that treatment is chiefly needed, and it is then of importance to ascertain the exact state of the parts by a careful laryngoscopy. It serves no useful purpose at this time to attempt the removal of the characteristic yellow slough. This will recede and gradually disappear in the manner I have already described. I have never seen anything approaching a dangerous degree of laryngeal œdema at any stage of this affection.

As regards the period of detention of these cases in hospital and their disposal after leaving hospital, one or two obvious points occur. As a laryngologist working at a base hospital I have observed that almost all the cases arrive at the hospital with the typical cord lesion fully developed. While the vocal cords remain in this state, and while the superficial slough persists, all cases have been detained in the hospital, and have received on each day or on every alternate day treatment to the larynx in the form of direct application to the cords under immediate inspection. A weak solution of menthol in liquid paraffin has been found as useful and as beneficial as any other application for this purpose.

As soon as the necrosed area clears up there is no further reason, in the event of convalescent areas being available, to keep the case longer occupying a bed.

The state of the larynx subsequently passes into one or other of those conditions of myopathic laryngeal paresis already referred to. At this stage attention to the matter of nasal patency and breathing and to the state of the general health should be given.

But the laryngeal condition (residual) in many cases will be found to resist with considerable stubbornness all attempts to reproduce the healthy state.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—OTOLOGICAL SECTION.

April 19, 1918.

President: H. J. Banks-Davis, M.B.

(*Continued from p.* 128.)

Acute Mastoiditis in a Boy; Spontaneous Recovery.—H. J. Banks-Davis.—Three months ago this boy, aged eight, was admitted into hospital with an acute right-sided mastoid. There was bulging forward of the ear and post-aural tenderness, which was extreme, but no aural discharge, and I therefore looked upon the case as urgent, and he was prepared for immediate operation. Fortunately for him, this, for certain reasons, had to be postponed, and when I saw him next day all symptoms had vanished so rapidly that I decided to leave him alone, and he has had no further symptoms. His hearing is unaffected and the membrane normal. Free drainage through the Eustachian tube must have existed for resolution to occur so rapidly.

The President: It was three days before we got permission to

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operate, although the local signs were urgent, and by that time these had subsided. His hearing is now normal, and there has been no further trouble.

Mr. O'MALLEY: Recently I have had two cases in which I felt convinced I should have to open the mastoid. Both had a bulging membrane, but in neither had the membrane perforated or shown evidence of pus. There was intense pain over the mastoid generally. I dealt with the cases by myringotomy, and they cleared up.

Mr. W. STUART-LOW: It is possible that this was an ill-defined diffuse furuncle of the meatus, extending to the tympanic membrane and to the periosteum of the mastoid with intense œdema. It is a fact that many such cases are operated upon in mistake for an acute mastoid condition, and this always cures them.

The PRESIDENT (in reply): I think a furuncle could not have got well so quickly. The only local treatment was to shave the head, and prepare the skin with iodine for operation. A girl who was admitted into hospital as a case of "acute mastoid," had intense pain and I was sent for to operate. I saw at once it was not an acute mastoid as there was a furuncle in the meatus and adenitis behind the ear. I told the resident medical officer to incise the meatus, and she was sent out. She, however, went off to another hospital, and I learned she had been operated upon for "acute mastoid" by the assistants, much to the annoyance of the aural surgeon there, who, as soon as he saw it, recognised the real condition.

Parotid Fistula of Twelve Months' Duration.—H. J. Banks-Davis.—Twelve months ago the patient, a man, aged fifty, had acute earache, with aural discharge on right side. He developed a small subcutaneous abscess in the neck below the mastoid, which was incised under gas in the Casualty Department. Ever since then he has had a watery discharge from a pin-point hole in the scar. When at meals "the water streams down his neck and he continually has to wipe it away." This shows the importance of not incising deeper than the skin in abscesses superficial to the parotid on the face, and also the importance of remembering that the superficial posterior lobe of the parotid extends back to the mastoid process. The sinus, which appears further back than one would expect, should close up under ionic electrical treatment.

