

Partial excision of discoid meniscus

Arthroscopic operation of 10 patients

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10 patients underwent arthroscopic removal of the central and torn portions of the lateral discoid meniscus, leaving a semilunar-shaped peripheral portion. All but one of the knees were asymptomatic at follow-up.

A symptomatic discoid meniscus is usually excised in toto. We report our experience with arthroscopic excision of the central portion of the discus leaving a close-to-normal semilunar cartilage.

Patients and methods

From 1978 to 1984, 10 patients, each with a discoid lateral meniscus, were treated with arthroscopic partial excision (Table 1).

All of them had recurrent pain, decreased active flexion, and periodic locking, and half of them also reported buckling. Five patients recalled trauma of the knee sustained in athletic activity. All 10 patients were thought to have a torn lateral semilunar cartilage until the discoid meniscus was arthroscopically visualized.

The technique of arthroscopic partial excision was described by Patel (1985). Seven of the 10 discoid menisci were torn. Three of the tears were horizontal. One was a parrot-peak and another was a bucket-handle tear. Two menisci had complex tears. Other associated findings included three knees with medial plicae, one with a torn medial meniscus, and one with a partially torn anterior cruciate ligament.

The transformation of discoid meniscus into a semilunar structure involved two steps. The first was to remove the central portion of the discoid meniscus by morcelization employing right- and left-angle basket forceps and arthroscopic scissors through inferomedial and inferolateral portals as necessary. A separate large diameter outflow was usually required, and was provided by a cannula inserted superomedially. This aided visualization by removing debris as it was produced. The second step was to taper the remaining rim of meniscus in order to allow a more uniform distribution of forces between the tibia and femur. This was performed with the motorized shaver.

Cleansing of the knee included visualization of the popliteal hiatus, where fragments tended to settle.

All the patients were discharged to their homes within a few hours of surgery with an elastic bandage around the knee. They were allowed full weight bearing, and they were asked to perform active knee flexion and extension exercises without resistance.

Results

There were no intraoperative or postoperative complications (Table 1). The operative time was 55 (45–70) minutes. At 2.5 (0.5–6) years, 9 patients were asymptomatic with a full range of motion and total resolution of their preoperative symptoms. One patient had mild lateral joint-line tenderness on exertion, with which he was satisfied; he desired no further intervention.

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Table 1. Patient material with the arthroscopic findings and the follow-up

Case	Sex	Age	Side	History of injury	Tear	Other arthroscopic findings	Follow-up time ^a (years)
1	F	28	L	+	Horizontal	Suprapatellar plica	2
2	F	22	L	-	Parrot-peak	Medial plica	1.5
3	F	21	R	-		Torn medial meniscus	1
4	M	18	R	+	Horizontal	-	5
5	M	15	R	+	Bucket-handle	Stretched ACL	1
6	M	17	L	+		Medial plica	6
	F	24	L	-		Osteochondral fragment medial femoral condyle	2
8	F	20	L	+	Long and radial	Partial tear ACL	0.5
9	F	14	R	-	Multiple	-	4
10	F	19	R	-	Horizontal	-	2

^a All the patients except Case 5 were asymptomatic at follow-up.

Discussion

The arthroscopic treatment of the discoid meniscus is believed to be difficult. Ikeuchi (1982) reported a series of 49 lateral discoid menisci, 9 of which were treated by partial arthroscopic excision with unsatisfactory results. Total meniscectomy, on the other hand, may cause an unbalanced load of the joint surfaces with reduction of the contact areas between the femur and the tibia (Maquet 1975). Better results from partial meniscectomy in adults were reported by McGinty (1977) and Iseki and Fujikawa (1978).

Of our 10 patients, 3 had the discoid lateral meniscus partially excised and saucerized, even though they had no tears. These patients became asymptomatic, although no treatment was given for the associated insignificant pathology of the medial knee compartment.

We recommend treatment of a symptomatic lateral discoid meniscus by arthroscopic partial excision, saucerization, and balancing the remaining central edge of the meniscus.

References

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