SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

February 2, 1917.

President: Mr. T. Mark Hovell.

(*Continued from p.* 328.)

Epithelioma of Left Maxillary Antrum and Left Ethmoid, Four Years after a Moure's Operation (Lateral Rhinotomy).—Sir StClair Thomson.—This case is published in full in the *Lancet* for May 13, 1916, and was shown before the Clinical Section of the Royal Society of Medicine, February 14, 1913, and the Clinical Congress of American Surgeons, July, 1914. The interesting points will, therefore, be referred to briefly.

The subjective symptoms were slight and recent; grumbling pain in the cheek for two months. In the Moure operation two facial incisions were made, instead of the single one now recommended. Alarming symptoms, suspicion of serous meningitis, followed the operation, but subsided in a few days. The growth was a squamous-cell carcinoma, and although it had broken through the canine fossa and the antro-nasal wall, there is no recurrence after four years. The absence of disfigurement and the comfort of the patient, especially when compared with the operations formerly employed in general surgery, are remarkable. There is no trouble in the way of atrophic rhinitis, in spite of turbinal removal, and there is no epiphora.

Round-celled Sarcoma of Right Maxillary Antrum, Ethmoid and Nasal Cavity, Two Months after a Moure's Operation (Lateral Rhinotomy).—Sir StClair Thomson.—E. C——, aged sixty-two. This case is also interesting on account of the slight, recent and even remote symptoms the patient complained of. He consulted Mr. Hugh Smith, of Farningham, simply because of right occipital headache and insomnia, and it was only incidentally that he referred to nasal obstruction on the same side. This was found to be caused by a fleshy, vascular growth on the roof and outer side of the right choana and was evidentally an off-shoot of malignant disease of the right maxillary and ethmoidal sinuses. There were decidedly hard glands in the right neck.

On December 13, 1916, a Moure's operation was performed through a single facial incision. This gave easy and complete access to the antrum, ethmoid, and roof of the nose, which were all crowded with typical malignant growth. The os planum had been destroyed by it, and the cribriform plate had gone, so that the dura mater was exposed and its pulsations were easily watched. Removal may be incomplete, but the case is shown to illustrate the great advantage of a single incision, the relief of symptoms, and the absence of disfigurement.

Hæmorrhage was easily controlled during operation. The exposure and handling of the dura mater caused no after symptoms. A fortnight

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after operation the patient complained of blindness in the right eye and he was found to have a retrobulbar neuritis with papillary œdema. The glands in the neck have had three applications of X rays, and can hardly be felt.

N.B.—The patient has not been seen since January 4, and conditions may have altered.

Carcinoma of the Right Maxillary and Ethmoidal Sinuses, Seven Months after Operation by an Oblique Facial Route.—Cecil Graham.—C. S——, aged fifty, was seen by Dr. Hill in May, 1916, on account of swelling of the right cheek, proptosis, and nasal obstruction, with blood-stained discharge. The right nasal fossa was filled by growth, which obscured the view beyond the vestibule. Dr. Spilsbury reported upon a piece of the growth sent for microscopical examination that it was "squamous carcinoma of a very malignant type."

After the removal of several carious teeth, operation was performed on May 24, 1916, Dr. Chaldecott giving ether by the intratracheal method. An osteoplastic flap, resembling that which Dr. Watson-Williams describes, was turned over the cheek on the left side, the septum was removed completely behind the vestibular portion, and a complete view with easy access, was obtained, by which it was possible to remove the lateral mass of the ethmoid, the inner wall of the maxillary sinus, the floor of the orbit, to clear out the cavity of the maxillary sinus, to remove some growths adherent to the orbital periosteum interiorly, and to explore the sphenoidal sinus. The latter was not involved. The patient sat up in twenty hours, was out of bed in forty hours, and left hospital in twelve days after the operation, after an uneventful recovery. The method of anæsthesia was a great comfort during the operation, particularly with regard to hæmorrhage, although this was not great.