Dr. KELSON: What is the evidence in support of it being parotid fluid? The discharge is said to come from the ear, and I do not see why it should not be cerebro-spinal fluid. It is said that there was an abscess first. The case is obviously a very rare one.

Dr. ALBERT GRAY: It is surprising if cerebro-spinal fluid appeared after all those months; I should expect the sinus to have cicatrised by then.

The PRESIDENT (in reply): If he is given anything to smell, or even to look at, the fluid streams out of the neck. I am obliged for the suggestion it may be cerebro-spinal fluid. The Pathological Department reported it was salivary fluid, but I will have further tests made.[1]

[1] This has now been done, and the report is that the fluid comes from the salivary glands. Dr. Macdougal tells me that when the neck sinus healed by ionisation, pressure on the parotid caused fluid to exude from the ear. This is what members may have seen, and this the patient says occurs, but I have been unable to verify it, as on each occasion clear fluid exuded from the neck, although the mouth of the sinus is so minute as to be almost invisible.—H. J. B.-D.

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Depressed Scar following Mastoid Operation.—H. J. Banks-Davis.—A girl, aged thirteen. Operation for acute mastoid disease was performed seven years ago. The post-aural wound, which had to be left open owing to the extent of the disease, has never closed over; the ear is dry and the bone cavity epithelialised. Two years ago I performed a plastic operation, but the skin and scar-tissue gave way, and the result was unsatisfactory. I should be glad of any suggestions. The patient's chief troubles are that the curved end of her spectacle wire is liable to be "caught up" in the cavity behind the pinna, and that she becomes giddy in cold weather.

Mr. O'Malley: If you had embedded a piece of cartilage in the neck and turned it up, like a plastic operation on the nose, you would have filled that hole in the mastoid.

Mr. Somerville Hastings: I should advise dissecting off the scar-epithelium covering the depression in the bone, cutting a piece of rib-cartilage to the right size and shape to fill the depression, and then bringing the skin edges together to cover this in. Rib-cartilage has such wonderful vitality that even if suppuration occurs the cartilage usually lives.

Mr. Whale: I think this can be closed by a flap operation. There will be three stages: first, skin to fill in the cavity; second, another piece to cover it; and thirdly, when that is healed up an osteoperiosteal graft from the tibia. In February I saw Sebileau, in Paris, fill up an extensive depression in the frontal sinus in this way. He did not do a preliminary operation, because the skin was there already, whereas in this case it is not. A bed must be made for it first. I think you should not touch the posterior surface of the pinna; take a bold flap from lower down in the neck; there will be very little hair there yet, as she is young.

The President (in reply): It is on account of the deformity that I think another operation for closing up should be performed. In this case there was extensive bone disease, and such a deformity is particularly distressing for a girl. The antral and mastoid cavity has epithelialised, and the scar-tissue behind the ear is very thin, and doubtless will break down again.

Latent Mastoid Abscess.—Richard Lake.—This case was seen on April 26, 1916. The patient was a young man, aged nineteen, well developed, with the following history, which appeared to be both interesting and somewhat unusual. Five years ago he had an acute attack of measles, during which he suffered from acute otalgia on the right side. This was followed by considerable swelling in the posterior superior triangle of the neck on the same side. This swelling was treated by poultices for some considerable time, and ultimately disappeared. At the same time a large amount of pus was discharged through the nose and mouth. After this spontaneous evacuation of the pus the medical man in attendance was able to squeeze more pus from the neck through into the nasopharynx.

