PROCEEDINGS OF THE SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

Held in the Western Infirmary, Glasgow, June 6, 1914.

DR. WALKER DOWNIE, *in the Chair.*

Report by DR. W. S. SYME.

Lupus of Soft Palate — Fauces, Pharynx, and Larynx. — J. Walker Downie.—Girl, aged sixteen, has been under treatment by chromic acid locally, and syrup of the iodide of iron internally, and is considerably improved.

Dr. LOGAN TURNER thought of trying in laryngeal cases the more recent method of setting free iodine electrolytically as had been carried out in the Finsen Institute. The patient is first given a large dose of sodium iodide, and two hours afterwards small pointed needles (the positive pole) are inserted into the tissue, and something like three to five milliamperes are passed through. The duration of the *séance* lasts about three to five minutes; the needles are then taken out and introduced into another part of the tissue. Very good results have been obtained.

Dr. BROWN KELLY remarked that he had seen the method employed by Mr. Douglas Harmer. The results were very good. It required rather an elaborate outfit. The electrodes were like brushes fitted for different parts; they were applied for about three or four minutes. A dose of 100 gr. of sodium iodide was given two hours before the application. A general anæsthetic was used.

Dr. SYME said the case was interesting in that there was no external evidence of lupus.

Paralysis of Left Vocal Cord.—J. Walker Downie.—Man, aged seventy-six. Huskiness since January last, which he attributed to "cold." No pain nor other discomfort. Radiography shows a clearly outlined dull area to the left of the middle line in the upper part of the mediastinum, probably due to the presence of a new growth.

Leucoplakia of Tongue and Buccal Mucosa of Long Duration. —J. Walker Downie.—Man, aged fifty-seven, has been under observation for over sixteen years, during which time the condition has spread very slowly.

Dr. KERR LOVE had had a case under observation for a much longer period. In it, during the last six months, the tongue had been removed for cancer. Twenty-five years ago he had treated the primary symptom, and had watched the tongue for ten or twelve years. There was a history of syphilis. Locally he had used a weak solution of perchloride of mercury in spirit. Wassermann was negative at the end of the anti-syphilitic treatment.

Dr. BROWN KELLY said he always avoided irritating applications, preferring a saline solution.

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Dr. MACKENZIE BOOTH had had a case under observation for sixteen years; in it chromic acid had been used successfully.

Dr. ALBERT GRAY asked if anyone had made any systematic investigation or found the percentage of cases of leucoplakia which are preceded by syphilis? Had anyone ever known of cases which gave a negative Wassermann?

Dr. WALKER DOWNIE said his patient had a definite history of syphilis. Leucoplakia was regarded by Butlin and others as a predisposing cause of cancer, but here there was no evidence of any malignant process making its appearance after all these years. It might be that irritating applications tended to promote malignant changes.

Carcinoma of Ethmoid.—J. Walker Downie.—The patient was shown at the meeting in May, 1913.[1] The patient continues in good general health, but the growth within the nose has slowly increased in size in the interval.

Dr. J. S. FRASER said that the growth had evidently not increased so very much in a year, and he would be inclined to think it was well within the bounds of operation.

Dr. SYME remarked that the case illustrated what had been pointed out by other observers, that malignant disease of the nose and accessory cavities progressed very slowly and involved the glands late. He, like Dr. Fraser, would have been inclined to operate on this patient.

Dr. WALKER DOWNIE said operation had been under discussion. Sir George Beatson, of the Cancer Hospital, and Dr. Dalziel had been consulted; the former was against operation, while the latter said it might be attempted.

Radical Tympano-mastoid Operation in Patient whose Right Auricle and Cartilaginous Meatus had been, as the result of an Accident, displaced forward, with complete Closure of the Meatus.—Thomas Barr.—W. F——, aged eighteen. Eleven years ago right auricle almost completely torn off by threshing machine. This resulted in the auricle and cartilaginous meatus being permanently displaced very much forward, with entire closure of the meatal opening. Two years afterwards a thin, fœtid fluid began to escape from a minute orifice behind the displaced auricle. A year ago (after this exudation had gone on for five years, and had been attended by severe attacks of pain, with vertigo, sickness and vomiting) he first came under observation. The badly-smelling fluid bathed the surface, and an orifice from which it came could only be detected by a very fine probe, shown by a skiagram to be opposite the bony meatus. A free incision was first made through a considerable thickness of tissue down upon the osseous meatus, which was freely exposed and explored, when the fluid was seen to come out of a small perforation above and behind the short process, the rest of the membrane being intact. The artificial canal was maintained by firm gauze packing and thorough antiseptic treatment employed, but with no effect, after several weeks, upon the quantity or even the odour of the discharge. Ossiculectomy, followed by a course of daily antiseptic syringing, had no better effect. The radical mastoid operation, modified owing to the peculiar position of the auricle and meatus, was then carried out (November 14, 1913). The attic, aditus, and antrum were found occupied by cholesteatomata and granulation tissue; the antrum extended very far backwards. All the cavities were thoroughly dealt with and

[1] See JOURN. OF LARYNGOL., RHINOL., AND OTOL., vol. xxviii, p. 501.