Carcinoma of the Right Maxillary Antrum; lateral Rhinotomy (Moure's Operation) performed.—Irwin Moore.—Patient, a woman, aged sixty-two, attended hospital in September, 1916, complaining of gradual swelling of the upper part of the right cheek during the previous seven weeks. No nasal discharge was present or any other symptom. On the upper lip was seen a scar resulting from an old sore occurring forty years ago. Patient was not seen again for a month. At this time she complained of pain in the right temporal region, ear, upper jaw, and under the eye. Transillumination showed both antra opaque. On puncturing and washing out the right antrum, the fluid passed freely and the washings contained a considerable quantity of pus. Slight bleeding followed the puncture.

On November 8 the antrum was explored through the canine fossa, and found to be partly occupied by a polypoid growth, infiltrating the anterior bony wall, and extending upwards and outwards under the malar bone.

Portions of growth were removed for examination.

On November 23 a lateral rhinotomy (Moure's operation) was performed by means of the double incision. The anterior bony wall of the antrum was found to be involved and extensively necrosed; the soft parts of the cheek were not infiltrated. The antro-nasal wall, floor of antrum and orbit were apparently intact. The growth, together with the necrosed anterior wall, was removed by forceps and curettes; five days later the face wound had healed and the sutures were removed,

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only slight œdema of the lower eyelid being present. No rise of temperature occurred above 100·4° F. She returned home twelve days later.

Patient is now shown, three months after operation. There is practically no nasal discharge, and she only complains of slight pain in the right upper jaw.

Microscopical Report.—This growth has the histological structure of a carcinoma. The cancer cells are arranged in the form of solid masses and columns, freely infiltrating the fibrous stroma. There is no evidence of invasion of the bone by the growth. Whether the carcinomatous cells take origin from the glandular element of the dermic element of the mucous membrane is not quite demonstrable, but many of the alveoli are somewhat cylindrical in form, suggesting the glandular element.

A similar case to this, in which the growth proved to be a small round-celled sarcoma, was shown by the exhibitor at the meeting of the Laryngological Section[1] on November 3, 1916.

The case is of interest in that:

(1) Primary carcinoma of the maxillary antrum compared with sarcoma is rare.

(2) It further confirms (as in cases previously shown at the meetings of this Section) the great advantage of Moure's operation, with its free access and thorough removal of the disease, over complete resection of the upper jaw with its accompanying deformity and discomfort.

Microscopical sections of the growth are shown.

Dr. Watson-Williams: I pass round a specimen to show the degree of approach one can get to the inferior part of the nose by making an osteoplastic flap on the same side as the growth. This was a case of round-celled sarcoma, which was very hæmorrhagic. In 1907 I performed the first operation on this patient.[2] A growth the size of a bantam's egg appeared to have originated in the upper and posterior aspects of the ethmoid labyrinth; it involved the antrum, and extended to the septum. It seemed to have recurred in 1910, but a piece removed *per nasum* was pronounced by the pathologist not to be malignant. But it did recur in 1916—nine years after the operation. The lesson from that is, that a vascular sarcoma is not necessarily of a high degree of malignancy. The entrance gained by this osteoplastic flap, sufficient to enable one to get the growth entirely away, to clear the ethmoid labyrinth, and remove the central and sphenoidal sinus wall, affords all the approach that could be wished. The osteoplastic flap was replaced carefully, and it healed, leaving no scar or depression whatever. One advantage of the removal of the septum nasi is that it enables us to get an oblique approach to the left side through the right nasal passage, should that be desired.

Mr. E. D. D. Davis: I saw Sir StClair Thomson operate on the old man shown to-day, who was blind in one eye. He performed Moure's operation for sarcoma of the antrum, and I was surprised at the easy access he obtained. There was only one incision, down the side of the nose, and it could be continued into the lip or upwards. It was not necessary to make a second incision under the eye. I have myself had only a small number of cases, and I have employed Moure's operation, and by continuing the incision in a straight line, I have obtained good access. I have found intratracheal ether a great comfort, and it adds

[1] *Proceedings*, p. 29.

