OSTEOCHONDRITIS DISSECANS IN THREE MEMBERS OF ONE FAMILY

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Osteochondritis dissecans affecting a single joint is relatively common. Multiple lesions are less common and the occurrence of osteochondritis dissecans in several members of a family is sufficiently rare to warrant description.

Wagoner and Cohn (1931) described osteochondritis dissecans of the knee in the son, father and paternal uncle of one family and in both knees of two brothers. Bernstein (1925) recorded bilateral affection of the knee in two sisters and a brother, and Novotny (1952) reported osteochondritis of one knee in each of two brothers.

The following report refers to a family of three boys and a girl, of whom two of the brothers and the sister were affected.

Case 1—This first patient, a boy aged nineteen years when first seen, complained of a limp, pain, and swelling of the left knee of several years' duration, particularly troublesome during the last six months. There was no history of injury. On examination, an effusion was present in the left knee and there was a block to full flexion and to full extension of the joint. Radiographs showed osteochondritis dissecans of the medial femoral condyles of both knees, prominent tibial spines and early osteoarthritic lipping (Fig. 1). The radiographs of other joints were normal. The left knee was explored and a large defect was found on the weight-bearing surface of the medial femoral condyle. A fragment of cartilage measuring 3.6 × 2.4 centimetres and comprising most of the articular surface of the medial condyle of the femur was almost completely separated from the underlying bone (Fig. 2). The fragment was
Case 2. Figure 3—Area of osteochondritis dissecans in medial femoral condyle. Figure 4—Fragment of articular cartilage removed from left knee.

Case 3. Figure 5—Areas of osteochondritis dissecans in right medial femoral condyle. Figure 6—Similar lesion in left medial femoral condyle.
removed, leaving a deep crater, the edges of which were smoothed off. No other lesion was noted. When last seen a year and a half later he complained of occasional pain in both knees. In neither joint was there an effusion nor a block to full extension. The right knee could be flexed to 65 degrees and the left to 70 degrees.

Case 2—The girl, two years younger than the first patient, was also aged nineteen years when she was first seen. She gave a history of recurrent pain in the left knee accompanied by occasional locking of the joint of five years’ duration. Symptoms began when the knee locked while she was doing a high jump. Radiographs taken in another hospital showed osteochondritis dissecans in the left medial femoral condyle. Operation was not advised. At the time of first examination there were no physical signs apart from a soft click on extending the knee from a fully flexed position. Radiographs (Fig. 3) confirmed the presence of osteochondritis dissecans. Other joints were normal. The left knee was explored, and an oval area of osteochondritis dissecans measuring 1.6 × 1.2 centimetres was seen on the lateral aspect of the medial femoral condyle (Fig. 4). The cartilage was almost free of the underlying bone, a few filmy bands of soft tissue holding it in its bed, from which it could easily be tilted. The fragment was removed. On the weight-bearing surface of the lateral femoral condyle there was a flattened area of articular cartilage measuring 2.2 × 1.7 centimetres which had lost its normal sheen and was clearly demarcated from the surrounding cartilage; although there was no actual separation from the underlying bone or indentation on pressure it seemed likely that the fragment would ultimately become detached. No other abnormality was noted. When she was last seen a year and a half after operation there was a full range of painless movement in the knee joint. There was no radiographic evidence of separation of the diseased cartilage in the lateral condyle.

Case 3—This patient, a younger brother of the other two, was aged eighteen years when first seen. He gave a history of occasional discomfort in the left knee over several years. Clinical examination was negative but radiographs showed bilateral osteochondritis dissecans of the medial femoral condyles (Figs. 5 and 6). No abnormality was noted in any other joint.

Examination of other relatives—The third brother was a mental defective but he nor the father and mother who were examined and radiographed showed any evidence of osteochondritis or loose body in any joint. So far as was known the paternal and maternal grandparents had no joint trouble. There was no blood relationship between the parents.

Comment—The etiology of osteochondritis is unknown. It seems, however, from the cases described and from those of Bernstein, of Novotny, and of Wagoner and Cohn that there is in some cases a familial factor.

SUMMARY

Three cases of osteochondritis dissecans of the knee in two brothers and a sister are described. In the brothers both knees were involved. None of the other joints of the skeleton was affected in any of the patients.

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REFERENCES


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