To all intents and purposes the boy became perfectly well, but since his illness it had become a great effort to him to work. There seem to me to be some discrepancies in the statements as to his mental condition before and after the evacuation of the pus, but, judging from what appear to me to be more reliable data, it seems that previously he was by no means mentally brilliant. Too much stress should therefore not be laid upon the fact that it was an effort for him to work afterwards,

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although at the time he was under my observation, as will be seen, I did not take this view. The young man went to college, where he was completely unable to concentrate his attention on the subjects he was studying. When seen his appearance was that of chronic sepsis, his complexion being sallow and his expression rather dull. He gave me to understand that he was the subject of frequent earache and headache. He was at that time suffering from earache, about which he was sent to me for an opinion.

On examination there was distinct tenderness, though not pain, on pressure in the lower part of the mastoid process on the right side, being especially marked at the tip and in front. There was no tenderness over the mastoid antrum, and the drum, although it was rather dull in appearance, showed no sign of any inflammatory condition, nor was there any bulging of the drum or meatus. On the following day the tenderness had become slightly more pronounced, and there was some swelling over the lower end of the mastoid and the posterior and upper part of the neck, but it was by no means marked. There was also a question as to whether or not there was slight swelling of the posterior part of the tympanic membrane.

I opened the mastoid on April 28, and the condition found is well worthy of notice. To begin with, the periosteum was firmly adherent, and considerable effort was required for its deflection. The bone itself was extremely dense, and—though white and dry—was very fibrous in consistency. Pus was found in the antrum and evacuated, but there was no obvious track leading further on. The outer wall of the tip of the mastoid was then cut away, and a cavity was exposed, yielding at least half a drachm of pus. This cavity was lined with a thick layer of old granulation-tissue.

The usual treatment was adopted, and healing occurred without any interruption worth mentioning. Owing to the mental condition of the patient, I was unable definitely to exclude the possibility of an origin from temporo-sphenoidal abscess. This possibility, however, was negatived by Dr. Henry Head after careful examination. There appears to me to be absolutely no doubt that this young man had a perforation of the inner wall of the mastoid process into the digastric fossa, and that the pus followed the somewhat unusual—but by no means unheard-of—course of the under surface of the Eustachian tube, and evacuated itself into the nasopharynx. He then appears to have had a latent empyema of the mastoid, which now and then became slightly active, but always quieted down under treatment. As I told his mother, I considered that this attack was rather a good thing for him than otherwise, in that it led to his mastoid being opened, and the state of affairs definitely settled.

Dr. P. Watson-Williams: Were the organisms examined? It looks like staphylococcic infection. Sometimes they are inhibited by plenty of polynuclears, so there may be a collection of pus which is very indolent and yet keeps up some septic infection. It is a common mistake to regard the staphylococcus as a harmless organism. It is as harmful as streptococcus, but takes longer in developing complications.

Dr. Dan McKenzie: This is one of an interesting series of cases in which pus tracks down from the mastoid region, or the deep mastoid region, towards the nasopharynx, going in an inward and forward direction. They must be commoner than we suppose. Three years ago I collected notes of sixty of them from the literature.[1] Some have been

[1] Journ. of Laryngol., Rhinol., and Otol., 1915, xxx, p. 12.

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post-mortem cases, the condition not having been recognised during life, probably because an examination of the throat in cases of mastoid abscess is not always made. Some have been treated successfully by the method Nature has adopted in this case—namely, the opening of the abscess in the pharynx. If the cellulitis in the neck continues and does not heal up in spite of free incisions in the neck, when the pus discharges from the pharynx, or the abscess is opened there, the case quickly gets well. The reason seems to be that that is the lowest point in the extensive abscess formation. I have shown one case in which pus got as far as the pharynx, but I opened it from the ear, through the anterior meatal wall, getting into the pterygoid maxillary fossa, deep to the inferior maxilla. Mr. Cheatle has reported two or three of these cases.

Mr. LAKE (in reply): The pus was not examined in this case.

