tranquil sleep in maniacal delirium, and to remove or relieve many other distressing symptoms without in any way impairing the patient's constitution, or thwarting the natural tendency to recovery.

From what I have stated, you cannot fail to perceive that to carry out successfully the medical treatment of disease, a scientific knowledge of diseases in all their bearings, and an intimate acquaintance with the patient's constitution, are absolutely necessary. Rational medicine, the principles of which I shall endeavour in these lectures to teach to you, differs from quackery in not professing to have an antidote for every disease in the nosology, and in its basis being, not physis, but anatomy, physiology, chemistry, pathology, and therapeutics. It ought also to differ from it in affecting no mystery, and in perfect honesty of purpose.

CLINICAL LECTURE

ON

EXCISION OF THE HEAD AND NECK OF THE FEMUR IN CASES OF HIP-JOINT DISEASE.

Delivered in the Glasgow Royal Infirmary.

By JAMES MORTON, M.D.,

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In the surgical history of the past year there is one subject which, more than most others, has attracted my attention and cost me some thought, so that it is not unnatural that I should consider it proper to draw your attention to it; I refer to excision of head of the femur as a remedy for the disease usually styled morbus coxæ, or disease of the hip-joint.

It is at present quite unnecessary to refer to the general subject of the excision of joints, not a few of the articulations of the body being the recognised fields for such resections. With the hip it has been different; and although the operation has been occasionally performed, the success has been so limited as to discourage those who have attempted it. I have been witness to abortive efforts on the part of several eminent surgeons, the cases generally ending fatally.

A considerable time ago (eight or ten years), I happened to have in these wards a girl who had been the subject of morbus coxæ, one of whose legs became so fixed as to impede the motion of the other, so that it became very desirable that some change should be effected in her condition. To accomplish this, excision of the head of the femur was performed, and with entire success, the patient (a mill-worker) being soon able to return to her usual occupation. Some years afterwards, this girl was again admitted into the Infirmary, this time into the medical wards, suffering from albuminuria, of which she soon died; and a *post mortem* examination being obtained, it was found that the upper end of the shaft of the femur was united to the acetabulum by a firm fibrous investment, of which this is the preparation. A similar case, so far as success goes, occurred in the wards here, under the care of Dr. R. T. Corbet, now of New Zealand.

These successful cases naturally led me to think whether such operations could not be more frequently attempted with propriety; and the ever recurring failures in the treatment of hip-joint disease, not to mention its mortality, which undoubtedly is great, have impelled me towards some endeavour to avert such unfortunate results.

During last winter session, several cases of hip-disease in the stage of dislocation came into the wards; and I resolved to give excision a trial, hoping that I might meet with such results as had been experienced in the cases just named.

With some difficulty, I obtained the consent of my colleagues in consultation; and the following is the account of the cases as noted in the ward journals by my successive assistants, Drs. Brown, McQueen, and Caskie.

CASE I. (Reported by Dr. Caskie).—Robert Watt, aged 13, was admitted on June 24th, 1871, suffering from very far advanced disease of hip-joint. A consultation having been called, it was decided to be a suitable case for operation. On July 20th, excision of the hip-joint was performed in the usual manner by Dr. Morton.

August 1st. There was very little discharge from the wound, but an abscess had opened on the anterior part of the thigh, from which a copious discharge flowed. Extension had lately been made by means of a weight hanging from the foot.

August 17th. The wound looked healthy. There was not much discharge. The patient was keeping up his health well.

August 26th. The limb was now put in a bracketed long splint.

October 25th. The bracketed splint was still used, but with no weights for extension, this being made in the usual fashion by plaster.

The opening on the anterior part of the thigh was still unclosed, and discharged pus copiously, requiring the dressings to be changed twice daily. The wound at the back part of the joint was still open for about three-fourths of its original extent, and also discharging pretty freely. The patient was very weak and anæmic, with little or no appetite. The wound was looking indolent.

October 27th. A Sayre's splint was, at Dr. Morton's suggestion, constructed of gutta percha by Dr. Caskie. The splint answered its purpose moderately well, with the exception that it did not keep the limb sufficiently extended; but it was found (as Dr. Morton expected) that, on the boy getting up, the weight of the limb itself was able to do this sufficiently. For a few days after its application the boy did not rise, as there were no crutches for him.

October 30th. The patient was up to-day, and walked about the ward for two hours. He was still very weak, and required to be assisted somewhat by the nurse.

November 5th. Since last note, the patient had been up every day for two or three hours, and to-day, unassisted, he walked round the ward. The anterior wound was much improved, the discharge being diminished to about one-half its former quantity. The posterior wound, also, was much improved and diminished in size, being now healing kindly. The patient's general health had continued to improve steadily since getting up; he was not so anæmic, and his appetite had also much improved. It was found necessary, in order to get steadiness, to apply a bandage extending midway down the splint, and fixed upon the opposite side.

November 8th. The patient to-day walked about, and had the intention, had the day been good, of going out of doors. His appetite continued good, and his general condition improved. The anterior wound gave exit to almost no discharge; the posterior wound was also healthy. The patient walked about resting upon the points of his toes, there being little shortening of the limb, and little deformity.