[2] For description and illustration of my operation see *Rhinology*, p. 113.

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to the ease of the operation. In this patient the dura mater was exposed, but he seems to have recovered in a very satisfactory way, and the operation was excellent.

Mr. FRANK ROSE: There is a remark in Dr. Irwin Moore's record of his case: "This case is of interest in that primary carcinoma of the maxillary antrum compared with sarcoma is very rare." My experience has been precisely the contrary. In cases of malignant disease of the maxillary antrum, the growth has proved, under the microscope, to be carcinoma. I can only recall two cases in which it was sarcoma, and even in those it was not certain that it did not begin in the ethmoid. On what grounds does Dr. Irwin Moore make the statement?

Dr. DAN MCKENZIE: I agree with Mr. Rose that malignant disease of the antrum is generally epithelioma, while the ethmoid is the seat of sarcoma. Allusion has been made to the fact that those sarcomata are "'*query*' sarcomata," as their malignancy is so slight and they seldom recur after removal. The occurrence of serous meningitis in Sir StClair Thomsom's case is interesting. A mild form of serous meningitis is, I believe, not uncommon after nasal operations. In cases of that kind of difficuly a hint might be borrowed from the otologists and lumbar puncture done, because of the very prompt relief it affords. It may be necessary to repeat it after two or three days' interval.

Dr. KELSON: When I first saw Dr. Irwin Moore's case, which is a very interesting one, there was a dulness on both sides on trans-illumination, and pus was present in both antra. As there was a history of syphilis in the case, I suspected a tertiary syphilitic lesion, but Dr. Moore was anxious to do a Moure's operation, and then it was found to be malignant.

Dr. PEGLER: If Dr. McKenzie wishes us to take him seriously in regard to what he has just said as to nasal sarcomata, I fear I am in total disagreement with him. Though far less malignant than carcinomata, these growths range themselves quite easily under the groups of small and large round-cell sarcomata, met with elsewhere.

Dr. DONELAN: As regards the ætiology, some of these cases may be due to disease of the ethmoid. Several years ago I removed in one case a large number of mucous polypi and curetted the right ethmoidal region. The patient remained well for about ten years. Four years ago he wrote that his trouble had recurred, but he did not come up until early last year. He had then a large mass of apparently mucous polypi, with some hard red polypi amongst them, growing from the ethmoid and filling the antrum. I removed the whole mass by Moure's operation. The report stated carcinoma. Recurrence, however, took place in the orbit, and the patient died nine months later. This case would appear to confirm Mr. Rose's view that malignant growths of this region are generally carcinomatous.

Dr. W. HILL: Mr. Graham is to be congratulated on his technique, though I do not say it will supersede Moure's operation in every instance. One gets by it a very extensive and open lateral view, including the ethmoidal region, the cribriform plate, the sphenoidal sinus wall, and the whole antral cavity. All must be impressed by the æsthetic result, as the incision scars can scarcely be seen, and thus compare favourably with the evident scars in Moure's operation.

Dr. IRWIN MOORE (in reply): I think I must be wrong in stating that primary carcinoma in this situation is rare. I have just had a conversation with Mr. Trotter, and he considers that carcinoma is more common than sarcoma. I thank Dr. Kelson for transferring the case

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to me. It is now three months since the operation, and I find that during the last month there has been a recurrence. With regard to the question of the single incision it was impossible in this case to reach the growth and clear it away without a double incision, because the antral wall was so much infiltrated by the disease. As in the case of a sarcoma of the antrum, upon which I recently operated, and which I showed at the last meeting, the growth could not have been satisfactorily reached and removed by one incision, owing to the muscles of the cheek being extensively infiltrated.