Extradural Abscess perforating Skull.—Richard Lake.—This case was that of a man, aged fifty-eight, who was sent to me by Dr. Cobbledick with an eight weeks' history. The commencement of his illness was an attack of influenza, after which he became very deaf on the left side. About a fortnight after the onset of the influenza there was some meatal swelling and pain on the left side. He remained deaf and unwell until about two days before I saw him, when a large swelling suddenly developed just behind the back of his ear, midway between the external meatus and the external occipital protuberance, and almost in that line. There was no sign of any trouble in the middle ear, nor had there been after the temporary tenderness of six weeks before.

He was taken into a nursing home, and operated upon the following morning. A curved incision was made with the convexity upwards, commencing with the tip of the mastoid, and terminating at the posterior aspect of the swelling previously referred to. Through the posterior portion of the incision a large abscess-cavity was opened. This, when cleaned, showed a perforation into the left parietal bone. This was opened, and followed forwards, into an intracranial and extradural abscess-cavity, which extended to the posterior portion of the mastoid process, passing round and in front of the lateral sinus. The whole of the mastoid process itself was involved. All the diseased tissue was very completely removed, a very free opening into the middle ear made under antiseptic precautions, and the wound closed. Healing was quite uneventful, and hearing completely restored, as it also was in the case previously reported. I think it is only just to say, in regard to the original operation for the relief of acute mastoiditis, that if the operation is not unduly delayed, and if it is efficiently performed, the probabilities are that there is no loss of hearing.

The PRESIDENT: Perforation of the parietal bone is an unsual event. I agree with the statement, "if the operation is not unduly delayed, and is efficiently performed, the probabilities are that there is no loss of hearing."

Loss of Hearing due to Delay in Operating.—Richard Lake.—This is a case which I am adding in order to show the disastrous effects of delay in acute and subacute suppurative otitis media.

A little boy, aged five, was brought to me on April 16, 1916, when I advised immediate operation. Although tenderness over the mastoid antrum was slight, there was deep swelling of the upper and posterior part of the meatus. Suppuration had lasted for a sufficiently long time—*that is to say, six weeks—to lead me to express the opinion that unless*

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operation was done within a reasonable time the boy's hearing would be lost, to say nothing of the fact that as long as suppuration persisted he was exposed to unnecessary danger. I cannot but think that it was very unfortunate that he was taken to get another opinion—or perhaps I should say that it was particularly unfortunate that he was taken to the particular person who gave the opinion—for the mother was assured that there was no reason for operation. Six months later the boy was brought to me again, the suppuration still persisting, although the tenderness had quite disappeared, and so had the hearing. I operated, with a satisfactory result so far as the suppuration was concerned, but the boy remains completely deaf on the affected side.

Cerebral Abscess; Hernia Cerebri; Avulsion of Abscess Wall; Complete Homolateral Ophthalmoplegia; Recovery.—W. M. Mollison.—The patient, a boy, aged twelve and a-half, was admitted to Guy's Hospital on September 22, 1917, suffering from frontal headache and vomiting, with pain and tenderness over the right mastoid process. There was no history of otorrhœa, but the patient had had scarlet fever at the age of two. Four weeks before admission the boy struck his head in a swimming-bath; though dazed he was able to walk home, and had no further symptoms for fourteen days. He was confined to his bed with an illness which his doctor diagnosed as mumps: he had pain in the right ear, was sleepless and restless, had much headache, which made him cry, was somewhat intolerant of light, had no appetite and lost weight rapidly. For the week previous to admission vomiting, at first once a day, became frequent. Stated to have had otorrhœa for two days only.

