Society of Otology and Laryngology

SCOTTISH SOCIETY OF OTOLOGY AND LARYNGOLOGY

EIGHTEENTH MEETING, ROYAL INFIRMARY, GLASGOW

December 15, 1923.

President—Dr R. P. MATHERS.

Sub-mucous Post-nasal Fibroma—Dr J. HARPER.—Female, aged 53, complained, in March 1922, of a swelling in her throat which interfered with swallowing. It occupied the mid-line of the posterior wall of the pharynx and extended upwards into the naso-pharynx, and resembled in appearance a retro-pharyngeal abscess. Incision revealed no pus, but a soft material resembling melon substance. The swelling fungated, but the microscope showed only granulation tissue.

The tumour was shelled out of a capsule with difficulty, and a pedicle was traced into the post-nasal space, winding round the left side of the vertebral column, beneath the orifice of the Eustachian tube. The pedicle was pulled off and the patient made a good recovery.

Dr HARPER pointed out that he had not seen the patient for over a year, and she now had contraction of the left pupil, paralysis of the left side of the tongue, with, he thought, a certain amount of atrophy and paralysis of the left side of the larynx. The Wassermann reaction was negative.

Dermoid of the Tonsil—Dr J. HARPER.—Baby, aged 9 months, had increasing difficulty in breathing, of six days' duration. There was a hard enlargement of the right tonsil: no evidence of acute inflammation. A mass, without fluctuation, occupied the right side of the neck near the angle of the jaw. Sarcoma was suspected. The right tonsil was enucleated. The pathologist reported sarcoma, but he also found an animal hair in the substance of the tonsil. Later, the cervical swelling showed fluctuation and was incised. A bunch of black hairs, several six to seven inches long, was removed. There has been no recurrence.

Dr HARPER added that probably this was a dermoid involving the tonsil. There was no doubt that the second branchial cleft was involved, and as the supra-tonsillar fossa was a part of the second branchial cleft, the mass which extended to the angle of the jaw was probably in relation to the tonsillar condition.

Two Cases of Cerebellar Abscess with Recovery—Dr J. HARPER.—(1) Boy, aged 13, complained of discharge from the right ear for six months. He had been ill and confined to bed, and a fortnight before admission the ear was suspected as the causal factor.

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On admission, there was definite tenderness only over the mastoid emissary vein. R.T.M. injected, but no perforation; sagging of postero-superior meatal wall; occipital headache and radiating cervical pain; slight neck rigidity and definite right Kernig; eyes and reflexes were normal. Temperature 98° F. Pulse 46. Radical mastoid operation and posterior fossa dura mater exposed internal to the sinus. The dura mater was dark in colour and bulged. Five ounces of foul pus were evacuated: recovery.

(2) Male, aged 19, with discharge from left ear for one year. Two weeks before admission, earache and cessation of discharge for nine days. Discharge recommenced: headache. On admission L.T.M. red, bulging and perforation in Shrapnell's membrane; foul discharge; no vertigo, ataxia, or mastoid tenderness: reflexes, temperature, and pulse normal; no eye symptoms: cerebration slow. Paracentesis, with escape of serum. Headache became aggravated and the boy rolled his head continuously from side to side. Caloric reactions were normal. Radical mastoid operation performed: cholesteatoma tracking to cerebellar dura mater, where some extra-dural pus was found. Large, foul cerebellar abscess opened internal to sinus. Recovery. After operation, rotary nystagmus to both sides, on extreme deviation of the eye, was noted.

Temporo-sphenoidal Abscess — Dr J. HARPER. — Female, aged 18, had right ear discharge for five years. After severe frontal headaches and fits for one week, was admitted unconscious. Lumbar puncture revealed fluid with increased cellular contents, mainly lymphocytes; no organisms. Referred to Ear Department with continued frontal headache and pain in neck. R.T.M. large perforation with slight discharge. Radical mastoid operation; cholesteatoma; removal of tegmen antri; dura mater healthy, but on exposing same in backward direction, discoloured area exposed. Through this a large foul abscess evacuated from posterior part of temporal lobe. Recovery; but she complained of symptoms resembling petit mal.

