CASE OF
EXCISION OF THE UPPER END OF THE
FEMUR,

IN AN EXAMPLE OF MORBUS COXARIUS.

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JOHN CLARK, ætat. 14. Admitted into King's College Hospital 20th November 1844. Always enjoyed good health until January last, when he first experienced severe pain in the left groin, which continued unabated, notwithstanding the use of leeches, blisters, seton, and the warm bath. Between three and four months after being first taken ill, the pain became most harassing in the left knee. Early in October a large collection of matter formed over and behind the great trochanter, which burst spontaneously, and there has been continued discharge ever since. The condition of the limb is such as is usually noticed in the advanced stage of hip-disease. It appears considerably shorter than the sound one, and is much bent both at the knee and hip-joints. There is constant pain in the knee, but there is little in the hip unless the limb be moved, or the head of the femur forced against the pelvis.

After remaining in the hospital for more than three months, the condition of this patient was as follows :—The distortion of the limb had increased, and in consequence of lateral curvature in the lumbar region of the spine, with corresponding obliquity in the pelvis, as well as further flexion at the hip and knee, the shortening was more apparent than ever. The heel on the affected side was between four and five inches above the other. The shaft of the femur sloped obliquely downwards and inwards, and the knee rested on the inner side of the thigh of the sound limb ; the head of the bone could be felt, through the soft parts lying on the dorsum ilii, and its identity could be more accurately ascertained by passing the finger into a large sinus which opened on the surface over and behind the trochanter major. The articular extremity was so isolated that the finger could be passed round it in all directions. There were several small sinuses contiguous to the large one, but it could not be ascertained that any of them led to diseased bone, or communicated in any way with the pelvis. There was a large circular sore which occupied the whole of the skin over the trochanter major, and profuse discharge of thin matter from the open surfaces. The patient made no complaint of pain unless the limb was moved, but seemed weaker and more dejected than when first admitted : he could lie with comparative comfort, only on his right side. Pulse varied from 100 to 110 ; appetite indifferent ; tongue very red ; cheeks frequently flushed ; had

profuse night sweats, and the feet and face were slightly cedematous.

When this case first came under my notice, I entertained the hope that a spontaneous cure might ensue, but after watching its progress very carefully, and at the same time adopting such measures as appeared most likely to favour this result, I became convinced that there was much greater probability that the boy would die, as the system appeared to be giving way under the influence of the local disease. From an early date I had formed the opinion that the circumstances were peculiarly eligible for excision of the head of the femur, and that opinion was strengthened subsequently, when I had placed the point of my finger on that part. At first I was reluctant to subject the patient to such a formidable ordeal, but latterly fancied that I should be justified in resorting to such a step. The head of the femur appeared to act as a foreign substance amongst the soft tissues of the hip;—there was no clear indication of serious disease in the cotyloid cavity, and it seemed as if the contiguous bones were healthy. The boy's lungs and other viscera appeared sound, and the head and upper portion of the bone seemed for the time the sole cause of his sufferings.

With the concurrence of my colleagues, Mr. Partridge and Dr. Todd, and having had also the advantage of the opinion of my friend Mr. Coulson, I resolved to have recourse to the operation in question; and performed it on the 1st March 1845. A longitudinal opening about six inches long was made

in the line of the femur, extending from over the head of the bone to a little below the trochanter major, and the tissues were separated from the shaft of the bone, a little below that process, so as to permit a curved needle to be used for the introduction of a chain saw. This latter step was attended with considerable difficulty owing to the depth and obliquity of the bone, and when accomplished proved of little value ; for after several trials the instruments (which worked very indifferently in my hands) broke, and I was compelled to adopt another mode of procedure. With a sharp-pointed bistoury I separated all the soft parts from the neck of the bone and the trochanters, and then, by causing the knee to be moved across the opposite thigh, and using the femur as a lever, the head and portion of the bone thus isolated was so thrust out of the wound that I could with facility apply the ordinary saw for the requisite section. Not being satisfied with the condition of the interior of the bone at the surface exposed by the saw, I enlarged the opening, and removed about three quarters of an inch more, then closed the wound with a few points of interrupted suture, and covered it loosely with a pledget of lint. No vessel of sufficient magnitude to require a ligature was divided. The cotyloid cavity was filled by a fibro-gelatinous mass, similar to the lining of the sinus.

When the patient was placed in bed, a long splint was applied, with a view of keeping up gentle extension ; and the limb, as far as the bent state of the knee would permit, was placed parallel with its

fellow. The apparatus was somewhat similar to Boyer's long splint, but was so constructed that its upper end could be temporarily removed for the purpose of dressing the wound, and the fulcrum for extension, instead of being on the injured side, as when fracture of the neck of the femur is treated in this way, was taken from the other side of the pelvis.

