SOCIETIES' PROCEEDINGS

ROYAL SOCIETY OF MEDICINE—SECTION OF OTOLOGY

February 16, 1923.

Chairman—Sir CHARLES BALLANCE, K.C.M.G., M.S.

Otosclerosis and Osteitis Deformans: A Pathological and Clinical Comparison—G. J. JENKINS, F.R.C.S.—(The paper is published in the *Journal of Laryngology and Otology*, July 1923, p. 344.)

DISCUSSION.

Sir CHARLES BALLANCE (*Chairman*) said that he was very glad Mr Jenkins was taking up this subject and hoped he would continue his research into the intimate pathology of these two diseases, especially osteitis deformans. He trusted that when the exact pathology was known it would be possible to cure, or, at least, to arrest the disease. In the old days he (Sir Charles) had himself operated on this class of case, and had always found that he could not get beyond the disease in various parts of the skull; local recurrences took place.

A feature of interest was the fibrinous deposits. Such deposits usually indicated inflammation, and, if that were so in these cases, the discovery might lead to some method of elucidating the real nature of these processes.

Dr ALBERT A. GRAY said he believed this was the first time that there had been an actual demonstration of the similarity between the changes in bone in otosclerosis and in other diseases of bone, though, of course, the similarity had been suspected. He himself had suspected that there might be a similar change in cases of locomotor ataxy in which spontaneous fractures occurred. The specimens and cases showed definite otosclerosis: there was the sharp line of demarcation and the absence of an inflammatory zone. He had been interested in seeing Mr Jenkins demonstrate the osteoclasts, because Manasse held that these were not present, bone being absorbed by simple pressure. But he (Dr Gray) had demonstrated osteoclasts, and now Mr Jenkins had also done so. He (Dr Gray) did not agree with Mr Jenkins that otosclerosis began with evidence of nerve deafness, and it would be a very difficult point to prove. The earliest case of otosclerosis in which he had cut sections was one in which the deafness had existed three years, and in that case there had been a very definite change in the bone. He thought that in all otosclerosis cases, and perhaps in osteitis deformans too, there might be nerve disease, but not a disease of the cochlear branch of the auditory nerve. The views of pathologists as to the causation of osteitis deformans would be interesting; possibly that disease

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and otosclerosis might be grouped together. They might be nutritional diseases, *i.e.*, the nerves governing the blood supply and the general nutrition of the bone and other structures might be affected in both diseases; he suspected that was the secret in otosclerosis. It would also be interesting to know whether there was any other disease in bone like that in otosclerosis.

Mr SYDNEY SCOTT said that about twenty years ago he had examined six cases of osteitis deformans, and made many visits to infirmaries looking for cases. One of the male patients whom he had examined had subsequently died, and the skeleton had been placed in St Bartholomew's museum. In 1907, he had cut some sections of one of this man's temporal bones, and they exactly resembled the first one of Mr Jenkins' present series. The decalcified bone was embedded and cut in paraffin, which yielded thinner sections than those embedded in celloidin, but they were much more difficult to prepare. He (Mr Scott) could confirm Mr Jenkins' observation on the stapes; in his own case the stapes was not anchylosed but was absolutely normal, thus differing from what was seen in the specimens of otosclerosis. The osteoporosis of osteitis deformans was diffuse; he had cut sections from the tibia, and one could scarcely tell the difference, under the microscope, between the tibia and the affected part of the petrous bone. He had seen osteoclasts, which Mr Jenkins also described. With regard to the hearing tests, in 1903, he had no Bezold forks, but had used ordinary tests and could not distinguish the deafness of these cases from ordinary senile deafness. It was curious that patients with osteitis deformans should so often become affected by malignant disease. He thought that the occurrence of the fibrinous exudate in the cases shown by Mr Jenkins might prove to be a pure coincidence. He (Mr Scott) did not think that changes in the labyrinthine fluid were necessarily connected with the osseous changes. In cases of osteitis deformans, the patients often died from some intercurrent terminal disease, such as pneumonia, or bronchitis, which might possibly affect fluid tissues.

Mr RITCHIE RODGER asked whether he rightly understood Mr Jenkins that there was no history of hereditary disease in osteitis deformans. Osler had stated that there had been seventy-five cases recorded, and that at least six of these had shown a definite hereditary history. In the article referred to, by Emerson, leontiasis ossia and acromegaly were grouped with the diseases now under discussion. He (Mr Ritchie Rodger) thought physicians were now inclined to attribute osteitis deformans and leontiasis ossea to a disturbance in the proportions of the secretions of the endocrine glands. Possibly some elucidation of the pathology of otosclerosis might come along this line.

