OSTEOCHONDRITIS DISSECSANS FOLLOWING CONGENITAL DISLOCATION OF THE HIP

Report of a Case

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Osteochondritis dissecans of the hip is rather uncommon. Osteochondritis dissecans following congenital dislocation of the hip is extremely rare: so far as could be ascertained, only one such case has been reported (Pantazopoulos, Matzoukas, Gavras, Nikiforidis and Hartofilakidis-Garofalidis 1972).

This report concerns another instance in which osteochondritis dissecans appeared in the wake of osteochondritic changes which developed after treatment of congenital dislocation of the hip.

CASE REPORT

A girl aged one and a half years was admitted to our department on April 2, 1964, because of congenital dislocation of the left hip.

The condition had been diagnosed at the age of six months, and treatment by splint and later by plaster was given, elsewhere, for a total period of six months, but the dislocation could not be reduced.

On admission, the child was walking with a slight limp. There was limitation of abduction but otherwise all movements of the hip were free. Radiographs showed dislocation of the left hip and a small ossific nucleus of the femoral head (Fig. 1).

Open reduction of the dislocation was performed on April 5, 1964. A piece of cortical bone from the bank was inserted into the ilium above the acetabulum to serve as a shelf (Fig. 2). The left lower limb was immobilised in full medial rotation in a spica, and six weeks later a supracondylar derotation osteotomy was done to restore normal alignment of the limb. Immobilisation was continued for another six weeks, after which time the child was allowed gradually to resume normal activity. She recovered normal movements at the hip and normal walking ability within a few weeks.

Radiographs six months after operation showed good position of the head inside the acetabulum and the bone graft undergoing remodelling and resorption. The ossific nucleus
FIG. 2
Radiograph after operation: dislocation reduced and shelf constructed.

FIG. 3
At the age of 2 years, six months after operation: the bone graft is undergoing resorption and remodelling; the ossific nucleus of the femoral head has grown in size but the bone structure is uneven.

FIG. 4
At the age of 3 years: the ossific nucleus of the head is barely visible and the bone structure is quite irregular.

FIG. 5
At the age of 4 years: the epiphysis of the head is flattened and its outline is irregular, particularly in the supero-medial part.
At the age of 5 years: the epiphysis has remodelled but there is an irregular area of density in its middle.

At the age of 8 years: there is a clearly defined sequestrum at the superomedial part of the head.

At the age of 9 years: no appreciable change from the appearances in the previous radiograph.

At the age of 11 years: no change is evident.
had grown in size but its structure was uneven (Fig. 3). Further radiographs at the age of three years showed that the previously shallow acetabulum was deepening. The ossific nucleus was barely visible and its structure was irregular (Fig. 4). A year later, when the child was four, the acetabulum was still deeper, covering the femoral head. The femoral epiphysis was flattened and its outline was irregular, particularly in the supero-medial part (Fig. 5). At the age of five years the epiphysis, somewhat flattened, was well seated in a round acetabulum. It had grown in size and had acquired a normal outline. The bony structure was still irregular, with a slight increase of density in the centre of the epiphysis (Fig. 6).

The girl did not return until she was eight years of age. At that time all movements of the hip were normal but there was shortening of the left leg by two centimetres. Radiographs showed good congruity between the femoral head and the acetabulum. The epiphysis was slightly flattened and a sequestrum could be discerned in its supero-medial part (Fig. 7). This typical aspect of osteochondritis dissecans was seen, unchanged, at the age of nine years (Fig. 8) and at the last examination in January 1973 at the age of eleven years (Fig. 9). At this time the patient complained of slight intermittent pain, particularly after exertion, but there were no episodes of “catching” of the hip.

DISCUSSION

Despite the absence of radiographs between the ages of five and eight years, the evolution in this case implies the existence of a sequential link between the osteochondritic changes which followed reduction of the dislocation and the osteochondritis dissecans. Such a link may also have existed in the other reported case (Pantazopoulos and colleagues 1972). In that case osteochondritis of the femoral head is said to have been evident nine months after closed reduction performed at the age of one and a half years.

Osteochondritis dissecans is known to occur, rarely, after Perthes’ disease (Ratliff 1956, Stillman 1966, Ratliff 1967, Pantazopoulos and colleagues 1972). The process is similar to, though not identical with, the osteochondritic changes following reduction of congenital dislocation of the hip. It may be of interest that in one of these patients there was a localised area of dense sclerosis in the femoral head by the end of the healing process, at the age of ten years, and eighteen years later there was a clearly outlined area of osteochondritis dissecans (Ratliff 1956, Figs. 11 and 12), an occurrence similar to that in our patient.

By analogy with the osteochondritis dissecans which follows Perthes’ disease it is permissible to admit the opinion of Ratliff (1956) and to think that a localised segment of the femoral epiphysis permanently lost its blood supply in the protracted evolution of the necrotic changes which followed reduction of the dislocation and thus produced the typical appearance of osteochondritis dissecans.

No treatment is needed in asymptomatic osteochondritis dissecans of the hip, which can remain unchanged for many years (Ratliff 1967). In the patient reported by Pantazopoulos and colleagues the osteochondritic fragment was excised because of repeated painful locking.

SUMMARY

1. A case of osteochondritis dissecans of the hip in a young girl who at the age of one and a half years underwent open reduction of congenital dislocation of the hip, is reported.
2. The possible relationship between this condition and the osteochondritic changes which followed the reduction is discussed.

REFERENCES


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