On admission the temperature was 97° F., and pulse 68; the boy was drowsy and lay curled up on his right side; he had photophobia and complained of frontal headache. There was foul pus in the right meatus and a perforation in the posterior part of the membrane; the right pupil was larger than the left and optic neuritis was present. Lumbar puncture showed the cerebro-spinal fluid clear, but under increased pressure. Tenderness over the mastoid process was not marked. Cerebral abscess was diagnosed. Operation was performed, and about an ounce of foul pus evacuated from a temporo-sphenoidal abscess, and a double rubber drainage-tube was inserted. The boy made good progress till October 19, when he again exhibited symptoms of pus retention, and a further collection of pus was opened. He improved, but again on November 3 a further collection was evacuated. The patient was now very ill and a hernia cerebri developed; lumbar puncture showed cloudy fluid but no organisms on cultivation; the temperature rose, and on one occasion reached 105° F. On November 10, while dressing the wound, a large part of the hernia was pulled off, and was found to consist largely of the cerebral abscess sac: this was removed entirely. Hypertonic saline was now used as a dressing. Three days later complete ophthalmoplegia was noted to be present on the right side and paralysis of the opposite external rectus.

Mr. Ormond kindly saw the case and reported:

"Right eye looks straight forward; very slight movement up and down, even less from side to side; no paralysis of levator palpebræ. Pupil is large but reacts sluggishly; optic neuritis in both eyes. Left eye: No movement outwards, pupil active. I think this condition due to interference with the centres for movement in the Rolandic area. ? Œdema.

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No local lesion will account for an involvement of third, fourth and sixth nerves, omitting the levator palpebræ and internal branch of the third."

The boy now made a slow recovery, and was discharged on December 29. The movements of the eyes gradually returned to normal.

Subacute Mastoiditis; Paralysis of corresponding Sixth Nerve, recovering; Latent Maxillary Antral Infection, illustrating the advantageous Exploration of Sinuses by the Suction Syringe.[1]—**P. Watson-Williams.**—Examples of sixth-nerve paralysis (paralysis of external rectus) occurring in association with mastoiditis are sufficiently rare to be worthy of record, and as the fatal cases have been attributed to meningeal infection at Dorello's space, the cases which spontaneously recover lead one to consider how far meningeal infection is an essential pathogenetic factor.

Another point of interest is that this patient, whose case was incidentally referred to by the reporter at the last meeting of the Otological Section, exemplifies the advantage of routine exploration by the suction syringe of the antral and sphenoidal sinuses in all cases of mastoiditis, even where the previous examination of the nose by the usual methods of inspection has led one to exclude sinus infection.

Sister K—— was referred to Dr. Hogan on December 3, 1917, complaining of purulent discharge from the right ear for one month with pain over the mastoid area increasing for a week. The mastoid region was red, swollen and tender, deafness almost complete, pus escaping from large tympanic perforation. Patient thin, sallow and weakly; had caught cold in air-raid while working in Poplar. Nose: no discharge seen by anterior rhinoscopy nor by careful endo-rhinoscopy; condition believed normal.

December 14: Having been under observation in the nursing home for ten days with local treatment for the ear, no nasal symptoms nor discharge, a radical mastoid was performed, as the unnaturally small size of the meatus and extensive cellular formation led to the conclusion that a modified mastoid operation would fail. Exploration of the maxillary antra by washing with the suction syringe: right antrum quite clear, left antrum full of yellowish, curdy pus. Sphenoidal sinuses explored, both sides clear. After the usual mastoid operation the left antrum was opened pernasally through the inferior meatus sufficiently for drainage.

Subsequent film examination and culture report by Prof. Walker Hall: "Right antrum: Film—polynuclears and excess of mucus. Culture—no cocci, *proteus* only. Left antrum: Film—polynuclears, phagocytosis of G. P. Culture—cocci, G. P. staphylococcus; *Bacillus proteus*. (Pneumococci and bacilli did not grow out in special media.)" This report justified the antral operation despite the absence of so-called characteristic symptoms pointing to antral infection, and seems to explain the source of the aural infection. December 20: Patient steadily progressing, but purulent discharge from the mastoid wound extraordinarily profuse. Eyes examined by Captain Stack. No optic neuritis, no paresis. Facial paresis slight; had developed about three days after operation and still present. December 29: Still much purulent discharge. Facial paresis has disappeared, but the right external rectus has become paralysed; double vision. There are no general nor cerebral symptoms characteristic of meningeal infection. January 3: Still much pus from mastoid area. January 26: Patient sent home with mastoid wound healed, but right

[1] See also Journ. of Laryngol., Rhinol., and Otol., vol. xxxiii, p. 200.

