this case, in addition to the fresh granuloma, there was a little red fleshy pimple, such as one saw over a piece of exposed cartilage.

Sir Felix Semon said that his own experience was that when apparent recurrence took place, one should not directly proceed to a second large operation. In the great majority of cases the apparent recurrence was only granuloma. He wished to lay emphasis upon this point. In a case of his, in which he had performed laryngotomy, a re-growth was discovered in the anterior commissure while he himself was away on holiday. Although he had suggested the possibility of simple granuloma, the family doctor had a second thyrotomy done, and, on pathological examination, simple granuloma was detected. After six weeks the patient came to him again for a fresh outgrowth in the anterior commissure, and he then followed his own principles, and removed it with forceps from within. It was a simple granuloma, and after its removal in this manner the patient remained perfectly well. He strongly advised any one who had a case of the kind not to perform at once a second big operation, but first to remove a piece of the growth for examination from within.

Fibroma in Naso-pharynx.—J. L. Irwin Moore.—Boy, aged sixteen, with growth—fibroma—in naso-pharynx, originating apparently from left half of sphenoid, and occupying the greater half of post-nasal space. The patient complained of difficulty in breathing at night and on eating food. There had been no spontaneous hæmorrhage. Opinions were invited as to best methods of removal.

Dr. Dundas Grant thought this was a small-based fibroma, and its removal might be effected without any great anxiety. It could even be done, he thought, with the old-fashioned form of adenoid forceps with large spoon-blades.

Mr. Herbert Tilley said he would certainly oppose Dr. Grant's method of treatment most strongly. In the first place, on careful examination, this growth appeared to shelve up the posterior wall of the naso-pharynx—*i. e.*, he believed the growth was not pedunculated, but that it was a sessile fibroma, and probably very vascular. He would be sorry to tackle that with "adenoid forceps," or without a definite plan of campaign. It might be possible to remove it through the nasal passage. One authority had stated that he had never seen a nasal fibroma which could not have been removed through the nasal passages. But, assuming that it could not be removed in that way, this particular fibroma having a large base of origin, he would suggest making a Moure's incision (lateral rhinotomy), and treating the growth through the large opening thus made. It would then be an excellent case for diathermy. The growth was very vascular, and one ought to regard its removal as a serious operation. His suggestion, if acted on, would involve an external scar, but the patient was a very young boy, and if the operatian was successful the scar would be unnoticeable in a few years' time.

Sir StClair Thomson said that Mr. Tilley had just spoken of the "nasal passages"; he took it that he included the mouth. All these extensions, although they might have secondary adhesions in the nose, in the sphenoid, and the antrum, could be extracted through the mouth. On this matter he spoke without any personal bias. He had not worked on such cases, but he had a great opportunity of seeing some of them in Paris, and Mr. E. D. Davis showed a very similar case at the last meeting of the Section—a case which was described as a fibroma of the naso-pharynx, a thing pathologically innocent, but clinically malignant. Mr.

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Davis removed it through the mouth. He (the speaker), thought it a great pity to disfigure anybody by a scar through the nose. In Paris, they neither split the soft palate nor operated through the face. They placed their patient in a Trendelenburg position, and had their curettes working sideways, one cutting surface working one way and the other the other way, and passing up very quickly into the naso-pharynx. They had forceps—not adenoid forceps—ready to seize and wrench this growth out. Their great principle was to operate very quickly, otherwise the blood poured out. He had seen Georges Laurens, a leading laryngological operator of Paris, get it out so quickly that a sponge put into the naso-pharynx was all that was required.

Dr. DUNDAS GRANT said there was no such epistaxis as would be present if the growth was very vascular, and no deafness such as was usual when any infiltrating malignant growth occupied this region and extended to the Eustachian tube. He had not had the advantage of following up the result of microscopical examination or of digital palpation.

The CHAIRMAN said if the case was of the nature it was believed to be —namely, a naso-pharyngeal fibroma or angeio-fibroma—then he would hesitate before attacking it with only adenoid forceps; although the principle of the adenoid forceps was one which might be developed and applied.