Sir JAMES DUNDAS-GRANT described the case of a lady in advanced middle life, complaining of deafness and presenting the features of osteitis deformans. Her deafness was a combination of obstructive and nerve deafness, and the hearing was improved to some extent by the Eustachian catheter and bougie (the Eustachian tubes being extremely narrow, suggesting some narrowing of their osseous portions). Bone conduction was diminished, and there was deafness for all tones higher than 7 and 6 of Galton's whistle, pointing to a lesion of the cochlea. In this case an

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interesting complication was the occurrence of malignant disease, involving an amputation through the thigh.

Another case was that of a man of great intellectual ability, suffering from deafness and well-marked osteitis deformans. The right ear was quite deaf to all tones, including those of Galton's whistle. In the left ear, hearing was greatly reduced, and Galton's whistle was not heard above the mark 5·1. Rinne was negative for C1, bone conduction being slightly increased. The malleus under Siegel's speculum was fixed on both sides. The left Eustachian tube was only very slightly narrowed, and hearing was improved after inflation (even for Galton's whistle) to a greater degree than the mere inflation would account for, the improvement which the patient alleged indicating a functional element. There appeared to have been a "middle-ear" defect, and, as shown by the complete and rapidly developed deafness in the right ear and the lowered Galton on the left, a diseased condition of the internal ear such as the changes demonstrated by Mr Jenkins would explain.

He (Sir James Dundas-Grant) had had a case under his care when he was in general practice, of a patient suffering from deafness, vertigo, and optic neuritis. He had made a diagnosis of cerebellar tumour, and overlooked the co-existent osteitis deformans. At a hospital the osteitis deformans had been diagnosed and the cerebellar tumour overlooked. The osteitis deformans and the cerebellar tumour were both discovered at the post-mortem examination in an infirmary.

Mr G. J. JENKINS (in reply) said that the question of the etiology of osteitis deformans was as difficult as that of otosclerosis. In a proportion of the cases the patients die of malignant disease, but that in itself was not convincing evidence that osteitis deformans was malignant. The question of its being inflammatory or metabolic was equally difficult. One important point which had arisen out of this study was, that we should distinguish between internal ear deafness and nerve deafness; the present nomenclature was bad, because it was too general. Internal ear deafness should be looked upon as distinct from nerve deafness. He could not be sure about the fibrin in the labyrinth at the situation indicated, but the deposit was Gram-positive in staining, and this was a selective stain for amorphous fibrin. Whether it was accidental or a part of the disease was a difficult question. It might be because these patients were old subjects that fibrin was deposited in the labyrinths, or the deposit might be peculiar to otosclerosis and osteitis deformans, and might be an important factor in the pathology. In two of the cases he showed at the last meeting, the pituitary fossa was distinctly enlarged, and one case was obviously a mixed one, having both osteitis deformans and acromegaly. At a former meeting of the Section Mr Mollison had shown a case having some of the characters of otosclerosis; this paper was the result of the stimulus derived from that case.

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Societies' Proceedings

SECTION OF LARYNGOLOGY

March 2, 1923.

President—C. A. PARKER, F.R.C.S.E.

Multiple Papillomata of the Larynx — H. J. BANKS DAVIS, M.B.—Male, aged 37. Tracheotomy was performed for laryngeal papillomata by Sir Charters Symonds, when patient was aged 6; since then he has had papillomata. The laryngeal symptoms were considerably aggravated during war service. The growths, which almost resemble nasal mucous polypi in their profusion, arise from the posterior surface of the epiglottis, the anterior commissure, the vocal cords and subglottic area. What is the prognosis now, and what is the treatment?

Dr D. R. PATERSON said he found that the best treatment for multiple laryngeal papillomata was removal with forceps. He had not heard that the expectations as to the value of radium had been fulfilled in these cases: in one American clinic it seemed to be regarded more as a danger than otherwise. If the affection had been present a long time, he did not think that much improvement in the voice could be expected, especially in a case in which papillomata were numerous.

Mr MARK HOVELL said that he had removed many papillomata by the indirect method, in some cases when the larynx was almost completely occluded. With regard to restoration of the voice, he had recently seen a male patient, who had had papillomata partially removed by Sir Morell Mackenzie. He (the speaker) had removed all the papillomata, and the removal was followed by complete restoration of the voice. The return to a normal voice gave rise on one occasion to some difficulty in identification of the patient in connection with claiming deeds, since he had previously been described as having a very hoarse voice.

Sir WILLIAM MILLIGAN said he pleaded for the use of radium in this case, and expressed surprise at Dr D. R. Paterson's remarks. He regarded papillomata in the larynx as locally infective; it was often difficult to remove them and keep the larynx clear. In some cases radium acted like a charm. Much depended on the way in which it was used; dosage was still somewhat empirical, but more exact than formerly. He exhibited a tube which he used for suspending the radium accurately in the larynx. He was so much impressed with the excellent results obtained, that he scarcely ever used anything else for these cases. He had now in preparation a new instrument designed to prevent the necessity for tracheotomy, and he would exhibit it at a future meeting. It was important in these cases to avoid cutting, tearing, or even cauterising instruments, because the resultant scarring might interfere with the voice.