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sixth nerve still completely paralysed. March 4: Doing very well. Captain Stack reports that the right sixth nerve is recovering, and that "the movement is now almost normal, diplopia is less, and therefore more bothering."

Note.—Except for a slight rise of temperature the day after the operation the temperature remained practically normal throughout.

The extraordinary purulent discharge from the mastoid wound with transient facial paralysis developing some days after operation and succeeded by sixth-nerve paralysis suggested that the cellular condition of the mastoid and petrous portion was unusually developed. Anxiety was felt as to the possibility of meningitis developing, but was negatived by the absence of any characteristic symptoms. The fact that the nasal sinuses had been explored and the infected antrum opened and drained reassured the operator when the unusual purulent discharge from the mastoid area suggested sources of reinfection. Had such exploration been omitted at the time of operation it would have been carried out subsequently. Latent infective nasal sinusitis may cause no local nor characteristic symptoms and give rise to no obvious nasal discharge, while also proving a source of danger.

This is the case referred to by the speaker at the last meeting of the Section to illustrate the desirability of a routine exploration of the sinuses in suppurative otitis, the method being simple and accurate and occupying only two minutes under an anæsthetic, or, if done previously, under cocaine anæsthesia. Definite gross evidence of the purulent nature of the extracted discharge is usually essential before an immediate operation on the sinuses found involved is justifiable. But more conclusive evidence of any given sinus being infected may be furnished by the subsequent pathological report, although no gross evidence of pus is found in the sinus washing. In other words, it is contended that a nasal sinus may be infected by pyogenic organisms, but that the polynuclears may be relatively so scarce that the discharge does not appear to the naked eye to be definitely purulent. Moreover, it is contended that, given a sinus infection, the relative paucity of polynuclears tends to result in systemic toxic infection, whereas the cases in which the polynuclears are prolific often suffer less from systemic poisoning, inasmuch as the more active phagocytosis protects the patient when the discharge is the more definitely purulent. The failure to observe pus in the nasal passages does not exclude an active nasal sinus infection, and in suspicious cases the general symptoms or other evidences, *e. g.* local complications, may call for further investigation of the sinuses than the ordinary routine methods of inspection, particularly when the latter are negative.

Whether an operation should be performed on an infected sinus is another matter, and often enough lavage of the sinus and injection of a suitable disinfectant will ensure its restoration to a normal condition, and prevent that source of infection remaining operative for further and more wide-spread infection.

Dr. Watson-Williams: I suggest the advisability of exploring the antra in all cases in adults, even sphenoidal sinuses also, when the patients are on the table under an anæsthetic, as it only takes a couple of minutes. Knowing whether the antra are clear or not assists in the operation. Latent sinus infection is more frequent than we have any idea of. I have had more than a couple of thousand cases in which I have used the exploring syringe, and I have been driven to the conclusion that pus may sometimes be found in cases in which there was no previous

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indication of its presence. Recently a child came to me with symptoms of adenoids; there were no adenoids, nor enlarged tonsils; she seemed stupid, and had had recurring colds and nasal catarrh. Exploring her antra under an anæsthetic I found them clear, then exploration of the right sphenoidal sinus proved it clear. But on putting the cannula into the left sinus, I drew out over a drachm of thick pus, and, by the way the syringe worked, I knew there was polypoid degeneration of the lining mucosa. I opened and drained this sinus. Further, I feel convinced that cases of adenoids and tonsils are sometimes caused by a latent sinus infection. Constant re-infection of the tonsillar tissue causes it to become hypertrophied.

Dr. PEGLER: Does Dr. Watson-Williams mean by that suppuration can start the growth of pure lymphoid tissue? If so, it is an aspect of pathology which I do not understand.

