Case of consecutive excision of both knee-joints for disease, terminating in recovery / by James Barron.

With the Author's Compliments.

10.

CASE OF CONSECUTIVE

EXCISION OF BOTH KNEE-JOINTS

FOR DISEASE,

TERMINATING IN RECOVERY.

(WITH WOODCUTS.)

BY

JAMES BARRON, M.R.C.S., Eng.,

Honorary Surgeon to the Sunderland Infirmary.

NEWCASTLE-UPON-TYNE:
PRINTED BY M. AND M. W. LAMBERT, 50, GREY STREET.
1878.

27 John Street
Sunderland
Sept. 9th 1878.

Dear Mr Bryant,

Your letter reached me yesterday (Sunday) morning, and I would have replied to you by return of post, but I thought it better to look up my patient before I did so, and especially as I had not seen him for some considerable time.

Before he left the Infirmary, he was every day and nearly all the day walking and sitting about the grounds. He was then able to walk about without sticks or crutches,

CASE OF CONSECUTIVE EXCISION OF BOTH KNEE JOINTS FOR DISEASE, TERMINATING IN RECOVERY.

STEPHEN H., æt. 45 years, married, ship carpenter, admitted into the Sunderland Infirmary on May 29th, 1877.

Eight years ago, whilst at sea as a ship carpenter, and sleeping frequently in wet clothes, his knees began to be painful and swollen, with nocturnal exacerbations of pain.

Returning from this voyage, he did not feel able again to go to sea, but commenced work as a shipwright on shore, and so continued until the summer of 1875. In this interval, he seems to have been regularly at work, but the knees were gradually becoming more swollen, and the pain more severe. About this time he was recommended to go to Croft Spa, and was there some weeks taking the sulphur baths; but not experiencing the benefit anticipated, he was removed thence, and admitted into the Durham County Hospital, where he remained seven weeks. He, however, came home unrelieved, and resumed work, though the swelling was still increasing, and the knees were now becoming somewhat flexed.

On the 12th of October, 1876, he was admitted into the Edinburgh Infirmary, where he was first, for three weeks, placed in the surgical wards. After that time, he was transferred to the medical wards, and the knees were painted and blistered. After eleven weeks, receiving no benefit, he was discharged, and he returned home in the last week of December, 1876. When he left the Edinburgh Infirmary, the contraction of the knees had so much increased that he was unable to walk about.

On the 29th of May, 1877, five months after leaving Edinburgh, he was admitted into the Sunderland Infirmary under my care.

On admission, he was in a somewhat debilitated condition, but except in the knees, there were no physical signs of disease.

Examining his knees, I found them fixed at a right angle, the thighs flexed and abducted, and the feet approximated, so that his position in bed was much like that of a tailor at his board. *Right knee:* joints much swollen and hot, surface glossy, pink, and marked with a network of distended veins. *Left knee:* less swollen, skin nearly natural in appearance and temperature. The muscles of both legs were much wasted.

Previous health has always been good; has never had any illness; has been a steady man, but seven years ago, had a slight attack of gonorrhœa, which lasted only a few days, and was not succeeded

by any secondary symptoms. Married fifteen years; no family living, but his wife has borne him four children, the first of whom died a few hours after birth, and the others at six, eight, and twelve months respectively, as he says, of inflammation of the lungs. His wife has had no miscarriages.

Family history is entirely negative; no rheumatism; no joint affection; no chorea; and no consumption.

For about three weeks after admission, iodine was painted on both knees, and a blister was applied, but without any apparent advantage.

After much consideration, and consultation with my colleagues, I decided to perform excision of the joints as the most likely means of relieving my patient from his unfortunate position, and procuring for him, as I hoped, good and useful limbs. He and his family were duly informed of all the possible evil consequences that might result from a failure in the operation, but he quickly decided in favour of my recommendation, only desiring me, if possible, to save his leg.

First Operation.—On June 20th, 1877, with the kind help of my colleagues, the patient being first placed under the influence of chloroform, I proceeded to excise the right knee-joint. The operation was performed in the usual way, by a curved incision, and under complete antiseptic precautions. On opening the joint, the synovial membrane was found in an advanced stage of gelatinous degeneration; the cartilage on the inner condyle of the femur was ulcerated, as was that on the corresponding surface of the tibia, and there was partial dislocation of the tibia backwards. Before closing the wound, as much as possible of the diseased synovial membrane was removed. A drainage tube was inserted along the floor of the wound from side to side, and the limb put up straight on an ordinary Macintyre splint.

There was nothing particular to record in the progress of the case; the drainage tube was removed on the 29th of August, the seventieth day of treatment, and on September the 15th, the eighty-seventh day, bony union was complete, and the splint was discarded. During this time, the swelling and heat of the *left* knee had subsided, and there was partial bony ankylosis.