Mr NORMAN PATTERSON inquired as to the dose of radium and the length of exposure which Sir William Milligan employed.

Mr HERBERT TILLEY asked what kind of screen Sir William Milligan used for the applicator. He also was surprised to hear Dr D. R. Paterson's

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remarks about radium, since he (the speaker) understood that it had given great satisfaction in American clinics.

Dr H. SMURTHWAITE asked whether Sir William Milligan used radium for these cases as a routine treatment, *e.g.*, would he employ it in the case of a solitary papilloma of the cord which could be removed in the ordinary way with fair probability of cure? He (Dr Smurthwaite) had a patient, aged twenty-six, who since three years of age had been voiceless. A year before, he had removed a large sessile growth with forceps; since the removal there had been no recurrence, and the voice was now fairly good.

Sir WILLIAM MILLIGAN said that the dosage of radium must be considered in relation to the nature and extent of the growths. If these were extensive, a large dose, 20 to 30 mg., should be applied for a short time, *e.g.* two hours. The screen he used was of silver or platinum. His remarks had been on multiple papillomata, not single growths. He would not say radium was his routine treatment for the condition, but it was a very valuable adjunct.

Mr H. J. BANKS-DAVIS (in reply) said that the patient, whom he first saw a year ago, was in the Civil Service, and his (the speaker's) opinion was asked as to whether there was a likelihood of the growth ever becoming malignant. The patient periodically coughed up papillomata, and thus temporarily obtained a freer airway.

Specimen of Multiple Papillomata of the Nose—H. J. BANKS-DAVIS, M.B.—Male, aged 64. Papillomata of twelve years' duration; frequent removals. The patient, whose case was reported by the exhibitor in 1912, shows identically the same condition now as he did then. The papillomata bleed readily. The exhibitor suggests radium treatment short of an extensive anterior nasal operation. *Pathological Report.*—Sections show a highly cellular papilloma of nasal epithelium. What is the prognosis now, and what is the treatment?

Mr G. W. DAWSON referring to the severity of these tumours, reminded members that Sir St Clair Thomson had stated that only about fourteen cases were recorded in the literature. He (the speaker) had shown a case at a meeting of the Section in 1918, in which the papilloma was attached to the septum. It was of hard consistency and purple in colour. There was no recurrence after removal. He again exhibited the specimen to-day.

Mr LAWSON WHALE reminded members that he also had exhibited before the Section, in 1922, a specimen of a large papilloma of the nose. He had searched the literature and found that they were extremely rare; he could only find three cases recorded, two of them in American literature.

Sir WILLIAM MILLIGAN said he would suggest, in this case, that half a dozen of Stephenson's minute tubes filled with radium should be embedded and left *in situ*.

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Societies' Proceedings

Ventriculo-chordectomy for Double Abductor Paralysis—WALTER HOWARTH, F.R.C.S.—Female, aged 45, married. The patient has been wearing a tracheotomy tube for the past twelve years, since an operation on the thyroid gland. The cords were completely adducted, and the ventricular bands always closely approximated. The voice was very weak.

Operation, 26th January, under suspension laryngoscopy: The whole of the right vocal cord was removed. It was not necessary to punch it away piecemeal, as when the anterior end was freed the cord tore away cleanly from the underlying muscle, just as if one were tearing the edge off a letter card. The attachment to the vocal process was cut through and the cord removed in one piece. The ventricular band was then punched away, particular attention being paid to the under surface. The tracheotomy tube was removed at the end of a week, and has not been worn since. The voice is a great deal stronger than it was before the operation.

Further Notes.—This case is not as yet completed. Since the agenda notes were written, there has been some contraction of the airway owing to the formation of a fibrous cord along the cut edge of the muscle. This will be removed. Members will note that removal of the ventricular band exposes the ventricle and enables one to look into it.

Dr IRWIN MOORE said that the operation which Mr Howarth had performed did not appear to be that which Chevalier Jackson had described as "ventriculo-chordectomy." Jackson's success consisted in punching out not only the ligamentous portion of the vocal cord, but also the muscular tissue constituting the supporting floor of the ventricle. Its non-removal would explain the want of initial success in the present case. Previous authors have shown that in removing the ligamentous portion of the cord alone, failure resulted from the formation of granulation tissue and cicatrices. Chappel (New York), in 1917, recorded the case of a patient, aged forty-five, upon whom he operated a few weeks after the onset of double abductor paralysis by removing with the aid of suspension laryngoscopy and scalpel and punch, the ligamentous part of the cord. The operation was a failure, insufficient breathing space being obtained, so he cut the opposite recurrent laryngeal nerve, which was followed by the cadaveric position of the cord, and three weeks later he was able to decannulate the patient. Chappel's case suggested that, in some cases, it might be advantageous, in the early stage of the disease, to consider the question of cutting the recurrent nerve, prior to more radical operation.

