INTERNAL FIXATION OF THE FRAGMENT OF OSTEOCHONDritis DISSEcANS IN THE HIP USING BONE TRANSPLANTS

A REPORT OF TWO CASES

T. SAM LINDHOLM. KALEVI ÖSTERMAN

From the Orthopaedic Hospital of the Invalid Foundation, Helsinki

Two patients with osteochondritis dissecans of the hip were operated on and their case histories are presented. The relatively large foci were situated on the weight-bearing surface of the joint and the fragments were fixed using transplants of cortical bone. In both cases the focus healed, and the symptoms were relieved. At follow-up six and nine years later respectively, the clinical results were good and no signs of osteoarthritis had as yet developed.

Osteochondritis dissecans of the hip is uncommon and reported results of treatment relate to small series with short follow-up. In 1949 Flashman and Ghormley reported 21 of their own cases and reviewed another 21 cases from the literature. In 1957 Guilleminet and Barbier presented eight new patients. Some other case reports have also been presented (King and Richards 1940).

In this paper we report two of our own cases, where the fragments were fixed with bone transplants. As far as we know, this method, which has given good results in the treatment of the disease in the knee, has not been used in the treatment of osteochondritis dissecans of the hip (Lindholm, Pylkkänen and Österman 1977).

CASE HISTORIES

Case 1. A 20-year-old man was sent to the hospital because of pain and locking of the right hip over a period of two and a half years. Clinically a slight limp was observed. Flexion movements of the hip were slightly restricted (0–110 degrees), medial rotation was 15 degrees less than in the left hip, and abduction and adduction were normal. There was no systemic disease nor history of injury. Radiologically a large focus of osteochondritis dissecans was observed in the femoral head, covering a considerable part of the weight-bearing surface (Fig. 1).

In December 1969 the hip was operated on and the focus exposed. The surface of the articular cartilage was intact. The fragment was fixed to its bed by drilling two holes through the articular surface and putting cortical bone pegs through the holes to secure the fragment (Fig. 2). Full weight-bearing was allowed three months after operation. The fragment was united to its bed in six months, and subjective symptoms gradually disappeared.

T. S. Lindholm, MD, Department of Orthopaedic Surgery, K 54, Huddinge University Hospital, S-141 86 Huddinge, Sweden. K. Österman, MD, Orthopaedic Hospital of the Invalid Foundation, Tenholantie 10, SF-00280 Helsinki 28, Finland.

Requests for reprints should be sent to Dr T. S. Lindholm.

Fig. 1

Fig. 2

Fig. 3

Figure 1—Radiograph of a 20-year-old man with a large fragment of osteochondritis dissecans on the weight-bearing surface of the right hip. Figure 2—One month after fixation with cortical bone grafts introduced through the articular surface. Figure 3—Nine years later when the articular surface is slightly rough but without evident osteoarthritic changes.
At follow-up examination in 1978 the patient was almost free of symptoms. He was able to ski 10 kilometres and to run one kilometre; he had occasional slight pain after heavy exercise but did not limp. Extension, flexion, abduction and adduction of the hip were normal; medial rotation of the hip was 15 degrees less than on the left side. Radiologically the surface of the joint was slightly rough, but the fragment was well remodelled and attached to the surrounding bone (Fig. 3).

Case 2. A 16-year-old boy presented with a history of limping and mild pain for two years. There was no injury nor disease. A localised lesion was observed in the radiograph of the right hip, and the patient was treated by avoidance of weight-bearing for about one year until the osteochondritis dissecans was established. In October 1972 the hip was operated on. The lesion consisted of an area of 1.5×1.5 centimetres with a tear 0.5 centimetre long in the cartilage that was otherwise normal. The focus was drilled from the metaphyseal side of the femoral head and the drill holes were filled with cancellous and cortical bone grafts so that the cartilaginous surface remained intact. Weight-bearing was allowed after 12 weeks.

At follow-up in 1978 the patient was free of symptoms, could walk 20 kilometres and, clinically, the movements of the hip were normal. One centimetre of wasting was measured in the right thigh and a slight pain was noted in maximal abduction. Radiologically the main portion of the bony nucleus of the lesion was observed to be attached to the surrounding bone, but, in a more central part of the femoral head, a defect had developed. In addition three small loose fragments were seen in the joint. No signs of osteoarthritis were present (Figs 4 and 5).

![Fig. 4](image1)

![Fig. 5](image2)

The follow-up results six years after fixation of the osteochondritic fragment with transplants of cancellous and cortical bone introduced through bore holes in the metaphysis. The fragment has united to the femoral head, but a central defect has developed (Fig. 4) and small loose bodies are seen in the joint (Fig. 5).

DISCUSSION

The symptoms of osteochondritis dissecans in the hip are the common complaints of joint disease. Pain on movement is almost always present. Other symptoms are limping, difficulty in weight-bearing and walking, restriction of movements and muscle wasting. The patients usually are somewhat older than those who have osteochondritis dissecans in other joints. Both hips are involved in about five per cent of the patients follow-up are lacking (Flashman and Ghormley 1949; Guilleminet and Barbier 1957; Lampe 1957; Smillie 1960; Tachdjian 1972).

The treatment is usually conservative if the patient has only mild symptoms. Various operative methods have been recommended if the symptoms are more prominent and disturb the patient's everyday life. Usually a simple removal of the loose fragment is advised. One case is recorded in which the fragment was fixed with Smillie's pins, but the results of long-term
ans of the knee, fixation of the fragment with bone pegs has had promising results (Teipner and Sargent 1968; Lindholm et al. 1977; Österman and Lindholm 1977). The use of this technique in the treatment of osteochondritis dissecans of the hip is justified if the fragment is relatively large and consists of a part of the weight-bearing surface. The operation is not advised when osteoarthritic changes in the joint are evident.

REFERENCES