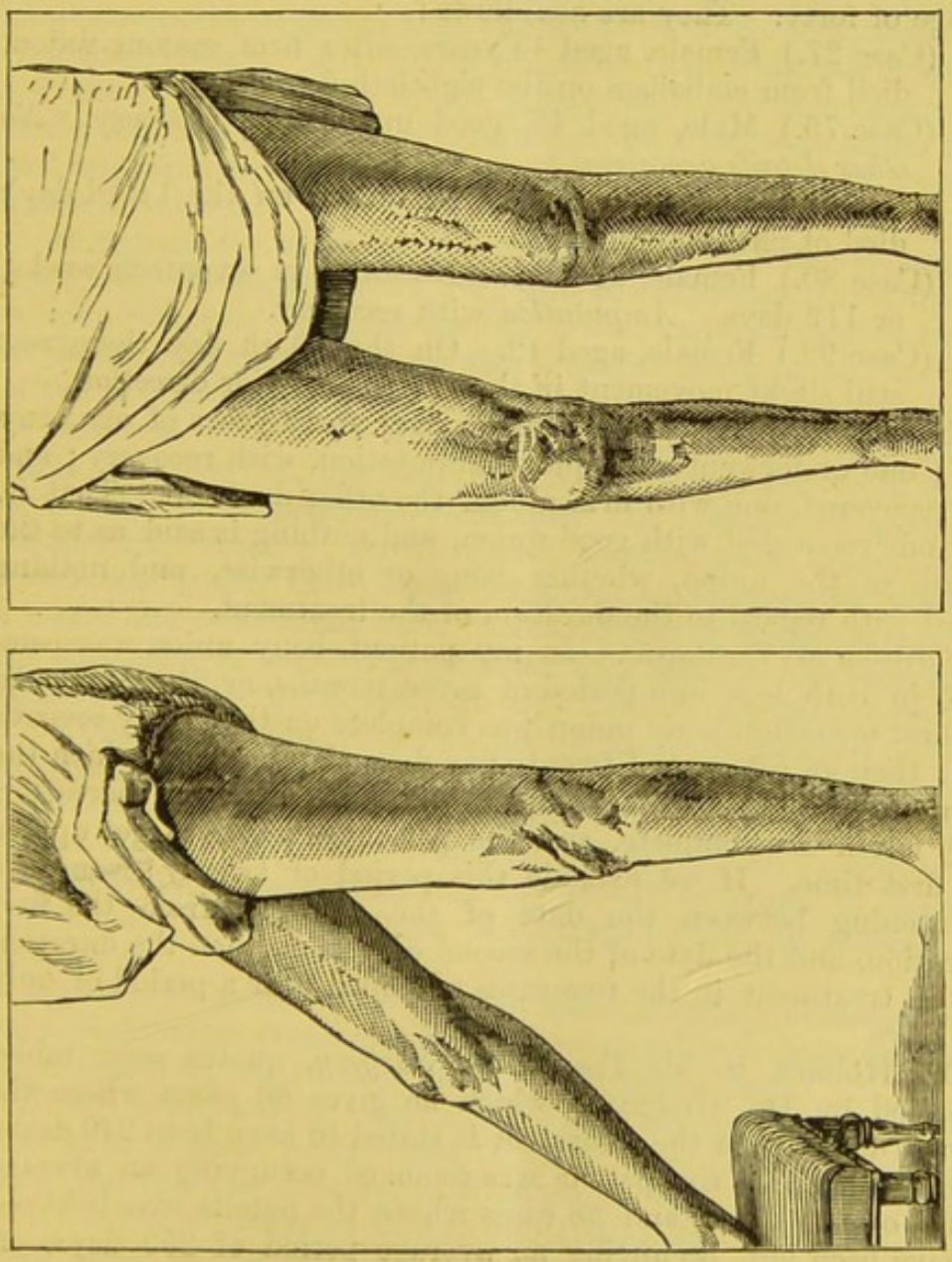
Second Operation.—The first operation having been so successful, I was encouraged to proceed with the excision of the left knee; and accordingly, on October the 10th, I performed the second operation. This was done, as before, under complete antiseptic precautions. On opening the joint, there was found bony ankylosis between the tibia and posterior portion of the articular surface of the femur, the tibia being dislocated backwards.

In the first operation, adaptation of the bones was easily accomplished, but in the second, perfect adjustment was not effected until a second piece was removed from the tibia, and two or three

of the flexor tendons divided. The patella was removed in both operations.

The case progressed even more favourably than on the first occasion. The drainage tube was removed on December the 10th, the sixty-first day of the treatment, and bony union being complete on January the 18th, 1878, the hundredth day, he was allowed to be up for the first time; the two operations having been brought to a successful termination within a period of seven months, or 212 days.

The *difference* in the length of the two legs *scarcely amounts to the eighth of an inch.* The appearance of the legs after operation is seen in the figs.



The two wood cuts represent, the one, a front, and the other, a side view, of both legs. In the front view, the right leg is observed to be somewhat bowed outward, but this is not dependent upon the operation, as the patient explains that both his legs were bowed before they were operated upon. The cuts are from drawings by Dr. T. W. Barron, taken from photographs.

Remarks.—In concluding the history of this case, I would make a few observations on one or two points which appear to me to be of interest.