Dr. WATSON-WILLIAMS (in reply): I believe the essential cause of hypertrophy of the nasopharyngeal tonsil and of the faucil tonsils is a lymphoid cell proliferation due to infection. And you will find that where there is a free response in lymphoid cell proliferation, there may be greatly enlarged tonsils with only very slight symptoms. And on the contrary you will often find clinical symptoms well marked where the enlargement is slight, because the infection is not inhibited by the effect of a free lymphoid cell proliferation. In acute tonsillitis the tonsils are often so enlarged that you think they must be operated upon soon; however, they often subside after the acute infection has ceased.

Concentric Narrowing of each Meatus following Scarlet Fever.—Herbert Tilley.—Mrs. C——, aged forty-seven, applied to University College Hospital for "deafness" and "noises in the head." Examination: Each meatus was found to be obstructed by a diaphragm with a central perforation of a calibre which would admit the lead of an ordinary lead pencil. The edges of the perforations are clear cut, white, and rather resistant. The stenoses thus caused are rather to the outer side of the junction of the cartilaginous and bony meatus. In each meatus there was some purulent discharge. After cleansing the passages and inflating with catheter, the hearing improved and the tinnitus ceased for two days. The patient says her symptoms date from an attack of scarlet fever at the age of five years.

Dr. PEGLER: These constrictions remind me of the conditions seen after mastoid operation, in which there is an inveterate tendency to form a perforated web or ring of dense fibrous tissue round the region of the membrana tympani. I have had cases in which the ring has been removed and every method adopted; sometimes the whole ring has been cleared away, but without success.

Mr. O'MALLEY: I have had a case of which Mr. Tilley's reminds me, and I mention it because he may be thinking of doing an operation of a plastic kind on the ear. I did a plastic operation in my case, and I thought it would do excellently, but it has closed to a narrow limit, and I am very dissatisfied. For a similar case I should in the future skin-graft.

Dr. ALBERT GRAY: An interesting feature in this case is that it is bilateral. It is astonishing how very few become narrow after even prolonged suppuration. Since in this case both ears are narrowed, there must have been either some peculiarly irritating condition during the illness, or it is a case of congenital narrowing. But it looks more like scar-tissue, which would be against congenital narrowing.

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Dr. WATSON-WILLIAMS: I have seen an extraordinary instance of concentric narrowing of the meatus in a child. He was referred to me by Dr. A. Hutchinson, who had done a Schwartze operation on him. It was extraordinary how the child recovered with such a small meatus—2½ mm. across. I think it was congenital, as Mr. Tilley's case may be.

Mr. TILLEY (in reply): At the circumference of the perforation one comes upon hard tissue. The idea of operating did not occur to me. I thought if I could relieve the discharge and get rid of the tinnitus it was all I could do.

Aural Fibroma.—L. H. Pegler.—The patient, a widow, aged seventy-three, of rather stout habit and in excellent health, consulted me at Fitzroy Square Ear and Throat Hospital in February, 1918, for a growth blocking up her right ear, with accompanying deafness. About two years ago she consulted a doctor, who told her she had a thickening of the drum, and the growth does not seem to have been visible externally more than two months. She has never had suppuration from the ear, and there were no inflammatory conditions. Neither macro- nor microscopically did the growth resemble the familiar aural polypus in any of its forms.