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afterwards packed. Result satisfactory. Artificial opening left nearly opposite the osseous meatus. The cavities have been quite dry for months, but there exists a desquamative tendency requiring occasional syringing after peroxide of hydrogen. Any remedy from this? Dr. Barr remarked that the case was satisfactory in regard to the cessation of all purulent discharge, but, as so often happened in radical mastoid operations, there was left behind a desquamative tendency which called for regular cleansing. If left alone a whitish epithelial layer forms over the cavities, difficult to get rid of and sometimes requiring to be gently scraped off. As is well known, if let alone, this tendency is apt to lead to the formation of laminated masses which may ultimately bring about a suppurative process. His object in bringing the case forward was in order to hear any suggestions for bringing about a more healthy condition of the epithelium in such cases. The application to the walls of the cavity of a solution of salicylic acid in glycerine and rectified spirit has been suggested, as also a mixture of iodine, iodide of potassium and carbolic acid in glycerine. He would like to hear the experience of members.

Dr. LITHGOW looked upon the excessive growth of the epithelium as due to the cavity not being freely exposed to the air. The meatus and the post-auricular opening should not be closed by cotton-wool.

Dr. SYME thought that probably there was a degenerative process in the epithelium caused by it having for a long time been in contact with purulent material, by which it proliferates unduly, and that in time it would recover its healthy process. He did not know that any treatment would be likely to do good.

Dr. GRAY's experience was, that in time, although it might take many months, it would come all right.

Acute Purulent Otitis Media; Bezold's Perforation of the Mastoid.—J. Galbraith Connal.—Man, aged twenty-eight. Discharge from left ear for five weeks before coming under observation. Very painful for the past fortnight. Examination showed small perforation in the tympanic membrane anteriorly. W.L.$\frac{0}{40}$. Brawny swelling in neck. Under chloroform; mastoid operation (Schwartze). Bone towards the surface somewhat sclerosed. Deeper, it was cellular in type. Carious opening about the size of a quill leading through to diagastric fossa. Pressure on neck caused pus to flow into the mastoid wound. Counter-opening in neck. Later, pus was found to come from upper part of wound, and a few days afterwards the cells in zygoma and soft tissue over zygoma were opened up. Pus showed pure culture of streptococcus.

Dr. J. S. FRASER asked why the tip of the mastoid was not removed at the first operation. The lower part of the mastoid at the end of the Schwartze operation might be likened to the bottom of an egg, and was apt to get filled up with pus. If the tip was removed the condition soon healed up, because the soft tissue filled in and the wound closed. His experience of anterior perforation of the tympanic membrane was that they were rarely associated with mastoiditis. He had no recollection of a similar case to the present one. His cases of anterior perforations in the membrane had been associated with tubal conditions without mastoiditis.

Dr. GRAY remarked on the great frequency of streptococcic infection in these cases.

Dr. SYME said he also removed the tip of the mastoid in most cases.

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if there was any justification at all. The after-treatment was much shorter.

Pigmentation (? Anthracosis) of the Tympanic Membranes.—J. Galbraith Connal.—A. A——, aged sixty-seven, a coal-miner, came complaining of dulness of hearing and tinnitus. On examination the tympanic membranes were seen to be of a dark blue colour.

Dr. Logan Turner said that one explanation of blue membranes was found in the high position of the jugular bulb. At a discussion many years ago in the old Otological Society someone showed a case of that kind, and pointed out that the explanation was the high position of the bulb, and reference was made to the danger in paracentesis. It was not the explanation in this case, as the blue discoloration involved the whole membrane.

Dr. Kerr Love thought there was little doubt that the case was one of pigmentation due to coal-dust. In 1905 he described a case which occurred at the Glasgow Royal Infirmary, in which the membrane was spotted all over. He had reported six cases in the *Glasgow Medical Journal* of 1907. The condition was now fairly well recognised in the Infirmary. These cases were significant, not so much for the blue colour, as that they are generally associated with non-suppurative deafness, which he suspected, though he could not prove it, was sometimes due to dust of other kinds getting into the middle ear and setting up inflammation. He suggested that otologists connected with hospitals should get into touch with their pathologists and ask them to pass on the temporal bone of any miner on whom they made a *post-mortem* examination, so that the actual presence of coal-dust or pigmentation similar to that found in the miner's lung might be ascertained. The cases were not very important unless more information could be got on the subject.