Dr DAN M'KENZIE said that at the Royal Society of Medicine he showed a case of temporo-sphenoidal abscess which had been operated upon, with recovery, and in which definite attacks of grand mal had appeared, beginning some few months after the operation, and in consequence of that case and of another one which was reported at this Society, there was an editorial note in the *Journal of Laryngology*, calling attention to the need for investigation on the point. Several questions arose; were the attacks more likely to develop after a temporo-sphenoidal than after a cerebellar abscess? Then the all-important point of treatment arose. His (the speaker's) case was seen by Sir Charles Ballance, who had had a number of cases of post-operative epilepsy, and his experience was that operation was not beneficial. On the other hand, cases had been

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mentioned in which an operation freeing the dura from the bone to which it was adherent was followed by disappearance of the fits.

Dr J. S. FRASER said that in a case of frontal lobe abscess following frontal sinus suppuration, which he reported about two years ago, the patient afterwards developed epileptiform attacks. He was not aware of any such attacks in cases of temporo-sphenoidal or cerebellar abscess on which he had operated.

Dr LOGAN TURNER was interested in the fact that Dr Harper opened and successfully drained both the cerebellar abscesses internal to the sigmoid sinus. The choice of area through which the cerebellar abscess should be opened and drained gave rise to a difference of opinion. He wished to ask Dr Harper what method of drainage he used, because that was another point on which some conjoint discussion and a collected experience would prove very interesting to all who were engaged in intra-cranial work.

Dr SYME said that he also wished help, not only as to the method of drainage but as to the length of time the drainage should be kept up. He had, at present, a case of abscess of the temporo-sphenoidal lobe which he was draining merely by gauze drains, and he wished he had the courage to leave out the drain at the end of a week and let it fill up. Other cases he had drained for weeks.

Dr ADAM was interested in the bilateral nystagmus to each side. He asked if it occurred after the operation. It was not quite clear to him, from the notes, whether the patient had it beforehand. It was the most striking feature in the case, and he was not aware that it was a feature of cerebellar irritation.

Dr KERR LOVE congratutated Dr Harper on having three successful cases of brain abscess brought before one Meeting.

Dr HARPER (in reply) said he had chosen these three cases out of seven which he had to choose from. The interesting point in No. 1 was the immense quantity of pus that was present in the boy's cerebellum. It suggested that no cerebellum could be left, and it drew attention to an important fact, namely, the question of doing lumbar puncture in these cases. He felt sure that if done in this case, it would have killed the patient. In the second case, the unusual symptom was the presence of nystagmus of the head. The man lay in bed and the head went definitely from side to side just like a pendulum. He had seen this before in cerebellar abscess. As regards Dr Adam's question about nystagmus of the eyes, that occurred after the operation. There was no eye nystagmus before the operation. As regards drainage, he had a number of cases in which he had drained the area between the labyrinth and the sinus, without interfering with the sinus. He had no particular method of draining. After opening the abscess cavity, he put in an ordinary india-rubber drainage tube with a few holes in it, took it out on the next day, and if the opening into the abscess cavity was patent, and the discharge seemed to be coming away, he put back the drainage tube. If he found that the wall of the opening into the cavity was tending to contract and close on the drainage tube, he put in a little gauze. In some of the cases the drainage tube served all

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through the case. The drainage tube was advantageous where he was unable to carry out the after-treatment himself. With regard to the length of time drainage should go on, he left in the tube until the pus showed signs of stopping. He took out the tube in two days' time and opened up the cavity again. If it was all right, he left it alone. If there was pus, he drained again. There was no definite time as to period of drainage.