Age.—Stephen H. was 45 years old in April, 1877. He had reached the extreme limit beyond which surgeons are agreed that excision should never be undertaken. Mr. Swain, in his work on *Injuries and Diseases of the Knee-joint*, at page 151, says:—"I would rather excise a knee-joint in a patient before the age of forty than after. The powers of reparation in advanced life are not sufficiently strong to give the patient much chance of a useful limb, or to support him through the long after treatment."

In the list of 104 cases given by Mr. Swain, five only are above the age of forty. They are as follows:—

1. (Case 27.) Female, aged 43 years, after firm osseous union, died from embolism on the eightieth day.
2. (Case 75.) Male, aged 45, good union with recovery. *No other details are given.*
3. (Case 77.) Female, aged 46. No union on the 143rd day: died of phthisis.
4. (Case 80.) Female, aged 41. No union in seventeen weeks, or 119 days. *Amputation* with recovery.
5. (Case 92.) Female, aged 42. On the 205th day there was still slight movement in the antero-posterior direction.

Thus, of the five cases said to be over forty years of age, two died; one underwent subsequent amputation, with recovery; and two recovered, one with firm union, the other doubtful. That is, only one recovered with good union, and nothing is said as to the nature of the union, whether bony or otherwise, and nothing stated with regard to the duration of the treatment.

Duration of Treatment.—In my patient, bony union was complete in both legs in a period of seven months, or 212 days. In the first operation bony union was complete on the eighty-seventh day; then an interval of twenty-five days elapsed, after which the second operation took place; and on the hundredth day thereafter, bony union was complete, and the patient allowed to get up for the first time. If we exclude this period of twenty-seven days intervening between the date of the recovery from the first operation, and the date of the second operation, then the duration of the treatment in the two cases extended over a period of only 187 days.

Dr. Holmes, in his *Treatise on Surgery*, quotes some tables compiled by Dr. Hodge, in which he gives 86 cases where the *average* duration of the treatment is stated to have been 240 days; 48 cases in which the patella was removed occupying an average period of 225 days; and 38 cases where the patella was believed to have been left, occupying an average period of 255 days, or, roughly speaking, about eight months

In examining the cases given in Mr. Swain's list, I have selected twenty-eight cases from it which seem to afford something like precise information with regard to the duration of treatment. Six cases are given at the age of ten years and under, and the average duration was a little more than eighty-one days. Above ten and under twenty, ten cases are given, with an average of 101 days. Above twenty and under thirty, nine cases are given, averaging rather over ninety-seven days. Above thirty, two cases, average seventy-three days. One, aged 42, a duration of 205 days.

There cannot be a doubt, however, that in the more recent cases of excision of the knee-joint, statistics of a much more favourable character could be given, as to the duration of the treatment, than in former reports. And this is not more than what might reasonably be expected, owing to the greater skill and experience more lately acquired in the dressing and general treatment of the cases, and especially to the comparatively recent adoption of the antiseptic treatment.

As regards the adoption of amputation or excision in cases of knee-joint disease, Sir Wm. Ferguson has expressed his deliberate opinion "that in eight persons out of ten, under the age of twenty or thirty, in whom disease of the articular surfaces of the bones of the knee-joint seems incurable, the operation of excision should be preferred to that of amputation." And he gives his reasons. "The wound is less, the bleeding less, the loss of substance is less, the shock is consequently less, and the chances of secondary hæmorrhage scarcely worth notice, as the main artery is left untouched, whilst there is the encouraging prospect of retaining a useful and substantial limb." The difference in the duration of the treatment in cases of amputation and excision has been urged against the latter operation, but this, I think, is a matter of little importance in comparison with the object to be attained; and so long as a good and serviceable limb be secured, it is scarcely open to adverse criticism that the patient should be made to lie for a period of six, or even more, months. But, further, I believe that as greater experience is gained in matters of detail in the care and management of the cases, this difference will be reduced to a minimum.

My own personal experience has been extremely limited, having only performed excision once before, resulting, however, in a rapid recovery, with a good, strong, and useful limb.

Then, in the way of warning, I would say that in reading the details of a great many cases, I have been particularly struck with the frequent occurrence of deformity after excision recorded in subsequent months or years; and I am forced to the conclusion that many of the patients, who have undergone this operation,

have been allowed to bear their weight upon the leg much too soon, and at a time when perfect consolidation of the new bone cannot yet have taken place, thus leading to partial dislocation of the tibia in different directions, generally outwards and backwards.

In conclusion, I would add that I am not aware that there is any case on record where excision of both knee-joints has been performed on the same person. I believe this case to be *unique* in the history of excision of the knee-joint.

In closing my remarks on this case, I would, for a moment, gratefully take this opportunity of expressing my deep sense of the obligation I feel I am under to my kind and able friend, Dr. Ransom, the Senior House Surgeon to the Sunderland Infirmary; for it is to his patient, unwearied, and skilful management of the case that I am chiefly indebted for the happy and fortunate result that has been obtained.