Dr. Adam said the condition was comparatively common. He did not know that it was specially associated with chronic catarrhal conditions.

Dr. Syme said, in connection with the other cause of blue membranes which Dr. Logan Turner had mentioned, he would remind the members that at a meeting of the Society three years ago he had shown some skulls which demonstrated the high position of the jugular bulb in some instances. In one or two it was so high as to hide the foramen rotundum, and he had seen examples where the roof of the jugular fossa was absent (the fault appearing to have been present during life). The danger of such cases in reference to paracentesis was evident.

Dr. Connal referred to another case of blue membranes at present under his care, also in a coal-miner, and also associated with chronic catarrhal changes in the tympanic cavities.

Injury to Larynx.—J. Galbraith Connal.—J. W——, aged twenty-six. Early in February, when boxing, he was struck a severe blow on the right side of the larynx. The blow caused him no pain, but a "feeling of choking" for about a minute. There was slight spitting of blood that night—never afterwards. There was no difficulty in breathing. When he awoke next morning he was very hoarse. There was a swelling in the neck externally, so that his collar caught on it. No difficulty in swallowing, but the mucous gathering in the throat gives him some trouble. On examination one fortnight after the injury the *left* side of the larynx was markedly hyperæmic and swollen. There was some clot lying on the vocal cord and about the mouth of the ventricle. The left

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cord did not move freely. The right side of the larynx was hyperæmic, but only slightly so compared to the left side. Externally, there was a swelling to the left side of the thyroid, but not tender to touch. There was no evidence of fracture. At present the voice is much better, but there is a slight wavy irregularity in the outline of the left cord, with some impairment of movement.

Dr. WALKER DOWNIE remarked that in this case there was no evidence of fracture. Two years ago he reported four somewhat similar cases due to fracture from different causes. The fixation of the cord was due to swelling, not to a paralytic condition. In two of the cases the fracture of the thyroid cartilage was well seen by X-ray examination. In all four cases there was severe intra-laryngeal œdema with difficulty in breathing.

Chronic Purulent Otitis Media with Labyrinthine and Meningeal Symptoms. — J. Galbraith Connal. — W. L——, male, aged eighteen, has had discharge from the left ear since childhood. Cause unknown. Ear never gave him any trouble till one week ago, when he felt pain in the left ear and behind the ear over the mastoid. Pain was so severe as to prevent him sleeping some nights. No sickness or vomiting; no rigors. Giddiness noticed three days before coming under observation. Examination of the left ear showed large perforation, with some granulations protruding. Discharge somewhat offensive. No swelling over mastoid, and not much pain elicited on palpation. W.L. $\frac{0}{40}$. Tuning-fork R. Weber to right side. C and C_1 are not heard by A C, but heard for short time by B C; C_4 not heard. Nystagmus on extreme deviation of eyes, more marked to the right side. Pupils moderately dilated and respond to light and accommodation. The optic discs, though a little red, were quite healthy in appearance. Syringing the left ear with hot water or cold water gave no reaction, but on syringing the right ear the reaction was marked. He was admitted to the hospital for observation, and on two days previous to operation was sick and vomited. Temperature normal. January 20: Radical mastoid operation. Antrum filled with cholesteatomatous material and pus. The fenestra ovalis seemed patent and lacking the footplate of the stapes. Facial twitchings were noted while working in the middle ear cavity. After operation he complained of headache, and on the third day after operation the temperature rose to 102·6° F. The following day (24th) 102·8°. On January 27 he still complained of headache, and yesterday of severe pain in the back, making him cry out. The temperature for the past few days has been variable—highest 100°, but rising this afternoon to 102·4°. Has been having aspirin, which helps his headache. Kernig's sign is marked. Lumbar puncture was done, and about 2 oz. of fluid withdrawn. The fluid was turbid and under considerable pressure.