Mr E. MUSGRAVE WOODMAN congratulated Mr Howarth on what he had done. He himself had three weeks ago performed the external operation for chordopexy—as suggested by Dr Irwin Moore at the last meeting of the Section—on a case of double abductor paralysis, but at the moment it was not a great success. The operation was followed by prolonged and severe coughing. When viewed a week after the operation,

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the cord was seen in its new abducted position, but the glottic space anteriorly was largely blocked by granulations. He considered it important to avoid cutting away the small piece of cartilage, in which the anterior end of the cord was inserted, so as not to leave an opening in the thyroid cartilage through which granulations could protrude into the larynx.

Mr E. D. DAVIS said that he must congratulate Mr Howarth on the success of his operation, but he would like to see the patient again in three months, because in so many of these cases scar tissue formed, and reinsertion of the tracheotomy tube was necessary. He did not think there was sufficient room in the patient's larynx to breathe comfortably, and she was not now embarrassed because her tracheotomy fistula was still patent and was being used for respiration. One of Crile's colleagues treated these cases by raising a flap of mucous membrane above the cord, and another flap below, and after excising the vocal cord, he stitched the mucous membrane together. Very little scarring followed, and the results were said to be good.

Mr WALTER HOWARTH (in reply) said that he showed the case in a transition stage. The operation was performed only five weeks ago. It was not easy to get an idea of an operation unless it was seen performed. When he was in America, Chevalier Jackson was not doing these operations. He had written to Dr Jackson with regard to the operation, and had followed the description as carefully as possible. He had punched out the floor of the ventricle in the present case, and he thought that a sufficient scarring of the ventricular band had resulted. He did not remove enough of the vocal cord musculature, and there was now a fibrous cord impinging on the airway. Next week he intended to punch away the rest of the cord up to the thyroid cartilage ; this would give sufficient respiratory airway. With regard to cutting the laryngeal nerve in early cases, the present case was not an early one ; the patient had been wearing a tracheotomy tube for ten years, so that the procedure would scarcely be applicable. He would show the case again.

Laryngostomy for Complete Subglottic Stenosis—WALTER HOWARTH, F.R.C.S.—Male, aged 12, had worn a tracheotomy tube ever since a high tracheotomy for diphtheria in early life. The cricoid cartilage had been divided and had fallen in.

Operation, 1913: Laryngo-tracheostomy. The gutter into which the lower part of the larynx and the upper part of the trachea was converted was kept open for many months by the use of a large rubber tube, on to the back of which a sheet of oiled silk was sewn. The cavity was packed daily on to this and eventually the epithelium growing in from the surface covered the whole area. The epithelialised groove was then covered in by a plastic operation. Unfortunately the war intervened before the final operation, and the patient was lost sight of until a few months ago.

Sir WILLIAM MILLIGAN said that great skill and patience had been exercised over this case ; the daily dressing for so long a time was very

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irksome. He asked whether the exhibitor had ever tried direct grafting in these cases, so as to avoid the constant dressing; if so, had it succeeded? He himself had tried grafting once, but it was a failure.

Mr E. D. DAVIS said he had once tried grafting in a similar case, but the graft soon came away. It would not adhere to the interior of the larynx.

Mr G. W. DAWSON said that one of his colleagues also had tried a graft, but it had not been satisfactory.

Dr BEEVOR said he was reminded of a case in which the trachea of a large dog had been used as a graft, and the operation succeeded very well. The death of the patient some time afterwards had been due to another cause.

Mr HOWARTH (in reply) said that he had not carried out grafting in this case, because when the operation had been performed ten years ago, grafting in the air passages was not so freely done as at the present time. If, in the future, he should have a similar case, he thought he would try direct grafting. He understood from Mr Harmer that there was a good chance of grafts succeeding in certain cases of this type.

Hæmorrhagic Angiosarcoma of Upper Jaw—H. J. BANKS-DAVIS, M.B.—Male, aged 60. After operation, recurrence took place. Growth apparently cured after three exposures to X-rays by Erlangen method (Dr Morton).

The patient was admitted for severe hæmorrhage following the "snaring of a nasal polypus" in another hospital out-patient department, two days previously. The cheek rapidly swelled, and an exploration of the antrum showed that it was occupied by a fleshy vascular growth, which expanded the bone even after a free curettage a few days before.

After the first exposure (eight hours' Erlangen apparatus), the swelling, hæmorrhage, and other symptoms disappeared. As a precaution, Dr Morton had thought it advisable to give him two more applications, and the patient's condition is as you see him now, apparently cured.

Complete Laryngectomy for Malignant Disease—WALTER HOWARTH, F.R.C.S.—Male, aged 54, operated upon a year ago. He is shown in the endeavour to combat the general belief that the operation is a very mutilating one and the patient always miserable. The pharyngeal funnel is well shown, but the pharyngeal voice is much poorer than usual.