Swelling of the Right Vocal Cord and Subglottic Area —Dr J. HARPER.—Male, aged 52, has been hoarse for nine months. There is no inflammatory condition of the larynx, but a swelling involves the right vocal cord and part of the subglottic area of the same side. Wassermann reaction negative; no evidence of tubercle has been found.

Dr HARPER regarded the case as malignant but he felt that if he removed a piece, matters might be made worse. He had lately had two cases of cancer of the larynx where preliminary removal had aggravated the condition and the cases became inoperable.

Dr SYME did not consider laryngectomy justifiable unless a piece was first removed for diagnostic purposes. In a recent doubtful case, in which Professor Muir hesitated to express an opinion, he (the speaker) had acted on his own authority and had performed thyrotomy.

Dr DAN M'KENZIE said he would not remove the larynx without first obtaining the pathologist's report. If the case should prove to be non-malignant, no harm was done by first removing a piece. If malignant, then the cancer became septic.

Patients showing Inward Displacement of the Antro-nasal Wall in the Treatment of Atrophic Rhinitis — Dr W. S. SYME.—The antrum was opened in the canine fossa and the opening enlarged. If the antral living membrane was diseased, it was dealt with. With chisel and mallet the antro-nasal wall was then divided along its anterior, inferior, and posterior borders, care being taken not to pierce the nasal mucous membrane. The wall was then pressed into the nasal cavity, and at the same time the mucous membrane was elevated to allow of this being done. Packing was then inserted firmly between the displaced wall and the base. This was renewed by way of the canine fossa daily, or every second day, for ten days. The opening over the canine fossa was then allowed to close.

Dr DAN M'KENZIE did not suppose that Dr Syme could claim these cases as cures. The patients still had secretion, though it was now fluid. The crustation was very much improved. At the same time one wanted more experience in the results of the treatment before forming an opinion, but he was very pleased with those he had seen to-day. The patients were relieved from the necessity of having to syringe, and could then be left alone.

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Dr HARPER asked Dr Syme how he diagnosed atrophic rhinitis, because he (the speaker) had found it very difficult to say, in certain cases, whether he was dealing with atrophic rhinitis or not.

THE PRESIDENT (Dr Mathers) asked Dr Syme how long he left the plugs pressing the naso-antral wall in position, and also what was the state of the nasal passages of the patients. Were they well-marked cases of ozæna, with loss of sense of smell, foul crusts, etc.? They seemed to be as comfortable with this form of treatment as with douching.

Mr DONALD WATSON wished to know if chronic antral suppuration was going to follow this operation.

Dr DOUGLAS GUTHRIE presumed that the idea underlying the operation was to narrow the nasal cavities, so that crusts might be more easily expelled by an outgoing blast of air. The operation appeared rather complicated, and the same end might be achieved by the operation recently described by Dr James Adam, which consisted in the introduction of costal cartilage under the septal mucous membrane. He (the speaker) operated in this manner on one patient four months ago, and the result appeared, so far, to be very successful.

Dr ADAM said that Dr Syme's cases showed a more successful result in so far as narrowing the nasal cavities was concerned, than the operation which Dr Guthrie had referred to. He (the speaker) found it difficult to get the nasal mucous membrane to retain enough cartilage, and the operation would require to be repeated probably more than once before the result was satisfactory. So far, his patients expressed benefit as regards getting rid of the crusting and fœtor.

Dr DAN M'KENZIE said there was one important clinical point on which one could always rely in the diagnosis of ozæna, and that was the duration of the disease. It seemed to be a fact that true ozæna always dated back to childhood. If a case of atrophic rhinitis of short duration presented itself, he thought it was not genuine ozæna. Many of them were syphilitic and were amenable to syphilitic treatment. He went into the matter some years ago and found this point fairly reliable. It was in childhood that the disease began and what was observed at a later period, when the patients presented themselves, generally aged from 18 to 25, was really an after-effect or a secondary condition of the disease. The disease was known to the patient as a nasal discharge dating from early childhood.