Sir StClair Thomson (in reply): In my first case, although I did not think I was near the cribriform plate, the patient got symptoms which were very alarming: she was apathetic the next day, and had a temperature of 104° F., but she recovered. In the second case Mr. Davis will confirm my statement that the cribriform plate was gone, the dura mater was freely exposed, and yet the patient was not the worse. Neither of the cases had suppuration: there was no sinusitis going on. The first case would have been in a different condition had I accidentally wounded the cribriform plate or the olfactory region in the presence of streptococci, for instance. In the second case the near to the accessory ostium. If you open the antrum through the canine fossa and take hold of the polypus from its choanal aspect, you will see that the pull is also being exerted on the mucous membrane of the antrum. Frequently they are unassociated with any purulent secretion. They seem to me to be a localised chronic inflammatory condition of the antral mucous membrane. In many cases a permanent cure may be brought about after one removal by forceps or snare, but recurrences can only be prevented by opening the antrum and removing the implanted pedicle of the tumour.

Dr. Donelan: Seven years ago I operated upon a young man for a long pedunculated growth springing from the right accessory ostium, and I showed the specimen here. There was no suppuration in that case, and several growths of the kind have been recently shown before the Section in which it was stated they were not associated with suppuration. A fortnight ago I operated on the opposite antrum of the same patient, but the right antrum, from which the growth was originally removed, had remained quite healthy. That supports Mr. Tilley's statement that we should not always be so anxious to enter through the canine fossa. For my part I think it quite unnecessary, and I have seen one or two cases in which after that procedure the levator anguli oris has been involved in the cicatrix of the canine opening, establishing a chronic smile on that side.

Dr. Jobson Horne (in reply): With regard to opening the antrum, we must remember that these cases of so-called choanal polypus are not in the same category as the more common cases of nasal polypus, and the pathogenesis is entirely distinct. Some of them appear to be congenital, although of slow growth, therefore they cannot be discussed on the same footing as suppurative disease of the antrum. I did not open the antrum in this case, because I felt I should like to do to my patient as I would like to be done by; after the polypus had been removed, I would like my antrum left untouched. If there should be a recurrence, then we would consider the advisability of investigating the antrum, and even if that were done I do not think a further recurrence would be prevented.

Dr. Irwin Moore (in reply): I am expressing the views held not only by Mr. Brown Kelly, who has records of forty cases of choanal

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polypi arising in the maxillary antrum, but also by Dr. Syme, whose articles on "Choanal Polypi," in a recent issue of the JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY,[1] deals with this matter; and also by Kubo, whose contribution on "Solitary Choanal Polypi" was published in 1913. All agree that these growths should be dealt with by radical operation. Transillumination for diagnostic purposes is of no value in these cases, for the antrum on the affected side is as translucent or even more so than on the normal side, whereas to X rays the affected antrum appears opaque. This contrast of transillumination and X rays has been investigated by Mr. Hett and Dr. Finzi. The combination of these two tests is of great diagnostic value in the localisation of antral polypi.

Hæmatoma (?) of the Posterior End of the Inferior Turbinate.—F. A. Rose.—In August, 1916, the patient (a medical man) complained of a blood-stained discharge from the back of his nose for three days, following stuffiness of one nostril of considerable duration. A smooth, round swelling filled three-quarters of the right choana. It looked like a blood-clot, but all attempts to wash it away were futile, and finally it was snared. It will be seen that the swelling consists of delicate connective tissue infiltrated with blood. There have been no symptoms since removal. Has anyone present met with a similar case?

Dr. PEGLER: I know of no previous record of a hæmatoma of the posterior end of an inferior turbinal. Mr. Somerville Hastings once exhibited sections of a discrete nasal angioma of the usual type, but the present is a pure hæmatoma.

Mr. FRANK ROSE (in reply): The patient was between thirty-five and forty years of age. I have not seen or read of a similar case.