November 13th. The patient continued to improve, and walked about daily. Since last note, he had been outside for an hour. There was little discharge from either opening; both were healthy.

REMARKS.—It will be observed that this lad was in hospital nearly a month before the operation was performed, although he was sent in by my friend Dr. Forrest expressly for the operation; the reason being that his bodily condition was so poor, and his emaciation so great, that it was considered essential to try to restore him somewhat by the good diet of the wards, and a little wine, that his chances of recovery after the operation might be enhanced. It is curious, however, to remark that his case has proved the most successful of the three that I have to mention; or, rather, that he has recovered more rapidly, and was able to get out of bed at an earlier date, than his friend, whose case comes next in order.

CASE II. (Reported by Dr. Caskie).—John MacNeil, aged 11, had been admitted two years ago with morbus coxæ. The history obtained from the father was very vague. It appears that the child often screamed; and it was only several months after this that the hip-joint affection was discovered. At that time he remained in hospital five weeks, and was put on a long splint; then went out and got about well, little if at all lame. He remained well till about six months before his admission on May 10th, 1871, when he was tripped, and fell, and since had been unable to walk, unless with crutches. On examination, there was found a general fulness of the right gluteal region; the gluteal fold was obliterated, and the head of the femur evidently dislocated into the sciatic notch. The limb was shortened; the right knee directed to the opposite knee; the foot inverted, and the great toe resting upon the great toe of the opposite foot; the body was arched when the limb lay fairly on the bed. There was not much pain, except at night, and then only usually slight. His appetite was good.

May 31st. The joint was to-day excised by Dr. Morton; the head of the femur, the neck (which was much shortened), and a portion of the trochanter being removed. During the operation, an abscess was cut into, from which about ten ounces of pus escaped. After the operation, the leg was allowed to lie in an easy position for a few days, and afterwards extended by weights, and kept in position by sand-bags.

July 20th. There was not much discharge. His health was keeping up. The edges of the wound kept well in apposition. He had been taking, from the time of admission, cod-liver oil and syrup of iodide of iron.

August 18th. He had fallen off a little since last note. To-day the limb was put in a bracketed long splint.

October 25th.—The anterior wound was nearly healed, but still discharged a good amount of pus. The posterior wound looked healthy. The patient's health was tolerably good.

November 1st. The patient was fitted with one of the gutta percha imitations of Sayre's splint, similar in shape to the one used in the

previous case, with the exception that the side-piece was narrower and much stronger. He did not rise for three days after it had been fitted, owing to his clothes not being at hand.

November 4th. The patient was up to-day for two hours. He was still weak, and required to be supported by the nurse.

November 8th. The patient was now up daily about two hours, and was improving in health. He could now walk himself, but was yet very weak. The anterior wound was healthy and healing. The posterior wound was also looking well, but required to be strapped, owing to a tendency to retraction in its lower lip. His appetite was good, and his condition generally fast improving.

November 13th. The patient was up daily, and could walk without support. The anterior wound was nearly healed; the posterior one was healthy, but not much diminished in size.

REMARKS.—This boy was in fair condition when admitted; and although he has never had a bad symptom, his progress has been slower than that of the subject of the preceding report. For this it is scarcely possible to assign any good reason. The report bears that the head of the femur was dislocated into the notch; to this some may object, but all agree in allowing the existence of considerable displacement, however they may explain it.

CASE III.—George McCorkindale, aged 4, was admitted on November 20th, 1870, and was operated on on May 18th, after long trial of rest and extension. His progress at first was similar to that of others; but after some months he became so weak and emaciated, partly from discharge, but more especially from tuberculosis (pulmonary), so that no hope of recovery remained; and he died on October 25th. The prolonged confinement must have had much to do with this result.

During the treatment of these cases, it became painfully evident that my young patients were suffering very much from their confinement to bed. No doubt the discharge from the exposure of such a large surface had something to do with the exhaustion; yet so satisfied was I that the confinement to bed had the most to do with it, that I was anxiously planning with my assistant how to steady the limb by bandages, so as to enable the patient to move about, when my attention was attracted to a description of a splint invented and applied to such cases by Dr. Sayre of New York, and calculated to enable the patients to leave their beds, and walk about soon after being operated on. Application was made to the managers of the Infirmary, who kindly gave orders that the splint should be procured; and this I have now the pleasure of showing you. We have not yet used the splint; but, under my direction, my present assistant, Dr. Caslie, taking Sayre's splint, or rather a sketch of it, as his pattern, succeeded in making a tolerable imitation of it, composed of gutta percha; and with such appliances, two of our patients are now walking about the wards on crutches, and promise to be cases of success. It is my intention to apply Sayre's splint to the younger of our two patients. It is worthy of remark that the patient, the eldest of the three, who was in the most exhausted condition on admission, is the one who has progressed most steadily, and also most rapidly towards recovery. In future cases the splint will be used almost immediately after the operation, so as to limit as much as possible the period of inaction and confinement.