Dr J. S. FRASER agreed with what Dr Dan M'Kenzie had said. It was very obvious that it must be so, because really ozæna was nothing else than the end stage of chronic purulent rhinitis which dated from scarlet fever or measles in childhood, like most cases of chronic foul-smelling middle ear suppuration and cholesteatoma. If ozæna was not chronic purulent rhinitis, where was chronic purulent rhinitis? There was a gap in the pathology of nasal diseases. There was chronic purulent bronchitis and bronchiectasis, chronic middle ear suppuration and chronic suppuration of the nasal accessory sinuses, but where was chronic purulent rhinitis? There was no chronic purulent rhinitis, unless ozæna was regarded as filling the gap.

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Dr HARPER said he was still in a difficulty. Was he to understand that the diagnosis of chronic atrophic rhinitis or ozæna was a question of length of time? If the patient had the discharge or gave a history of nasal trouble since childhood, and presented herself with crusts and foul-smelling discharge, then was the case to be diagnosed as one of atrophic rhinitis? If the condition came on later, was it not atrophic rhinitis?

Dr M'KENZIE pointed out that ozæna was only one form of atrophic rhinitis. He did not lay it down as an absolutely hard and fast rule, but maintained that if a case with crustation, fœtor, and atrophy dated back to childhood, it should be treated as a case of ozæna and not as a case of syphilitic rhinitis or of atrophic rhinitis due to any other cause.

Dr SYME was obliged to the members for the interest they had taken in his cases. The atrophy, of course, could not be restored, but the aim of the operation was to reduce the space in the nose, and he thought that by this method it was accomplished. The diagnosis of atrophic rhinitis in these cases was made from the appearance and from the history, and he agreed with Dr Dan M'Kenzie that in most cases of atrophic rhinitis the history went back to childhood. There were various forms of chronic atrophic rhinitis—posterior atrophic rhinitis, for instance, and there was an objective atrophic rhinitis due to disease of the antrum and anterior sinuses. It was agreed that there was no specific organism for this particular form of atrophic rhinitis. Two of the cases shown were recent and the opening in the alveolus had not closed, and therefore there was some discharge. The operation allowed the antral cavity to be examined, and it showed that in certain of these cases there was antral disease, whether it was secondary to the condition of the nose, or primary. He did not think that purulent rhinitis was a common condition at all, that it could not be considered in the same light as chronic purulent bronchitis or purulent affections in the middle ear. He had seen cases of what he was compelled to call purulent rhinitis in children, but he thought that true purulent rhinitis was very rare, and that the diagnosis should not be made until other conditions, such as sinus disease, had been excluded.

Extensive Leucoplakia of the Tongue and Buccal Mucous Membrane—Dr W. S. SYME.—Male, adult, shows also on the right lower alveolus a suspicious area which is reported upon by the pathologist as squamous epithelioma.

Wassermann negative.

Dr KERR LOVE said that the question which naturally came to one's mind in connection with a real case of leucoplakia, was the origin of the disease. Was it syphilitic or not? Did the condition always portend malignant disease or not? He had treated a young man for primary syphilis. Later on, the patient developed very marked leucoplakia and, later still, developed cancer of the tongue. He died of cancer in the chest. What was the opinion of members as to the association of syphilis: was the tendency to malignant disease, following the leucoplakia, common or not?

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Dr HOWIE thought that some surgeons had a very decided opinion on the question of the relation of leucoplakia to malignant disease. He remembered a case of geographical tongue in a child, and a notable Glasgow surgeon gave a very gloomy prognosis of the case, because he thought that the probabilities were that it might develop into malignant disease later in life.

Dr SYME was in favour of treating the condition with diathermy, but he had hoped for an opinion as to what should be done for the rest of the tongue. Should he anticipate malignant disease by removing the whole tongue, or just treat the part which was already epitheliomatous? It was very difficult to say where the dividing line between leucoplakia and malignant disease was in this case.