Specimen from a Case of Fatal Hæmorrhage from Gunshot Wound involving the Superior Thyroid Artery.—H. Lawson Whale (shown by Dr. Dundas Grant).—Private G. H——, admitted November 1, 1916. His temperature was 103·6° F., pulse 128, respiration 36, and the bases of both lungs were dull. A rifle bullet had traversed his larynx in the coronal plane, entering on the left side opposite the greater cornu of the hyoid, which was fractured at its junction with the body of this bone, and emerging at the level of the right aryepiglottic fold.

On November 3 a fit of coughing caused profuse intralaryngeal hæmorrhage, which was unaffected by digital pressure applied to the carotid artery; and in a few minutes, before further measures could be adopted, he died from asphyxiation.

Autopsy.—The lower lobes of both lungs were solid with pneumonia. The trachea and bronchi were full of frothy serum and short, broken casts of blood-clot. The course of the bullet corresponded to the clinical appearances. In its transit it had fractured the left greater cornu of the hyoid at its junction with the body, and, traversing the anterior part of the supraglottic space, had deeply grooved the base of the epiglottis. The right superior thyroid artery, at the highest point reached by the upward loop at its origin, had been cleanly severed by the bullet.

Carcinoma of the Floor of the Mouth treated by Diathermy.—F. A. Rose.—G. M——, aged fifty-six, was seen by Mr. Tilley, who diagnosed carcinoma of the floor of the mouth in July, 1915. August,

[1] JOURN. OF LARYNGOL., RHINOL., AND OTOL., 1916, xxxi, p. 515.

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1915: Diathermy was applied by Mr. Harmer. November, 1915: A second application was made by the exhibitor. At the present time there is no ulceration, and the patient is perfectly comfortable except for a feeling of tightness caused by the scar tissue.

Mr. HERBERT TILLEY: The result in this case is excellent. There was a hard ulcer, now there is a soft scar. Such a case gives us hope that in these early stages of malignant disease one may get a good result by a simpler form of treatment than the usual operations which are necessary for dealing with cancer of the floor of the mouth.

Mr. FRANK ROSE (in reply): I think Mr. Tilley is somewhat optimistic in his remarks. The patient appears well at present, but how long he will remain so I do not know. It is fifteen months since the last operation was done.

Laryngeal Cyst.—Cyril Horsford.—Patient, a male, aged forty-six, came to hospital with acute œdema of the left arytænoid and aryepiglottic fold. There was loss of voice and dyspnœa. The swelling was scarified. At his next visit, the following week, all œdema had completely disappeared, and there was no evidence of disease which might explain the condition. The urine contained a slight trace of albumin. There were no tubercle bacilli in the sputum.

In August, 1916, the patient returned with a large cystic swelling involving the left ventricular band and left aryepiglottic fold and extending into the left pyriform fossa—an appearance exactly similar to the present condition. His dyspnœa was pronounced, and to relieve his distress the cyst was punctured with a cautery point. A large amount of blood-stained gelatinous fluid escaped. Until puncture was done it was impossible to punch out a portion of its wall, owing to its slippery surface and toughness. Although a large portion of its wall was removed, the cyst quickly refilled, and on two occasions has burst, with relief to the patient. There has been no material change during the past six months. Report of section cut by Dr. Bach: "Exact nature is obscure, but the material appears to be of an adenomatous nature, with a malignant tendency." A section is shown under the microscope. The urine is now free from albumin, and contains no casts. Wassermann reaction negative.

Suggestions as to treatment are invited.

Mr. HERBERT TILLEY: Two years ago I had to deal with a case which presented the same appearance as in Mr. Horsford's case. My patient nearly suffocated on two occasions, and one night he saved his life by putting his finger down his throat and bursting the cyst. It recurred and became distended again, when I opened it, and cut out a considerable quantity of the wall with laryngeal forceps; the symptoms disappeared, and a week later there was nothing to be seen of the tumour. However, in six weeks' time it was filling again, and one night he again nearly choked. In the mid-line of his neck, in the thyro-hyoid region, he had a swelling, which increased in size and became septic. We drained it for some time, but the fistula would not heal, and Mr. Trotter therefore took the case over for me, and will describe to you what he found. I think in Mr. Horsford's case the laryngeal cyst is probably an extension from the thyro-hyoid region, especially as Mr. Horsford's notes say that some ge'atinous fluid escaped when the cyst was opened by him.