In surgical works we find that excision is recommended in cases of gun-shot wound of the hip-joint, or, to quote a recent writer (Holmes), "in advanced strumous disease, accompanied by abscess, where the patient seems in danger of dying of hectic, and the ulceration of the bone is judged to be incurable"; and the same writer, after speaking of the "exhausting and long-continued suppuration, rendering the prospects of surgical operation unfavourable", proceeds thus: "On the other hand, spontaneous recovery is so common that it is impossible in any case which gets well after operation to affirm with certainty that the natural cure was impossible." Now, I suspect that a serious fallacy underlies this reasoning. It is my impression that a great number of such cases die in the first years of the disease, for it often lasts many years; and if they survive this period, they not unfrequently fall victims to serious visceral disease, and die of enlarged liver or disease of the kidneys, assuming that their lungs continue sound. It is well known that many succumb to tubercle in the lungs. The same writer, after speaking of adult age as a serious contraindication to excision of the hip, though he mentions several cases of recovery after the age of twenty, continues to remark: "The purport of these indications and contraindications appears to be that excision ought never to be attempted except in childhood or youth, and never unless, with disease still progressing, the joint surfaces are hopelessly displaced (a very rare occurrence), or the surgeon, on a careful review of all the symptoms, has strong reasons for concluding that natural recovery is impossible." At the same time, he adds, as a saving clause: "When the operation is once decided upon, it should not be delayed till the patient's health has given way, but should be performed at once."

In other works on surgery, you will find an echo of such opinions—the one too often a quotation from the other—all arising from the pre-conception that such an operation should form the last resort in hip-joint cases, and should not be performed until all other chances of repair, or even arrest of the disease, have been exhausted, which too often practically means until the patient is in such a condition as scarcely to afford the barest chance of a good result.

Very recently, however, the publication of a number of cases of success has attracted the notice of the profession, and led to a revulsion of opinion as to the proper period for having recourse to excision. It may be that these accounts are somewhat over-coloured; but although it may turn out that they are slightly strained, yet it seems certain that much more can be accomplished than we are in the habit of believing. The use of such an appliance as the splint I have shown you, when we become familiar with its benefits, will smooth the way to an earlier adoption of operative measures. At all events, it is my intention to persevere in making further trials of such a mode of treatment, especially in cases where displacement and the formation of abscess or sinuses have occurred; and in pursuing this course, I am surely justified by the amount and character of the successes which have attended the operations already performed.

At present, I will not take it upon me to dogmatise upon the question as to the period or periods in the progress of such cases to which the operation should be confined. Hard and fast rules are generally to be deprecated, and are, like too many laws, made to be broken. In the state of transition in which we are now moving, it is surely prudent to leave this and other points to be settled by an enlarged experience.

NOTES OF CLINICAL LECTURE ON TORSION, AND ON THE DRESSING OF WOUNDS.

By GEORGE W. CALLENDER, F.R.S.,

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THUS far, gentlemen, there have been seven amputations under treatment in my wards during the current year. All the patients recovered. Three amputations were of the thigh, three of the leg, and one was of the fore-arm; and the ages of the patients varied from nine to forty years. I need scarcely say that these results speak well for the general salubrity of the wards; but they have this especial interest, that in each of the amputations the arteries were closed by torsion. In all other operations which I have performed during this year, including some of considerable magnitude for the removal of tumours, I have also made use of torsion with an unfailingly good result; but it will suffice at present if I limit my reference to the amputations of limbs, as the general result of operations involving the torsion of such arteries as the femoral or the tibial indicates most clearly the safety of the procedure.

There is, of course, no absolute novelty in the use of torsion, for quite recently Mr. Cooper Forster has placed before the Clinical Society evidence in its favour; but it is strange that this method of arresting bleeding from a divided vessel should have received so little attention since its first introduction by Amussat. After some trial had been made of it, it quickly fell into disuse, chiefly because Dupuytren reported that it was not safe in the case of large arteries; and now, although attention has been recalled to the operation, its employment is a rare exception.

And yet it admirably fulfils the purpose for which it is practised. Thus the very idea of torsion comes from observation of the way in which Nature herself closes a torn artery. The practice of it insures the laceration of two coats of the vessel and the formation of a coagulum, whilst (in this respect unlike the ligature) no foreign body is left attached to the artery, to be separated from it eventually by ulceration through the outer tunic. The twist of the artery, the tearing of the inner and middle coats, and the formation of a clot—these three—provide for the permanent occlusion of the vessel. There is no record, where the operation has been properly practised, of any sloughing of the twisted end, or of any abscess along the track of the vessel; and, whilst the presence of a foreign body in the wound is avoided, the patient escapes the anxiety which the prospect of the removal of ligatures entails. And to add one other, and this a strong argument, in favour of torsion, it is free from all risk of that secondary bleeding which is sometimes associated with the separation of a ligature.

When employed some forty years ago, various methods were used. By some the end of the vessel was twisted off; by others it was advised to hold the vessel transversely a short distance from its cut extremity with one pair of forceps, whilst the free end was twisted with a second pair. I recommend you to try neither of these two. By twisting off