A Case of Sarcoma of the Nose cured by Radium—E. MUSGRAVE WOODMAN, M.S.—Male, aged 30, first came under my care early in the year 1921. He then had a large swelling of the nose which had expanded the bone and deviated the axes of the eyes outwards. He was suffering from severe headaches.

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The interior of the nose appeared to be the seat of an extensive growth coming down from the base of the skull, which had destroyed the septum and pushed the bones of the nose outwards. A section showed it to be a myeloid sarcoma, which was inoperable. At that time no radium was available. The Wassermann test was negative. He had a course of colloidal selenium, but the condition gradually grew worse, the nose broadened and the skin became reddened, adherent, and infiltrated.

In December 1921, a barrage of four 10-mg. tubes of radium between the growth and the skin in different directions was given, and a 50-mg. tube placed in the substance of the growth. The condition gradually improved and he has had three further doses of radium. The nose has shrunk, the cavity is free from growth but tends to form crusts, and the man is well and at work.

Dr LOGAN TURNER asked how long the radium was kept in position in this case. He had had two or three cases of sarcoma of the nose and nasopharynx treated by radium, apparently with great success. The application was made in each case continuously for five days. The dose varied from 1700 to 2000 milligram-hours, and the pure salt was used, not emanation tubes. Dr Dawson Turner of the Radium Department, Edinburgh, was a supporter of long-continued applications.

Mr NORMAN PATTERSON said that he deprecated the use of the word "cure" in these cases when only a year or two had elapsed. He thought there were still some suspicious lumps about the base of the nose.

Mr J. F. O'MALLEY asked whether Mr Woodman had ever known destruction of bone to follow the use of radium. He recently had had a case which had been under treatment for two years, and the patient had seemed to be approaching a cure, and therefore was allowed to return home. A few weeks later he died of brain trouble, though there was no sign of recurrence in the nose.

Mr HERBERT TILLEY said that he also objected to the use of the word "cure" in these cases. He had seen a patient sixteen months before with a large sarcoma of the left ethmoidal region, proptosis of the eye on the same side, intense neuralgia, a blood-stained discharge, complete nasal obstruction, and tinnitus in the left ear, etc. Patient had been treated by the intensive X-ray method, and the condition disappeared in six weeks, so that he could breathe freely through both nostrils. Three months ago he (the patient) was suffering from indigestion, was getting very thin, and was found to have a growth in the stomach. It seems to be the almost universal experience that, while irradiation destroys the primary malignant growth, distant metastases occur later.

Mr MUSGRAVE WOODMAN said (in reply) that he considered that the word "cure" had rightly been criticised. It was forgotten, however, that this was not a case of round-celled sarcoma, but a giant-celled growth, and a myeloid sarcoma was the "plaything" of malignant disease. The lumps to which Mr Norman Patterson had referred had proved, under the

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microscope, to be granulation tissue. They were associated with some necrosed bone, which had followed the use of radium, and would separate so slowly that there would be a sufficient protection internally to prevent the danger of meningitis. The longest time he had left radium in position was twenty-four hours; each time 10 mg. were buried between the bones, and a 50-mg. tube inserted into the substance of the growth.

Tuberculous Ulcer of the Dorsum of the Tongue—WALTER HOWARTH, F.R.C.S.—Male, aged 24. The patient suffers from pulmonary tuberculosis. There is a deep ragged ulcer in the tongue, of three months' duration, not causing any discomfort and healing under treatment. Masses of giant cells are seen in the section. Wassermann reaction negative.

Extensive Lupus of Palate, Pharynx, and Larynx—WALTER HOWARTH, F.R.C.S.—Female, aged 15. The patient has had several operations for cervical adenitis in 1918 and 1920; loss of voice for four months; no pain or discomfort. There are some signs of pulmonary tuberculosis.

Laryngeal Case for Diagnosis—H. BUCKLAND JONES, M.B.—Male, aged 42, complains of hoarseness, which started about January 1922. He attended a chest hospital recently for about two years. Sputum examined, negative; is losing weight.

Tuberculoma of the Pharynx—NORMAN PATTERSON, F.R.C.S., and G. C. CATHCART, M.D.—Female, aged 46, complains of a lump in the back of the throat and a swelling in the neck; duration of trouble uncertain. The patient's posterior pharyngeal wall is occupied by a very extensive irregular swelling presenting a granular appearance. A portion removed showed the condition to be tuberculoma. Examination of the chest negative. Radiographic report: "A few calcareous nodules at the hilum of the right lung; no evidence of pulmonary disease.

MR H. J. BANKS-DAVIS remarked that Mr Howarth, in his first case, referred to "healing under treatment." He (the speaker) considered that the best treatment for tubercular ulcers on the tongue was the application of pure chromic acid. If there was pain, the chromic acid formed an albuminate over the tongue and quickly relieved the pain. Again the chromic acid, if applied full strength, healed up the ulcer rapidly. Anything less than a 40 per cent. solution, he thought, would not have the effect he referred to.