Report (Dr. J. Shaw Dunn).—Films from the sediment show abundant polymorphonuclear leucocytes, but no organisms are found. Cultures remain sterile after forty-eight hours' incubation. Blood was withdrawn from the vein in the arm and allowed to stand in a sterile flask, and on the following day (28th) lumbar puncture was again done, some fluid withdrawn, and the blood-serum which had been collected from the previous day was injected into the spinal canal. To-day the headache has been easier, and the temperature has varied from 98° to 99·6° F. On February 2 it was noted: Yesterday, had pain in the head and back and abdomen; temperature 102·8° F. This morning temperature 100°, but no headache or backache. Kernig still definite. February 4: Complains of pain in the back and down the legs. Was very restless yester-

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day. Temperature was 103·4°. Lumbar puncture was again done. Pressure of fluid much less and not so turbid-looking. (Dr. Shaw Dunn reports—"There is a fairly copious deposit of polymorphonuclear leucocytes. No organisms. No growth is obtained after forty-eight hours' cultivation.") February 10: For the past two days the temperature has been normal. No complaint of pain. Tongue clean. Sleeps well. From this date onwards the improvement in the general condition was progressive. There was a tendency for profuse granulations to form in the middle ear, and some weeks after the operation the granulations were removed and packing applied. The following morning facial paralysis was noticed, and this has not entirely disappeared. At present the middle-ear cavity is dry, but there is a small pouting granulation in the floor of the canal leading to a limited area of bare bone.

Dr. LOGAN TURNER said he thought the labyrinth should have been operated on, and that Dr. Connal was fortunate in securing the recovery of his patient without having carried out that procedure. The meningitis was probably post-operative, and it might not have occurred if the labyrinth operation had been performed. The patient had the symptoms of manifest labyrinth disease and also an open labyrinth; there was evidence of want of function on the same side, and nystagmus mainly to the opposite side; there was giddiness, sickness and vomiting, all in the presence of chronic middle-ear suppuration. He thought one was perfectly justified in draining the labyrinth on these facts. He did not know whether other members would agree, and was not anxious to push the matter, but he believed this was a case in which such an operation should be carried out.

Dr. J. S. FRASER agreed with Dr. Logan Turner. The hearing tests, as recorded, gave no proof that there was any hearing power left in that ear; the fact that the low-pitched tuning-forks were heard (?) by bone conduction did not show that there was any hearing. Anyone who has a case of chronic middle-ear suppuration complicated by labyrinth disease, and absence of the foot-plate of the stapes, and does not perform the labyrinth operation along with the radical mastoid operation allows the patient to run a risk of meningitis. Dr. Connal must congratulate himself on being able to add another to the list of cures of meningitis. It would be interesting if he would give a detailed list of the labyrinth cases in which he had performed the radical mastoid operation alone, so that it might be compared with another list where the labyrinth operation had been performed in addition.

Dr. BARR asked if Dr. Connal had tested the labyrinth functions by the caloric or other tests since recovery?

Dr. GRAY was not sure that the absence of the foot-plate of the stapes was not rather an indication against opening the labyrinth. He believed he might have operated on the labyrinth, but did not think the absence of the foot-plate of the stapes would have caused him to do so; it rather allowed the drainage of the labyrinth. It was possible that that might have been what had saved the patient.

Dr. PORTER agreed with Dr. Logan Turner and Dr. Fraser that the labyrinth ought to have been opened. It seemed to him that this was a post-operative meningitis, and had the labyrinth been opened and drainage given in that way there was a good chance of the patient not having a meningitis. He thought that before long everyone should record his experience on this matter; until that was done each man would hold his own opinion and not be convinced by one or two cases reported by another observer.

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Dr. CONNAL, in reply, said the only point was that the lumbar puncture fluid was absolutely sterile to growth. That was a factor in holding them to the line of treatment adopted; they were quite prepared, however, had symptoms developed, to do the labyrinth operation. He agreed that the meningitis was probably post-operative. He had not examined the functions of the labyrinth since recovery.

Chronic Purulent Otitis Media—Cerebellar Abscess.—H. Whitehouse and J. Galbraith Connal.—T.G——, aged fifteen, came to hospital on September 24, 1913, complaining of pain, noises, and deafness in left ear of about one week's duration. On examination a cicatrix was present over left mastoid, but no tenderness. There was a cicatricial condition of the membrana tympani, but the condition was dry. Two weeks later there was a slight purulent discharge from the ear. A week later still he presented himself at the dispensary, complaining of sickness and vomiting which came on at his work on the previous day. During the evening he had shivering for an hour and a half. He also complained that he had a cold in the chest for a week, and that the cough gave him pain in the left ear. *Previous history.*—About seven years ago he attended the dispensary for pain in the left ear with swelling over mastoid. This was incised. He remained well till about three years after, when he again attended with a swelling over mastoid, which was again incised. A radical operation was then suggested, but was not performed. Since that time there has been no discharge from the ear.