Epithelioma of Tongue: Diathermy—Dr JOHN L. HOWIE.—Woman, aged 60, complained of pain in the tongue in 1921. In July 1922 there was leucoplakia with irregular, thickened edges, and the whole tongue assumed a granular, thickened appearance. The pathologist reported epithelioma, and diathermy was carried out on more than one occasion: Wassermann reaction negative.

Dr DAN M'KENZIE said that he had been using diathermy now for a good many years, and he had arrived at certain methods of treatment which he thought would interest the members. In his opinion, the time was coming when diathermy would be used solely in place of the cold knife in all cases of cancer. With the knife the living cells were cut through and left alive, and thus were liable to continue their growth and to infect the wound directly. In using diathermy, the cells were destroyed. The second point to emphasise was the action of diathermy in sterilising the tissues infected with bacteria. It was a notable fact that the diathermy wound was aseptic and remained aseptic, hence the explanation of the fine scar. All cancers of the pharynx could be divided into removable and non-removable. In a case, *e.g.*, of epithelioma of the tonsil with perhaps extension to the palate, in which it was possible to remove the whole growth, a circular incision round the growth with the diathermy knife removed the growth entire. In all these cases, whether the glands in the neck were enlarged or not, he dissected out the glands and the gland-bearing fascia of the deep structures of the neck, and tied the external carotid artery, before removing the primary growth. In this way the diathermy knife could be used with freedom and one was not troubled with bleeding, either at the operation or later. Again, after he had removed the fascia and glands and tied the carotid, he took a diathermy needle and punctured the tissues between the growth and the wound in the neck. This series of punctures more or less controlled the spread from the growth. The consequence was that in a successful operation of this kind, a deep hard scar extended from the primary growth right out to the fascia which had been removed, so that the infected area was sealed up. He had recently seen an article by Mr Herbert Paterson, in which the question was raised whether the glands should be removed in cases of cancer, because the glands held up the cancer cells and prevented spread for a time. He (Dr M'Kenzie) submitted that removal of the glands was not

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only justifiable but advisable. In regard to cases in which the primary growth in the pharynx could not be entirely removed, then it should be treated by diathermy short of removal, and the beneficial effect of the destruction and antiseptic action of diathermy in such cases was remarkable. Pain was very much reduced and swallowing restored, so that the patients could go back to work for three, four, or five months, after operation Even in these cases, if the glands could be removed, they were removed. If not, then he punctured them with the diathermy needle. They became very much smaller and were slow in growing again. In this connection, however, it was necessary to utter a word of caution. If the cancerous glands in the neck were very large, it was better not to operate on them at all, because they became very septic, the wound remained open, and the patient's condition was not improved. But there was a time, if the glands were not too large, when the diathermy puncture was valuable. He (the speaker) drained the external wound for two or three days, as serum was exuded in consequence of the diathermy burn, and this might collect and become septic.

Dr W. S. SYME had listened with great interest to what Dr Dan M'Kenzie had said. He (the speaker) did not altogether agree with him in pressing the question of removing the glands before the primary growth and for this reason, that very frequently the glandular enlargement became much less after the primary growth had been removed, no doubt from the removal of the septic focus. He had seen glands, which seemed, at any rate, to present a good deal of difficulty for operation, becoming afterwards quite operable—they had shrunk so much from removal of the primary growth. He agreed with Dr M'Kenzie regarding the puncturing of the glands, and that large masses of glands in the neck should be approached with caution. When glands could not be removed, he made incisions and put in the diathermy knife.

Dr JOHN L. HOWIE (in reply) emphasised the value of diathermy in connection with swallowing. His patient could not swallow food of any kind without excessive pain, and without being cocainised before eating. The day after the diathermy, she was eating an egg and bread and butter, showing the beautiful effect of the operation. The question of the glands was one which was interesting him, and the suggestion that Dr M'Kenzie had made had given him the idea of using the diathermy needle.