Sir ST CLAIR THOMSON, referring first to the case of tuberculous ulcer of the tongue exhibited by Mr Howarth, said that an annotation had appeared in the *Lancet* last year stating that this was one of the most rare complications of pulmonary tuberculosis, and that the ulcerative form only occurred in advanced cases and was nearly always fatal. He exhibited the drawing of a similar case in a male patient who was admitted to a sanatorium

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with tubercle bacilli in his sputum: it was a "three-lobar case." He was also suffering from tuberculosis of the larynx. The Wassermann reaction was negative. The drawing showed the favourite site, viz., on the tip and sides of the tongue. As the *Lancet* remarked, these lesions were more common in men than in women. He gave this man, in 1917, a solution of chromic acid, 20 gr. to the ounce, to use as a paint. After his regulation three months in the sanatorium, his condition was *in statu quo*. Examination of the patient last year showed that the tongue and larynx were healed. Patient walked, cycled, and dug now, and he had been accepted for insurance as a first-class "life." Mr Howarth's second case was an extensive case of lupus, and he thought the quickest cure was to do a tracheotomy; the resultant rest would greatly benefit both larynx and pharynx. He also recommended the galvano-cautery and sanatorium treatment. Referring to the case shown by Mr Buckland Jones, he (Sir St Clair Thomson) thought it was a very promising one. He had seen cases of lupoid tuberculosis limited to the pharynx, in which no disease in the lungs could be detected. Frequently there were glands, which were not usual in laryngeal cases. Diathermy left an extensive scar, and half a dozen applications of the galvano-cautery would be better at monthly intervals.

Dr LOGAN TURNER said he thought that the base of the tongue in Mr Howarth's case of extensive lupus of the palate, pharynx, and larynx, was infected. It was very rare to see lupus of the tongue. Though he had seen many cases of lupus, he had only once seen the tongue involved. The epiglottis was diseased in a large number of cases.

Sir WILLIAM MILLIGAN said he supported the plea for rest in this type of case, and advised not only that the larynx should be given physiological rest by performing tracheotomy, but also that the patient should undergo the "silence cure" just as if it were laryngeal tuberculosis. He had found "silence" of value in carcinoma of the larynx, in improving the condition for a time, and it was of value in almost every laryngeal condition. In some of these lupus cases he had had good results from tracheotomy, and in others from the application of the galvano-cautery. He believed also that Mr Buckland Jones's case was tuberculous.

Mr HERBERT TILLEY said he would suggest that if the proposed measures failed, tuberculin should be tried, and related the case of a young girl who had had various measures used for this condition, including punching out portions of the anterior pillars of the fauces. Recurrence took place on the upper surface of the soft palate. It then spread down to the epiglottis and larynx. In despair of surgical treatment he suggested tuberculin, and it was continued for three months. At first the reaction was severe, but gradually became a diminishing feature, and after six months it was impossible to see any sign of disease in the whole area which had been implicated. He had never seen a case of the kind so dramatically cured.

Dr H. SMURTHWAITE said he had had a case which had been much benefited by rest to the voice, following tracheotomy for acute stenosis. The larynx had been blocked with tubercle and there had also been a

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secondary infection, which might have been responsible for the acute stenosis. In three months the condition had cleared up, except from the interarytænoid region. There had also been marked tuberculosis of the left lung, and the patient was sent to a sanatorium, but he (Dr Smurthwaite) did not know the later results.

Dr W. H. JEWELL said that seven years ago he had seen a case of lupus of the larynx in which he had to perform tracheotomy. The cords were so glued together that they constituted a complete diaphragm, which still existed, except for a small perforation, and the tracheotomy cannula had to be continually worn. Five years ago, under suspension laryngoscopy, he attempted to separate the cords, but found them so firmly adherent that only a small opening could be made, and this has since remained patent. He thought that the opening could be still further enlarged now that the lupus was cured.

Mr NORMAN PATTERSON (in reply) said that he considered the swelling on the left side of the neck in his case was not an enlarged gland, but a sebaceous cyst, because it was attached to the skin, was freely movable, and had a long history. He would remove the swelling and have it examined microscopically.

Mr HOWARTH (in reply) said that in the case of tuberculous ulcer on the dorsum of the tongue, he had merely applied 2 per cent. iodine in spirit. The patient had been to one sanatorium, and was in Victoria Park Hospital, waiting for admission to another. The lupus case was now in hospital for pulmonary tuberculosis. He would suggest tracheotomy to the patient, for the purpose of securing rest to the part. It should not, however, be forgotten that these cases showed a great tendency to get well of themselves. Ten years ago he showed a similar case which cleared up entirely on being sent to Margate and given good food for a period of several months.

Improved Antrum-exploring Trocar and Cannula—H. M. WHARRY, M.R.C.S.—This is a modification of the ordinary straight trocar and cannula, having two improvements.

(1) The point is guarded by having a small ring placed round the cannula half an inch from the end. The ring is very small and does not interfere with manipulation, but when it meets the medial wall, effectually prevents the point of the trocar from hitting or transfixing any of the other walls of the antrum at the moment of puncture.