There was scarcely any shock succeeding to the operation, and the chief complaint was pain in the knee, which for some days after was more severe than at any previous period. The symptomatic fever was very slight, and disappeared entirely within the first ten days. Part of the wound united by the first intention, the rest soon discharged healthy pus, and speedily showed a disposition to heal. The health improved rapidly, the sweatings ceased, as also the pain in the knee, the appetite became natural, and the patient gained flesh. On the 8th of May, the limb having been for some weeks completely straightened, and the wound having almost closed, the splint was removed, and the patient permitted to move about the wards upon crutches. He has since continued to improve in strength; moves about without trouble or pain; and wears his clothes as if in perfect health.

The length of bone removed was four inches and a quarter, measured through the curve of the neck and shaft, and the limb is now about two inches and a half shorter than its fellow. The cartilage was almost entirely removed from the head of the

bone, and the surface was in a state of ulceration. The trochanter and rest of the shaft seemed in a healthy condition, with the exception that the cancellated tissue was loaded with a dark-coloured fluid of an oily consistence, and seemingly mingled with imperfectly-formed pus. I am now doubtful whether this state of the interior was a morbid condition sufficient to necessitate the removal of the additional portion of bone.

This case, so far as I can learn, is the second of the kind attended with a favourable result which has occurred in Britain, and I have thought that it might prove an interesting communication to this Society.

The first case occurred to Mr. Anthony White in the year 1818, in the Westminster Hospital, and the history of the present one (so far as it has gone) is in almost every respect analogous to Mr. White's. In that example the patient was enabled twelve months after the operation to walk about with great facility, with the aid of a high-heeled shoe, and to execute all the ordinary movements of the limb. Many years after, the person died of phthisis, and the parts have been preserved in the Museum of the College of Surgeons. The upper end of the remaining portion of the femur was connected to the innominatum, nearly in the site of the acetabulum, by a strong fibrous band which had permitted free movement, for the purposes of progression, and at the same time been sufficient to support the weight of the body. I am informed by Mr. Cæsar

and Mr. Charles Hawkins, that Sir Benjamin Brodie has also removed the head of the femur; and Dr. Hargrave of Dublin has kindly forwarded to me some particulars of a similar operation which was performed in Dublin by the late Mr. Hewson. In both these instances the patients died, but the circumstances were not so favourable as in Mr. White's case and my own, for the parties were adults; and in Sir B. Brodie's, the head of the bone was in the acetabulum at the time of the operation. This patient died within a few days after, apparently the direct effect of that proceeding. Mr. Hewson's died three months after, from profuse suppuration, and the cotyloid cavity after death was found to be carious.

So far as I have been able to learn, these are the only examples in which the operation has been performed by British surgeons. Bourguery gives the names of ten surgeons in other parts of the world who have also performed it: of these patients, one half seem to have died from the proceeding.

An opinion prevails, that the celebrated Mr. White of Manchester was the first to perform this operation, and it is thought by some that Mr. Park of Liverpool also performed it. I believe however that neither of these gentlemen operated on the living body. If they did, the cases were never published. Dr. Radcliffe Hall has had the kindness to make particular inquiries for me on this subject at Manchester. Mr. Wm. Wood, the oldest of the surgeons in that town, who was house-surgeon of the hospital

in Mr. White's day, and Messrs. Ainsworth and Thorpe, the present senior surgeons, are positive that Mr. White did not perform the operation on the living body, and my friend Dr. Inman of Liverpool is as certain that Mr. Park never did it.

The error regarding Mr. Park may have arisen in consequence of his reputation for operations on joints, and I have no doubt that confusion has resulted from the two Whites being concerned in the history of the proceeding in question. The truth is, that Mr. Charles White of Manchester first proposed this operation in 1769, and that Mr. Anthony White first performed it in 1818, in this country. The suggestion was made by Mr. C. White in his remarks on the case of excision of the head of the humerus,—an operation he was the first to perform; and his words are, “I have in a dead subject made an incision on the external side of the hip-joint, and continued it down below the great trochanter, when on cutting through the bursal ligaments, and bringing the knee inwards, the head of the os femoris hath been forced out of its socket and easily sawn off; and I have no doubt but this operation might be performed upon a living subject with great prospect of success.”*

P.S.—3rd October, 1845. This boy now walks about on crutches, and, besides looking hale and plump, expresses himself as being in every way in

* Cases in Surgery, &c., by Charles White, Manchester, 1770, p. 66.

good health. The limb is quite straight, and about the same length as when he left the hospital a month ago, although, as he moves along, the heel seems to be nearer the ground, on which he now rests the fore-part of the foot. There is free movement both at the knee and hip, and already at the latter part he has considerable power in elevating the thigh by the action of the psoas and iliacus internus muscles. There is no pain or tenderness about the hip, and the two sinuses have all but closed. The discharge from them is very slight, and there is no indication of any further disease in the bones.