Inspection.—A tumour, of which the visible part was as large as the broad end of a pigeon's egg, projecting ¼ in. from the orifice of the external meatus. The surface was smooth, rather paler than the surrounding skin, and not sensitive to touch. With a probe the tapering body could be traced deeply to the fundus of the meatus, and a layer of cheesy material separated it from the meatal walls. I removed the growth under cocaine with the wire loop of a nasal snare. The hæmorrhage was free, and, owing to this, the attachment of the root could not at the time be ascertained satisfactorily. Subsequent changes in the part during healing have not assisted much in determining this point, especially as the growth came away entire, and there have been no remains of root or stump to cauterise or curette away. Until this afternoon I had not been able to see the patient for some weeks; at the last examination the greater part of the tensa and flaccida region were still undergoing change, and presented a smooth, red surface, not painful, and not yielding to gentle pressure with a probe. To-day I find this surface coated with a moist epithelial *débris*, and the patient speaks for the first time of a slight "watery" discharge—non-purulent and inodorous. There is some improvement in hearing. The left ear is quite normal.

Pathology.—The jar specimen exhibited in spirit was mounted at the Royal College of Surgeons for Prof. Shattock, who has accepted it for the College Museum, with a microscopic section. It is a pear-shaped body with a tapering stalk, which measured in the recent state about 1½ in. in length and nearly 1 in. in circumference. A longitudinal segment has been removed for microscopic examination; the horizontal constriction near its middle was caused by the snare loop. The section consists from end to end of fibrous tissue, varying in density. In places it is made up of delicate interlacing fibrils, many of the cells of which are branched. Elsewhere the structure is denser, exhibiting bundles of wavy fibres which pass imperceptibly into the looser tissue. The arteries and veins seen in section do not call for special mention. The tumour is covered with normal stratified epithelium, which is furnished with a *stratum granulosum*.[1] The layers of squamous cells seen on the surface

[1] This has an important bearing upon the question of its origin.

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account for the smooth, skin-like contour presented by the protruding portion of the growth.

Dr. A. GRAY: I think this fibroma sprang from the meatus, and not from the tympanic membrane, as the epidermis covering the tympanic membrane does not run in the wavy outline that ordinary skin does: this runs with the corium sticking up.

Mr. WHALE: I suggest Dr. Pegler should look to see where are the scars left by removal, now that he has removed the growth.

Mr. TILLEY: I think Dr. Pegler should adopt the suggestion made by Mr. Whale—viz. get rid of some of the desquamation by means of peroxide of hydrogen or carbonate of soda solution, and then apply a large-sized Peter's speculum (Siegle's) to the meatus. That method will give more information about a drum adhesion or perforation than any other means, and it does not seem to me that the value of the instrument is as appreciated as it should be.

Dr. PEGLER (replying to Mr. Tilley): I shall always employ Peter's modification of Siegle's speculum in my aural work. I shall certainly show the patient again.

[*N.B.*—At the time of going to press the features of this case have cleared up considerably. The whitish *débris* has been got rid of by syringing, and the red, hardish, rather irregular surface has appeared again, but inferior to this, about two-thirds of the inferior quadrant, consisting of a thin, greyish, papery membrane, has come into view, and moves slightly when examined with Peter's pneumatic speculum. The patient may be shown again at a later meeting.]

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

November 2, 1917.

President: Dr. A. BROWN KELLY.

(*Continued from p.* 133.)

Epithelioma of the Ethmoidal Labyrinth; Lateral Rhinotomy; Removal.—Dan McKenzie.—The patient is a woman, aged forty-one, who was sent to the Central Throat and Ear Hospital by Dr. Cowie, of Denmark Hill, in July of this year. The only symptom was epistaxis. But as this had been continuing for about four years in ever-increasing severity she was pitiably anæmic. The growth was polypoid and occupied the left ethmoidal region, and diagnosis was made by Dr. Wyatt Wingrave microscopically before operation.

In view of the grave anæmia, efforts were made to complete the operation as rapidly and with as little hæmorrhage as possible. The inner aspect of the nose under the nasal bones was therefore liberally treated with adrenalin. And after the external incision and manipulations had cleared the bone, the lower edge of the nasal bone was defined and a septum elevator introduced below it to separate it from its underlying muco-periosteum. Thus isolated the bone was rapidly nibbled away with mastoid gouge-forceps, and this method proved to be much more rapid than the use of the chisel would have been.

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