(2) There is an improved joint between the cannula and the nozzle. By means of this the two can be held firmly together by the finger and thumb, making it impossible for them to fly apart when pressure is exerted by the syringe. The fingers can also be held out of the way of any discharge coming from the nose.

Mr HERBERT TILLEY wished to give a warning with regard to the blowing of air into the sinuses before irrigation of a sterile fluid, because a patient might die in one's consulting room from air embolism, owing to air being injected into one of the blood-vessels of the mucous membrane.

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In one case in which this occurred, the patient fell from the chair, and had a right-sided motor paralysis with aphasia lasting for twenty minutes. Fortunately the patient recovered. Nine deaths had been recorded as due to air embolism.

Mr W. H. JEWELL spoke of having heard of a case of death in a consulting room following the practice just referred to.

Sir ST CLAIR THOMSON said he had been taught in Vienna to first blow air through the cannula, and he had never seen an accident from the procedure. Was it certain that none of the cases mentioned were due to cocaine intoxication? It would be important to settle whether air really was responsible.

Mr CAVENAGH asked how much air was required to cause embolism. Even if one began irrigation with fluid immediately, some air was present in the cannula, and would that not be sufficient to cause an embolus? With regard to the improved antrum trocar and cannula, he remarked that no one would attempt to puncture dense bone without careful calculation of the distance, and by means of the finger, grasping and steadying the shaft of the trocar, thus to avoid any accident. He considered it doubtful whether the small shoulder of the new cannula was sufficient to dispense with this precaution.

Mr C. A. PARKER (President) said he had known two instances of accident occurring in cases of atrophic rhinitis, with a very small antrum. In both, the cheek had been wounded, and, in one, an abscess had resulted followed by some necrosis of the lower plate of the orbit. It was an accident that was not altogether rare.

Case of Ulceration of Palate and Fauces—T. JEFFERSON FAULDER, F.R.C.S.—This case was presented at the December meeting by Dr Kelson and Dr Thornhill. The Wassermann reaction was negative. The ulcers of the palate and fauces, three in number, have healed rapidly under simple treatment of thyroid extract and potassium iodide. The patient is putting on weight. The dysphagia, which was a symptom, has been proved by observation in the wards to be partly a neurosis.

Specimen of a Large Cyst of the Orifice of the Larynx, arising from the Arytæno-epiglottidean Fold.—E. D. D. DAVIS, F.R.C.S.—(The case will be reported *in extenso* in the *Journal of Laryngology*, in a paper on Cysts of the Larynx.)

Case of Outgrowth from the Ventricle in a Subject of Pulmonary Tuberculosis—Sir JAMES DUNDAS-GRANT, K.B.E., M.D.—Female, aged 19, seen in January 1922, on account of hoarseness of six months' duration. A smooth, reddish, rounded outgrowth projected from the anterior part of the left ventricle, lying on the surface of the vocal cord; the edges of the vocal cords were at that time irregular. She was ordered abstinence from the use of the voice,

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and the habitual wearing of a creasoted respirator. She has improved steadily, and there does not seem any call for more active treatment at the present time.

Dr IRWIN MOORE said he thought the outgrowth was a tubercular hyperplasia of a fold of mucosa lining the sacculus laryngis, as proved to be the case in a specimen in the Museum of Golden Square Hospital, which he had investigated along with Professor S. G. Shattock in connection with his paper on "So-called Prolapse of the Laryngeal Ventricle."

Mr CAVENAGH asked whether this was not a case of soft fibroma.

Specimen showing two Foreign Bodies—one movable and the other fixed—in the Trachea of a Child, aged 3—H. J. BANKS-DAVIS, M.B.—The fixed body was the cause of the symptoms, the movable body was the cause of death. This beautiful specimen, probably unique, was mounted by Dr Elworthy. It shows two fine, translucent flakes of bone from the scapula of a rabbit, which were inhaled during the act of swallowing. The scales of bone are shown in the specimen in the positions in which they were found—one above the tracheotomy opening and the other below it. Sudden death occurred after a fit of coughing. Bronchoscopy revealed nothing except paralysis of the left vocal cord, under which the upper scale of bone was impacted. The clinical history of the case is one of great practical importance.

Specimen showing a Threepenny-piece impacted in a Perforation between the Œsophagus and Trachea of a Baby, aged 3 months—H. J. BANKS-DAVIS, M.B.—Coin removed by tracheotomy, but death resulted. An X-ray plate was taken by Dr Morton who stated: "The coin is in the trachea, as it moves up and down on respiration."