Tuberculoma of Nasal Septum on a previously existing Angular Deviation—Dr J. W. LEITCH.—Woman, aged 50, complained on 8/6/22 of right nasal obstruction, of one month's duration, with a yellowish, non-fœtid discharge: occasionally slight bleeding from right nostril. There was an angular right deviation with the covering mucosa hypertrophied, but not ulcerated. The appearance did not suggest a granuloma. A year later, she reported with further epistaxis and with the angular deformity showing granulations. A submucous resection was done, the perichondrium and mucosa being preserved for examination. The pathologist reported caseating tubercle. The patient remains well.

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Nasal Tuberculosis — Dr STEPHEN YOUNG.—Suggestions for further treatment were desired. The disease had been frequently curetted. The nasal cavities, naso-pharynx, and antrum were affected.

Dr HOWIE suggested further curetting and the application of acid nitrate of mercury.

A Case of Bilateral Acute Otitis Media associated with a Large Abscess of the Right Frontal Lobe—J. W. LEITCH and R. CECIL ROBERTSON. The case will be reported in full in the April number of the *Journal of Laryngology and Otology.*

Acute Otitis Media (left) following Double Inferior Turbinotomy; Mastoiditis; Schwartze Operation; no Perisinus Abscess; no Obvious Lateral Sinus Thrombosis; Septic Arthritis; Septicæmia; Jugular Vein tied; Sinus obliterated; Recovery—Dr STEPHEN YOUNG.

Dr STEPHEN YOUNG said that when he opened the mastoid there was very little pus in the cells, but some pus in the antrum: the sinus wall was exposed and was apparently healthy. The operation did not clear up the condition and, on Dr Harper's suggestion, he obliterated the sinus and tied the jugular. The sinus was bleeding freely from both ends; there was no obvious thrombosis in the sinus. Previous to this a blood culture had been made and, contrary to the usual experience, a growth of pneumococcus was obtained. The illness lasted five weeks. The patient had a septic arthritis of various joints, which eventually cleared up.

Dr J. S. FRASER said that although he had treated twenty-six cases of septic thrombosis of the sigmoid sinus, he had only had one or two of aural bacteræmia or otitic septicæmia in which there was apparently no thrombosis. He knew, however, that Dr Gardiner had had several such cases, and he thought it would be interesting to hear from him with regard to this condition. He (the speaker) thought there could be no doubt but that in some acute cases organisms got access to the blood stream without any obvious thrombosis, either in the sigmoid sinus or in the jugular bulb.

Dr HARPER did not think that this was a case of sinus thrombosis with septic organisms in the blood. It had occurred at a time when every case in the ward became septic. A case in which nasal polypi were removed, in two or three days had all the symptoms of acute meningitis. All the mastoid operations went septic and developed symptoms of meningitis. Dr Young's case was one of the several which developed symptoms of well-marked septicæmia. He (the speaker) had performed the turbinotomy. He did not pack the nose, but put in a cotton-wool plug. He passed the case over to Dr Young, who did a Schwartze operation and laid bare the sinus, but there was nothing there. All the cases mentioned had a pneumococcal infection of the blood. Another case had symptoms of brain abscess; three cases had symptoms of meningitis; and two cases had symptoms of lateral sinus thrombosis. He did not wish this case to be recorded as a case of septicæmia due to sinus thrombosis. The

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symptoms of sinus thrombosis were there, but the other cases which developed symptoms of sinus thrombosis were left alone and they did well. The infection in the ward died out. Where it came from he did not know.