Dr. IRWIN MOORE explained that the patient came up to the hospital to be operated on for adenoids. After examining with the post-nasal mirror and feeling carefully with his finger, he came to the conclusion that the growth was a fibroma, on account of its extreme hardness. He was fortunate in coming across a case at such an early stage before extensive growth had occurred. Many years ago, when he first started practice, he had a patient with a similar growth, but so extensive that it hung down into the throat and the lower end could not be seen without depressing the tongue. He removed it through the mouth, using a hot platinum wire passed through the nose. He still had the specimen. The growth recurred, and the patient afterwards attended the Leicester Infirmary under Dr. Bennett. He once saw Sir Watson Cheyne operate on a similar growth which he believed was about the same size as the one exhibited. Having first done a preliminary laryngotomy, he split the soft palate and removed the growth by means of a periosteal elevator—the head hanging well over the end of the table. In reply to a question by Sir Felix Semon, the speaker said that, so far as his recollection went, there was not very much hæmorrhage. In his own case he was inclined to wait a little and see whether the growth grew rapidly. He thought there would not be much difficulty in removing it through the mouth.

Case for Diagnosis.—Cyril Horsford.—Patient, a male, aged sixty. Slight hoarseness since November, following on wetting of feet. His voice has never been clear since. His work does not entail much use of the voice.

Mr. CLAYTON FOX thought that this case would prove to be one of epithelioma. There was considerable infiltration of the left cord and slight impairment in its mobility. Of course, the Wassermann test should be taken, and iodide of potassium with mercury administered. If no improvement followed, a laryngo-fissure ought to be performed and the cord and adjacent tissue freely removed.

Mr. STUART-LOW said that he considered that the left vocal cord showed indications pointing to malignant disease.

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Mr. Herbert Tilley thought that there was no doubt that the laryngeal growth was malignant. He pointed out that the anterior part of the *left* cord was quite white and the posterior red.

Sir Felix Semon thought it a beautiful case for laryngeal fissure. Without doubt it was malignant. The sooner the operation was performed the better would be the chance for the voice afterwards. He agreed that a Wassermann test should be taken.

Sir StClair Thomson said that it was doubtless clinically malignant. He raised the question as to whether the white on the opposite cord was white froth or was due to a little thickening there.

[*Postscript.*—Wassermann reaction negative. No improvement with potassium iodide—slow, but steady increase of growth up to this date, April 20. Patient has refused operation.—C. Horsford.]

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Otological Section.

Mr. A. Cheatle, *President, in the Chair.*

Abstract Report by Dan McKenzie.

Pharyngeal Drainage of Cranial Suppuration of Otitic Origin.[1] —**P. Jacques** (Nancy).—Retropharyngeal abscess secondary to ear suppuration should be regarded as of critical importance. Three cases were narrated. One was a girl, aged three, in whom acute middle-ear suppuration led to osteitis of the floor of the tympanum followed by severe hæmorrhage from the meatus which was controlled by packing. Unilateral swelling of the pharynx appeared soon afterwards which when opened gave vent to a rush of venous blood. Tracheotomy and packing of the pharyngeal cavity had to be performed. In spite of a fresh and copious hæmorrhage the child recovered after a sequestrum of the tympanic floor was got rid of. The convalescence was interrupted by temporary paralysis of the pharynx and tongue due, it was supposed, to neuritis of the hypoglossal and of the nerves in the foramen lacerum posticum. The second case was that of a man, aged fifty, who was operated on for acute mastoiditis of a few weeks' duration. Drainage of the mastoid cells and antrum was found to be insufficient and the radical operation was therefore performed. Still the fever and constitutional symptoms persisted. A few days later an œdematous swelling appeared above the root of the zygoma. The retro-auricular incision prolonged forward towards the temple revealed a fistulous opening in the squama leading to an extra-dural focus of granulation tissue through which a sound passed towards the sphenoidal lobe without resistance. Discharge of non-purulent cerebro-spinal fluid followed. The symptoms still continuing, the bone of the squama between the fistula and the mastoid

[1] See also Journ. of Laryngol., Rhinol., and Otol., January, 1915, p. 12.

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