When the size of a threepenny-piece is compared with the glottic aperture of a child aged three months, it seems to me impossible that the coin could have dropped through the air-way as stated. On passing a tube into the œsophagus I thought I saw the edge of the coin, but it disappeared on attempting to grasp it; on passing a tube into the trachea, I thought I detached the edge of the coin, but failed to secure it. The fact is that the coin was slipping through from the œsophagus into the trachea, and from the trachea into the œsophagus, and so eluded capture whenever an attempt was made from either locality to secure it. Eventually I removed the coin by a low tracheotomy when I observed the edge of the coin presenting in the tracheo-œsophageal wound.

The child died three days later, probably from œsophageal secretions draining into the trachea and causing broncho-pneumonia.

My colleague, Dr Irwin Moore, kindly assisted with his instruments in this case.

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Dr IRWIN MOORE referred to the rarity of this case, and to the value of the specimen for teaching purposes. In a paper which he had contributed to the *Lancet*, in 1919, he recorded the fact, from a search of the literature, that only thirty-seven coins had found their way into the air passages, during a period of nearly a century (from 1819 to 1915). Of these, twelve were impacted in the bronchi, and three in the trachea, the remainder being in the larynx, and he was unable to find a similar case to the one now reported, in which a coin had penetrated from the œsophagus into the trachea. One of the coins aspirated into the trachea was recorded by Chevalier Jackson, in 1915, in the case of a child, aged three, who had a nickel coin measuring 21 mm. impacted in the trachea for one day. It was surprising how a coin with this diameter could enter the trachea of a child of this age. In the case now recorded by Mr Banks-Davis, the insertion of a tracheotomy tube caused complete obstruction to respiration owing to displacement of the coin from the tracheo-œsophageal wall into the lumen of the trachea, and but for the immediate insertion of a bronchoscopic tube into one of the main bronchi, death would have occurred at the time. This case demonstrates the importance of having a bronchoscopic tube always ready as an alternative or adjunct to tracheotomy, in all cases of respiratory obstruction.

Mr BANKS-DAVIS (in reply) said the radiographer had reported that the coin "was in the trachea." He (the speaker) thought it impossible that a threepenny-piece could pass between the cords in so young a child; it did not occur to him that it had ulcerated through from the œsophagus and really occupied a portion of both passages.

Clonic Spasm of the Palate—DAN M'KENZIE, M.D.—Female, aged 29, after a prolonged attack of acute rheumatism, became aware of a "clicking" sound which seemed to be produced in the throat. Examination shows a regular clonic contraction of the soft palate, posterior and lateral pharyngeal walls, and base of the tongue, *i.e.*, of the muscles concerned in swallowing. The movement occurs about 150 times in the minute, and is most pronounced when the mouth is opened and the pharyngeal apparatus is, as it were, on the balance between normal rest and the act of retching. It is to be noted, however, that the movements occur also when the mouth is closed, and they have frequently awakened the patient when asleep. A possible relationship with the Eustachian clicking which seems to be the source of some types of audible tinnitus aurium occurs to one. The larynx is unaffected.

Dr C. O. Hawthorne, who has kindly examined the case for me, regards the symptom as a functional neurosis.

Mr W. H. JEWELL said he had shown at a meeting of the Otological Section the case of a child in whom the "click," due to spasm of the soft palate, could be heard two yards away. After removal of adenoids the "click" disappeared.

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Societies' Proceedings

Tracheal Obstruction due to (?) Arrest of Development of the Trachea—C. A. SCOTT RIDOUT, M.S.—The case was reported at the meeting of the Section on 2nd December 1921.* The patient died in May 1922. The parts removed post-mortem were shown at the meeting of the Section on 3rd November 1922.†

Further Investigations as to the Cause of the Obstruction and Report by Professor S. G. SHATTOCK, F.R.S.—The larynx and trachea, etc., of a boy, aged 16. The thyroid gland is uniformly enlarged, the right lobe measuring 10 cm. (4 in.) in the vertical diameter; superiorly it extends to the level of the hyoid bone. The left lobe reaches slightly lower than the right, and to within half an inch of the bifurcation of the trachea. The trachea in consequence of the pressure of the goitre is flattened from side to side for a distance of about 1½ in.

Immediately below the goitre there is a voluminous, lobulated mass of enlarged lymphatic glands; some of these are discrete; others coherent. Inferiorly, the mass completely fills the cleft between the bronchi. On the anterior aspect occupying a median interval in the gland mass, there is a small portion of the normal thymus—a loose, delicately lobulated, soft structure of brownish pink colour. On the right side the upper portion of the thymus is enlarged by diffuse growth, which has almost destroyed its natural lobulation, and seeing that this consists of lymphatic tissue, may be regarded as a lympho-sarcoma. The most enlarged portion of the thymus (about the size of a tangerine orange) lies immediately below the right lobe of the thyroid, and against the right wall of the right bronchus, which it aids in distorting. Portions of the thymus on the left side are enlarged to a lesser degree, in the same manner, and lie in front of the left bronchus in the compression of which they likewise take part.

* *Journ. of Laryngology and Otology*, 1922, p. 147.
† *Ibid.*, February 1923, p. 90.

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