Mr. WILFRED TROTTER: When I first saw the man whom Mr. Tilley refers to, he had a chronic sinus in the front of his neck, over the thyroid cartilage, and I found it led down to and passed behind the ala

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of the thyroid, in the region of the thyro-hyoid interval; hence I thought it was a thyro-glossal cyst. But instead of taking its way towards the middle line under the hyoid bone, it turned laterally and passed into the thyro-hyoid interval at the side, and went up, but chiefly downwards. We removed the ala of the thyroid until the cyst was traced to the level of the vocal cord. Internally to the cyst was the very thin mucous membrane of the larynx, and on the other side was the ala of the thyroid cartilage. I should not like to offer an opinion as to what the cyst was pathologically, but that was its anatomical distribution. It is clear that the swellings, which appeared first inside and then outside, communicated, and that the internal extension in the region of the upper opening had shrunk on account of inflammation. My advice would be to attack Mr. Horsford's case from the outside after removal of the ala of the thyroid.

Mr. Cyril Horsford (in reply): I am much interested in Mr. Tilley's case which he described, owing to its similarity to mine. I saw my patient sixteen months ago when he had what I took to be acute œdema of half his larynx: but it was not of globular outline, and it disease spread through the sphenoidal fossa, as shown by the complete ophthalmoplegia. I think Mr. Graham's method is ideal for approaching the ethmoidal cells, but otherwise I do not agree that it is an improvement, because there could not be a freer access to the antrum or to the fronto-ethmoidal cells than is secured by a Moure's operation; it is distinctly *en fosse* instead of being oblique.

Epithelioma of the Nasopharynx; Operation; Diathermy.—Norman Patterson.—Patient, a male, aged thirty-six. History of operation on nose five years ago, when a "piece of bone was removed." He was admitted to the London Hospital on November 15, 1916. He complained of obstruction on both sides of nose, thick discharge, and loss of smell for six months. There had been headache in the right forehead and temple for two months. He is losing flesh rapidly. An examination showed large, irregular, cauliflower-like mass, ulcerating in places, occupying the whole nasopharynx. There were no enlarged glands in the neck. There is slight deafness on the right side; no history of aural discharge. A portion of the tumour was removed and examined by Dr. Turnbull, who reported "solid trabecular squamous-celled carcinoma."

Operation, Nouember 17, 1916: The soft palate was split. The incision was made from the right side of the base of the uvula. The view obtained was insufficient. The incision was carried forward through the mucous membrane of the hard palate to within 1 in. of the incisors; the posterior $\frac{3}{4}$ in. of the hard palate was removed with a chisel, also a portion of the posterior edge of the septum nasi. The attachment of the tumour defined with the finger was found to be more or less circular, occupying the roof and the right wall of the nasopharynx, and extending up to the base of the septum. The tumour was plucked away with the forceps close up to the attachment; hæmorrhage was stopped by pressure; the base of the growth was clearly defined. Together with surrounding tissues, this was thoroughly destroyed by diathermy. The palate was afterwards united.

The sense of smell returned three days after operation; recovery was uneventful. The palate is firmly united, and beyond some crusts there is nothing to note in the nasopharynx.

