

Massive discoid medial meniscus

A case report

Only eight cases of massive discoid meniscus have previously been published in the English literature. Our case had a tear and was diagnosed by arthroscopy.

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Discoid meniscus was first described by Young (1889). Watson-Jones (1930) and Basmajian (1952) reported two cases of a ring-shaped medial meniscus, but these were probably cases of normal medial meniscus with bucket-handle tear. The first true discoid medial meniscus was reported by Cave & Staples (1941) and, since then, only 31 cases have been reported. This case, the ninth of the massive variety, was diagnosed at arthroscopy.

Case report

A 42-year-old woman, with recurrent pain at the medial side of her right knee for 1 year, was first seen in June, 1984. Pain was aggravated by climbing stairs and by squatting, but there was no history of locking or effusion. The right knee had a normal range of motion with pain at the last 10° of flexion. There was tenderness over the medial joint-line and the McMurray's test was positive. The radiographs of the knee were normal. Arthroscopy revealed a discoid medial meniscus (Figure 1) with a vertical tear.

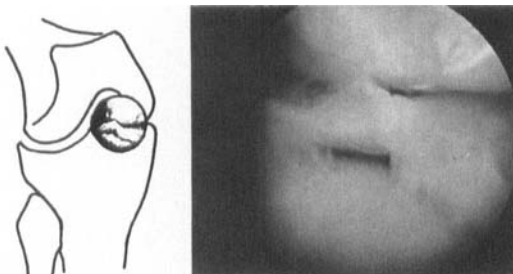


Figure 1. Arthroscopy. Discoid medial meniscus with a vertical tear.

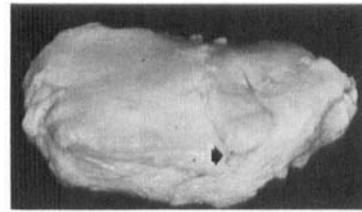


Figure 2.
Discoid medial meniscus.
Horizontal tear
Natural size.

An arthrotomy with medial meniscectomy followed immediately.

The meniscus measured 46 and 28 mm at its maximum length and width, and it was 12 mm thick at its peripheral margin and 5 mm in the centre. A peripheral vertical tear was located on the superior surface. The examination of the inferior surface also revealed two horizontal cleavage tears, not seen by arthroscopy (Figure 2).

Discussion

Discoid medial meniscus is very rare with an incidence of 0.06 to 0.3 per cent (Smillie 1948, Jeannopoulos 1950, Nathan & Cole 1969, Dickason et al. 1982). Smillie (1948) described three types of discoid meniscus: 1) primitive, 2) intermediate, and 3) infantile, suggesting that discoid cartilage is due to the persistence of a normal foetal state. Kaplan (1957) reported that a disc-shaped fibrocartilage is never present in the foetal development. Ross et al. (1958) also showed that cartilage of 10-week-old embryos is almost adult in form. The massive (primitive) meniscus is a disc-shaped fibrocartilage filling the whole joint space. The size varies within wide limits but the free margin is

usually thick. The intermediate disc resembles the massive type of discoid meniscus, but it is less complete and much thinner in the centre. The analogous (infantile) type approaches the normal meniscus, differing only in the increased width of the middle segment. Our case was a massive type, of which only eight have been described previously.

Horizontal cleavage tears are not uncommon in discoid meniscus. Eight of the nine recorded cases of massive medial meniscus showed horizontal cleavage tears.

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