On admission to hospital on October 21, he appeared fairly comfortable and answered questions quite smartly. No complaint of pain, except on pressure, over left mastoid. There was swelling over mastoid region and fluctuation over the old cicatrix. No pus in meatus. No giddiness except when ear was syringed. Eyes: Coarse, nystagmus to left, fine to right; pupils equal and somewhat contracted. Ophthalmic examination: Optic discs pinkish and somewhat full, and the veins also, especially in the right, are full and somewhat twisted. The above condition is more marked in the right than in the left. Temperature, about 99° F.; pulse, about 80. Chest: Moist musical *râles* over back and front; not much cough; no expectoration. Kernig's sign cannot be demonstrated. Tongue dry and furred. Sordes on lips. On October 22 severe pain in left ear and side of head; frontal headache. The temperature ranged from 99·6 to 102·6° F.; pulse from 80 to 90; respirations from 20 to 26. October 22: Radical mastoid operation; carious opening in cortex from which pus exuded. Antrum filled with cholesteatomatous material and pus. Lateral sinus lying exposed for about half an inch and covered with ragged granulations. Tegmen tympani and tegmen antri intact. Small portion of dura was exposed over tegmen antri and found normal. 26th: Complains of frontal headache almost constantly; during night awakened by it; nystagmus to both sides more marked than before operation. 29th: Frontal headache continues; no sickness; expresses himself as feeling better; nystagmus marked. 30th: General headache all over; sick, and vomited once at mid-day; apathetic appearance; looks very ill. 31st: General headache continues; yawning three times noticed; drowsiness. 31st (8 p.m.): Second operation (J. Galbraith Connal). The sinus was further exposed and defined, the bone internal and anterior to the sinus removed, and the cerebellum exposed in this region. A large abscess cavity was opened and about 3 to 4 drachms of pus liberated. At Dr. Thomas Barr's suggestion, a counter opening was made behind the sinus in the inferior occipital fossa and a drainage-tube inserted.

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Lumbar puncture: Report on cerebro-spinal fluid.—The sediment consists of large numbers of polymorphonuclear leucocytes, a few desquamated endothelial cells, and scanty Gram-positive diplococci. The patient's condition improved for two weeks, when he became restless and temperature became irregular. The drainage-tube, which had been shortened, was reintroduced deeply, and after a week he again improved and made an uninterrupted recovery.

Dr. J. S. Fraser said drainage-tubes were used in this case. He did not know what the experience of other members was as regards tubes in abscess cases, but his own was limited and bad. On removal of the drainage-tube a flow of pus follows; just what one would expect. The brain is a very soft structure, and the intracranial pressure forces the brain up against the wall of the drainage-tube so that half an hour after insertion the tube ceases to be a tube and becomes a plug. Gauze is the best material for draining brain abscesses.

Dr. Logan Turner remarked that this was a very important case for inner-ear investigation, but that had not been done.

Dr. Whitehouse replied that gauze was passed through the tube.

Abstracts.

PHARYNX.

Strauch, August.—Cough Arising From a Persistent Thyro-glossal Duct. "Munch. Med. Wochenschrift," Nr. 8, 61 Jahrgang.

Though no mention is made of it in the literature of the subject the author shows conclusively that an irritable condition of a persistent thyro-glossal duct may be responsible for the production of a so-called nervous cough, and that in cases of this nature in which other causes have been excluded the surgeon should never fail to examine the foramen cæcum with a probe. Bochdalek found a persistent lingual duct twelve times—often with branched ramifications—amongst fifty tongues specially examined. This factor in the ætiology of reflex cough was first described by T. W. Lewis, of Chicago, who demonstrated three cases in which the cough persisted—in one case for many years—in spite of every effort made to cure it, but in which it finally and completely disappeared after the disinfection and cauterisation of a persistent duct. The author adds an equally conclusive case in which, however, it was necessary to totally destroy the duct. *J. B. Horgan.*

Greene, J. B.—Diagnosis and Treatment of Diphtheria. "Annals of Otology, etc.," xxii, p. 782.

The author emphasises the following points: (1) The diagnosis of diphtheria depends primarily on finding the organism. Cultures should be taken of every sore throat in children, and likewise suspicious nasal discharges. But in the absence of a positive finding, if the symptoms point to diphtheria, antitoxin should be given. This is particularly important if the symptoms are severe. (2) Much larger doses of antitoxin should be given in diphtheria. Text-books have been misleading in this respect. (3) Laryngeal cases are serious partly from mechanical obstruction, requiring prompt relief of the stenosis, and large doses of antitoxin. Intubation in the main is preferable to tracheotomy. Laryngologists should perfect their technique in this operation until it becomes a fairly

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