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Antro-choanal Polypus.—W. Jobson Horne.—The patient, a woman, aged thirty-one, was sent to the hospital by her doctor on account of obstinate nasal catarrh of long duration. Anterior rhinoscopy disclosed material hypertrophy of the middle turbinal bodies, but no evidence of polypus or suppurative disease. Posterior rhinoscopy showed the post-nasal space to be almost entirely occupied by a polypus which became directly obvious upon partly raising the soft palate. The polypus was removed through the mouth. The anterior ends of the middle turbinal bodies were reduced. After the removal of the polypus the left choana was found to be wider than the right; the polypus originated from the left antrum. Upon transillumination the left antrum was as translucent as, or even more so than, the right. In the circumstances, it was considered to be better to await results than to open the antrum. The polypus, which was exhibited, was pear-shaped and attached by a pedicle as long and as firm as the polypus itself. The polypus upon section was solid with the exception of a small cavity. It was fibrous in consistency.

A Choanal Polypus originating in the Sphenoidal Sinus of a Child, aged Six.—Irwin Moore.—The patient, a girl, attended hospital in December, 1915, complaining of inability to breathe through the left nostril for three months. The exhibitor first saw her in May, 1916, when a large, flattened polypus completely filled the left nasal fossa. No nasal discharge was present.

On palpation of the nasopharynx, an irregular, hard swelling was felt protruding through the left choana. Under general anæsthesia the nasal portion was removed by forceps through the anterior naris, leaving a pedicle attached posteriorly, which was traced to its origin in the left sphenoidal sinus. The posterior portion was so tightly wedged in the left choana that forceps, introduced through the mouth, could obtain no hold. It was removed with difficulty through the anterior naris. On examination, the growth was found to consist of two polypi, originating by separate pedicles from one common stalk, the anterior portion being soft and gelatinous, the posterior being bilobed and of a fibrous consistence.

On exploring the posterior naris, the ethmoid region was found to be healthy and the antral wall intact. The posterior edge of the vomer was partly destroyed by the pressure of the growth. A large opening into the sphenoidal sinus admitted forceps, probes, or gouge with freedom. The sinus was about the size of a hazel nut. The right nasal fossa was normal.

It was apparent that the polypus had originated in the left sphenoidal sinus, and the main pedicle, which was flattened on one surface, had probably been adherent to the spheno-ethmoidal recess. The case was seen at King's College Hospital two weeks later by Sir StClair Thomson, who confirmed this opinion.

Microscopical Report.—The polypus is composed of highly vascular fibrous tissue which is œdematous. It is fairly rich in connective tissue cells and in the superficial areas there is some leucocyte infiltration, and also a good deal of mucoid degeneration. Mucous glands are very few in number. It is a soft fibroma.

This case is of interest in that:

(1) Though the maxillary antrum is the common seat of origin of choanal polypi, yet it is rare to find them in children under ten years of age, only a few cases being reported.

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(2) It is extremely rare to find a choanal polypus originating in the sphenoidal sinus, and the exhibitor has been able to find only two cases reported, and these were in adults. He is unable to find the record of any case occurring in childhood.

(3) There was no suppuration in the sinus.

Dr. WATSON-WILLIAMS: Sphenoidal polypus is sufficiently rare to justify my showing, stereoscopically, this polypus growing from the sphenoidal sinus. I obtained the specimen from Vienna. Dr. Irwin Moore's case is one of very exceptional interest, proving that even in a young child polypus may occur in the sphenoidal sinuses. I am more and more convinced that sinus infection is more often present in young children than is usually suspected. I believe recurrences after adenoid operations are sometimes of this nature. A child was brought to me eighteen months after a tonsil and adenoid operation by a very competent operator, and when I explored the antral cavities of the child, which was aged five, with my antral suction syringe, there was antral streptococcal infection on the left side. I think it accounted for the re-infection of the lymphoid chain in the nasopharynx.

Dr. PELGER: I do not quite follow Dr. Watson-Williams in his view of a possible cause of recrudescence of lymphoid tissue in the nasopharynx (adenoids), and I imagine there is a much more frequent cause of recrudescence of a remnant of adenoid tissue than infection from sinus suppuration. With regard to Dr. Jobson Horne's case, very soon after Sir StClair Thomson showed his specimen at the last meeting I had a similar one, in a young woman aged twenty-one; it was a second recurrence. In the last instance it appeared to be a polypus attached to the roof of the choana, but on examining it again I could make sure it was a polypus protruding from the ostium of the antrum. I removed it through the nose, without difficulty, by seizing it securely with Luc's forceps, and drawing upon it gradually. This was three months ago, and there is no sign of recurrence. There was no suppuration.