Dr W. T. GARDINER said that his first case occurred in a little girl of seven. He had removed her adenoids, and in two days she developed an acute otitis media, with temperature swinging up to 100 and 103, and coming down to normal again—so far as the temperature was concerned, apparently a lateral sinus infection. The acute illness, however, commenced on the third day after the adenoid removal. The ear discharged, but he did not think it was necessary to open the mastoid at this stage. The curious thing about the case was a discharge of pus from the ear on the eighth day; previous to that the discharge had been sanious. After consultation with Dr Turner, the mastoid was opened. Nothing was found. This did not alter the temperature: the symptoms continued—swinging temperature and very rapid pulse. The sinus was then exposed, but there was no thrombosis: the vein was tied in the neck, and still the temperature continued. Serum was given in very large doses—50 c.c.—followed in twenty-four hours with another 50 c.c. Eventually, organisms were obtained from the blood, but the curious thing about the case was that there were never typical signs of thrombosis. She had no rigors and no sweating. He had seen, altogether, five similar cases, all of which recovered, and he thought that when the temperature rose early in the course of the acute otitis media, and when rigors and sweating were absent, operation was not justifiable and serum should be administered.

Dr SOUPER recalled the case of a child, with symptoms of sinus thrombosis, upon whom he had operated and found a non-thrombosed sinus. The child recovered.

Dr DAN M'KENZIE had had a series of cases in which he had opened the sinus and found nothing. The majority recovered. In one case, however, in which he had opened the healthy sinus, the temperature continued to swing, and after the death of the patient a small clot was found in the jugular bulb. It was always difficult to refrain from operating when the temperature continued irregular.

Dr HARPER asked for guidance as to tying the jugular vein in these cases. He made it a rule to do so in those cases in which he opened the sinus.

Tumour in Left Cerebello-pontine Angle — Dr JAMES ADAM. — Woman, aged 30. General condition good; steadily diminishing hearing in left ear for three years; failing vision in both eyes for six months. Has been clumsy in gait in the dark. No history of headache, vomiting, giddiness, tinnitus, or aural discharge. Papilloedema of both discs; paresis about left angle of mouth; diminished sensation in region of left 5th. Ears: right normal; left, postero-superior perforation, dry; watch said to be heard on contact; loud voice heard with noise box in right; high notes of Galton's whistle and monochord heard; Weber to right;

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marked and continued spontaneous nystagmus, horizontal, on deviating eyes to right and left; no adiadokokinesia. With caloric and turning tests, no vertigo; no past-pointing. Cold caloric in each ear aggravated spontaneous nystagmus, especially on putting head back after douching right ear, but the response was slight from left ear, and only after douching about two minutes turning seemed to aggravate the spontaneous nystagmus.

Mr Pringle, on 16th November, did a decompression operation, and a week later removed tumour from left cerebello-pontine angle.

Fracture of the Thyroid Cartilage—Dr GAVIN YOUNG.—A male, fourteen days previously, fell from a scaffold six feet high, and struck the front of his neck. Hoarseness and pain supervened, with swelling and crepitus over the left ala of the thyroid cartilage. Laryngoscopy revealed an appearance suggesting prolapse of the left ventricle; the movement of the L.V.C. was unimpaired. X-rays confirmed the diagnosis of fracture.

ABSTRACTS

EAR

Changes in the Temporal Bone, as the Result of Experimentally induced Rickets, and their Relation to Otosclerosis. ARNOLD KAUFFMANN, Chicago. (*Monats. für Ohrenheilk*, Year 57, Vol. x.)

This report is based on the result of experiments with young white rats kept on varying diets for three months, after which time they were killed, and a detailed histological examination carried out.

The report gives a full account of the microscopical appearance of the bony changes associated with the cochlear apparatus and of those occurring in the soft parts, along with a short historical survey of the work of various writers on the subject of otosclerosis.

The author's opinion is summarised as follows:—

1. Young rats which have been kept on a diet deficient in fats, vitamine A, and calcium show changes in the bony capsule of the inner ear, which are identical with the changes found in the long bones as the result of experimentally induced rickets.
2. Since these changes affect structures, which are intimately associated with the function of hearing, this function is impaired.

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