

Case Report

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A simultaneous bilateral total knee replacement: The road to recovery

***Corresponding Author: R Trevor Wilson**

Bart Ridge House, Umber Leigh, EX37 9AS, UK

Email: trevorbart@ao.com

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Abstract

The patient had suffered from arthritis in both knees for several years. In discussions between the patient and the orthopaedic surgeon the decision was made to carry out a simultaneous bilateral complete knee replacement. Epidural anaesthesia was employed to remove feeling from the lower part of the body. The operation was completed successfully. The initial dressings on the wounds were removed on Day 8 and replaced by clean ones which were finally removed on Day 18. Recovery, according to the physiotherapist was rapid. On Day 25 the patient attempted to climb the stairs in the house from the ground to the first floor but managed only halfway (eight steps). On Day 39 the climb was successful. The patient drove the car in an open space and then on the open (rural) road on Day 39. The sutures on the surgical incisions reduced gradually as did the bruising of the quadriceps femoris muscles. At Day 90 there was very little swelling and the suture scars were well on the way to complete disappearance.

Keywords: Knee osteoarthritis; Epidural anaesthesia; Physiotherapy; Crutches; Pain relievers.

Introduction

Osteoarthritis of the knee is a very common problem in the elderly and a principal cause of morbidity in this group of people [1,2]. Diagnosis of knee osteoarthritis is confirmed by clinical or radiological features. The disease is progressive but the effect can be mitigated by early recognition and the correction of associated factors [3]. Common risk factors include age, weight, trauma due to repetitive movements (in particular squatting and kneeling) [1]. Several factors including cytokines, leptin and mechanical forces are pathogenic. In patients with knee pain attribution to osteoarthritis should be considered with caution as other diseases, for example gout, manifest similar symptoms.

Materials and methods

The patient suffered a gradual increase in knee pain over several years. Radiography eventually showed that in both knees there was bone-on-bone contact and a complete absence of cartilage. In consultation the osteopathology surgeon and the patient agreed on simultaneous bilateral knee replacement. The operation was carried out in less than four hours with the aid of an anaesthetic.

Results

The patient was taken to the preparation room at 07:50 hours and prepared for the intervention by injection of an epidural anaesthetic. No sedation was given, the patient was awake and fully conscious throughout the procedure and was returned to the recovery ward at 11:50 hours. The ward staff immediately encouraged the patient to stand at a specialist piece of equipment. The patient slept well and was discharged to his home the next day at 15:50, some 28 hours after completion of the operation.

The patient was bed-bound for two days at home but was able to get in and out of bed unaided after four days and able to mount the first step to the bedroom level after six days.

On the eighth day the patient visited his regular health practice to have the original dressings removed. The journey involved an unaided uphill walk but on both crutches of 30 metres to the car (Figure 1) and a further 15 metres from the car (for which assistance was needed to exit the vehicle) to the surgery. Much of the skin surrounding the incisions and the sutures had already sloughed off (Figure 2). This exercise was followed by shopping in a large supermarket.

The patient was well enough on the eleventh day (a Sunday) to visit the local pub – a Sunday lunchtime tradition of more than 60 years duration. The twelfth day was the patient's 85th birthday: a party of close friends was invited to celebrate both the anniversary and the progress already made in the post-operation period: it was a beautiful balmy late summer evening which made for a very pleasant and relaxed occasion.

A further visit was made to the surgery (medical centre) on Day 15 for the nurse to inspect the healing progress on the incisions and concluded that there was good progress although there was extensive bruising in the quad muscles and around the left ankle. The sutures which had not degraded naturally were removed and a new dressing applied which was to be removed permanently after three days.

Sunday was Day 17 on which a further visit was made to the pub at lunchtime. The knees appeared to be healing well on Day 19 although the sutures along the incisions on both knees were still rather prominent and there was considerable bruising around the incision points (Figure 3). A first visit to the physiotherapist was made on the 20th day. The patient was able to walk with a little aid from one crutch from the waiting to the treatment room. The physiologist was delighted with the progress made and declared it one of the fastest such after a double knee operation.

The patient attended a symphonic performance with his wife and son at their local theatre in the district town in the evening of Day 22. The pub was visited again on the evening of the 24th day where many of the patient's friends congregate on a Friday evening and all of whom were sympathetic at his having to miss several such meetings over the previous weeks. His wife noted he walked "very smartly" the 30 or so metres from the car park to the pub bar (the equivalent of the carrot for the donkey?).

There was a Red Letter Day on Day 25 when the patient decided to climb the stairs to the upstairs rooms but lost his nerve at the halfway stage (eight steps) before getting down safely. The 28th day was marked by the patient deciding, following a gradual daily reduction in dosage, that he no longer required to take pain relievers although there was still considerable bruising over much of the area (Figure 4). Walking with a single stick was now being achieved quite comfortably.

On Day 36 the patient decided he should be able to drive the car. He did this successfully in the large open space which befronts the farm barns. The visit to the physiotherapist the next day was marked by the laudatory remarks of that professional on the progress made to date. Day 39 was another Red Letter Day as the patient appeared in the upstairs bedroom in the early morning to the great surprise of his wife. To follow this momentous event he drove himself to the pub at lunchtime (Sunday, five weeks and four days). The incisions were now virtually completely healed but there was still very considerable bruising of the quadriceps femoris muscles above the incisions (Figure 5).

The patient continued to make steady progress from Day 42 (six weeks). By Day 91 (Figure 6, three months) the scars on the incisions were much reduced and by Day 120 (Figure 7, four months) there were clear indications that the scars would eventually disappear. The prognosis is that life will continue to



Figure 1: Day 8 walking with two crutches.



Figure 2: Day 8 - The state of the incisions showing swelling and sloughed skin.



Figure 3: Day 19 - Sutures still swollen and considerable bruising.

improve but may not become fully "normal" until at least six months have elapsed from the time of the operation.

Discussion

Knee replacement is now one of the most common surgical interventions in the United Kingdom where more than 100,000 operations are performed every year. Most of these operations are considered to be successful in that chronic pain is reduced and mobility is greatly improved over that of the pre-operation period. The degree of improvement depends, however, on the post-operational activities of the person on whom the operation has been performed. Regular prescribed activities to strengthen



Figure 4: Day 29 - Continued raised sutures and widespread bruises.



Figure 5: Day 37 - Sutures healing nicely but continued limited swelling and bruising.



Figure 6: Day 91 - Sutures regressing and little evidence of bruising.



Figure 7: Day 120 - Sutures further regressing and complete recovery from bruising.

muscles are provided by professional physiotherapists. Adherence to a regular schedule of activities hastens the recovery process and the degree of return to “normal”.

In the case of the current patient, recovery to that norm appears to be well on the way and there are no indications that full recovery will not take place over a relatively short time frame.

Declarations

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