Dr. IRWIN MOORE: With reference to Dr. Jobson Horne's case, and the question whether the antrum should be opened in these cases, I think that it should be made an invariable rule to open the maxillary antrum through the canine fossa in all cases of choanal polypi when their origin has been definitely located in the antrum, in order that one may be certain of separating and thoroughly removing the pedicle from its attachment to the antral wall. This is advisable on account of their frequent recurrence after simple removal by snare or forceps. In connection with these cases I have received letters from both Dr. W. S. Syme and Dr. Brown Kelly, who are unfortunately prevented by military duties from attending this meeting, the last-mentioned having, perhaps, seen more cases of antral polypi than anyone, and they both hold these views as to operative procedure. Dr. Syme sends me the following notes of an instructive case having an important bearing on this question. He says in January, 1908, he removed a solitary choanal polypus from a boy, aged nine. The polypus quickly returned, and in May of the same year he removed another large growth. In January, 1911, the patient was seen again, and another large choanal polypus was present. This time Dr. Syme opened the maxillary antrum and traced the polypus to its origin in the antral cavity. There was also degeneration of other parts of the antral lining membrane. Since this operation there has been no further trouble with that antrum. This is only one of many similar cases which have been reported and confirms the necessity of radical extirpation of these growths.

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Mr. E. D. D. Davis: I have investigated eight of these cases, two of them in children, and I have never found antral disease in any of them, though examined by transillumination and with the exploring syringe. The polypi have been removed, they have returned, and been removed again, and perhaps a third time, but I have not been able to establish the fact that there has been any disease of the antrum. The polypi grew from the middle meatus, they were post-nasal choanal polypi, and had a long pedicle. I do not agree that if you find the lotion aspirated from the antrum contains micro-organisms and no pus, it means that the antrum is diseased, because such organisms may normally exist in the nose, and contamination must frequently occur.

Dr. Watson-Williams: I did not say that the fact of organisms being in the fluid washed from the antrum proves that it is infected, but that the absence of purulent discharge on washing out the antrum does not prove that it is not affected.

Mr. Herbert Tilley: With regard to the origin of these single choanal polypi (which often tend to become cystic and to burst when taken hold of) they generally have their origin within the antrum and seemed to occupy various laryngeal structures. I thought that if there was a cyst wall it must be very thin. But this wall is so tough that I had the greatest difficulty in punching out a portion. Within a week it had reunited and filled, and some further infection took place. It has been in its present condition seven months.

Sarcoma of Ethmoid and Superior Maxilla.—H. J. Banks Davis.—The patient is a male, aged thirty-nine. The disease first showed itself in the form of a swelling over the left antrum, with bulging and œdema of the palate. In February, 1916, the antrum, which contained pus, was opened, and as the growth was obviously malignant, after a preliminary laryngotomy, the left maxilla was partially resected, and a suitable obturator was worn by the patient for months. He had X-ray treatment from Dr. Morton for several months, and a photograph shows his appearance when treatment was discontinued.

The second photograph shows his condition in November last, when he returned saying he was blind in the left eye. I opened up the face again, curetted away masses of bone, but the patient refused to have the orbit cleared. Under treatment at the Radium Institute he improved very much, and was able to follow his profession.

Postcript.—A few days after his exhibition before the Section he was seized with severe pain accompanied by hæmorrhage. He then became blind in the other eye.

The last photograph shows his pitiable appearance a week before he died, after a third severe operation.

Radium treatment seemed powerless to arrest the rapidity of the growth in the later stages. It was a round-celled sarcoma.

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