Results of meniscal surgery of the knee

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Summary

From 1988 to 1990, eighty operations on eighty knees of seventy-nine patients with a clinical diagnosis of meniscal tear was entered into a prospective study. The clinical diagnosis was correct in 76% of patients. Excellent or good results were achieved in 90% of knees which had only meniscal lesions but dropped to 70.5% when other intraarticular pathologies coexisted with the meniscal lesions. Excellent or good results were achieved in 71% of the knees in the presence of Anterior Cruciate Ligament (ACL) deficiency.

Key words: Meniscal Surgery – Coexisting Pathology – Anterior Cruciate Ligament Deficiency.

Introduction

Result of meniscal surgery is good when the cause of the symptoms is attributed to the torn meniscus.[1,2] Presence of other pathologies in the knee in addition to the meniscal tear can complicate the clinical diagnosis and affect the result. This paper aims to study the result of meniscal surgery in patients with isolated tear of the meniscus and compare this result with those obtained in the presence of other coexisting intraarticular pathologies.

Materials and Methods

From 1988 to 1990, all patients diagnosed to have meniscal lesions of the knees by the author in the Institute of Orthopaedics and Traumatology, General Hospital Kuala Lumpur were entered into a prospective study. Those who did not turn up for surgery were excluded from the study. In all the patients, the suspected meniscal lesions were thought to be the main cause of the patients' symptoms. All patients were operated by the author. Arthroscopic examination with routine probing was done under general, regional or occasionally local anaesthesia. Meniscal resection or repair was done depending on the nature of the tear. In the presence of chondromalacia changes, the knees were routinely debrided arthroscopically. Any loose bodies found during surgery were removed. However, in the presence of ACL deficiency, ACL reconstruction was not done at the same sitting.

Results were obtained during follow-up of the patients. When maximal attainable results were achieved, the patients were discharged from follow-up. This accounted for the short follow-up of a few patients in this study. For patients who defaulted follow up, results were obtained through telephone interviews and questionnaires posted to the patients. Four grades of activities classified according to Tapper and Hoover were designed into the questionnaires. The patients were asked to tick his appropriate level of activities at the time of answering the questionnaires. For those patients contactable by telephones, interviews were conducted to obtain the level of activities and any post-operative complications. All results were then graded into Excellent, Good, Fair or Poor according to Tapper and Hoover.[3]

Results

There were seventy-nine patients, seventy-three males and six females. Eighty knees were subjected to arthroscopic examination and surgery. One patient had a retear of the medial meniscus three months after an open repair. He required a subsequent arthroscopic resection. His initial result of the first operation was excluded from the study. This brought the total number of operations under study to eighty.

The ages of the patients ranged from six to 44 years. The follow-up ranged from one month to twenty-nine months with an average of 9.3 months.

Meniscal tear was found in sixty-one knees (76%). Of the remaining nineteen knees (24%), fourteen had other pathologies and only five were arthroscopically normal.

Medial meniscus tear was found in twenty-eight patients (46%) and tear of the lateral meniscus in twenty-seven (44%). Three (5%) patients had tear of discoid lateral meniscus. This included a six year old boy. Three (5%) patients had tear of both menisci. Isolated meniscal lesions occurred in twenty-three knees (38%). The remaining thirty-eight knees (62%) had other additional pathologies. Majority of coexisting pathologies were ACL tear, either partial or complete. (Table I)

Table I:
Types of Intraarticular Pathologies Found in addition to Meniscal Tear

Pathology	Number of Knees
ACL Tear	19
Osteoarthritis	4
Chondromalacia Patellae	3
Synovitis	3
Hypertrophic Fat Pad	1
Ganglion	1
Multiple +	7
Total	38

+ Inclusive five patients with ACL tear.

Out of the sixty-one meniscal operations performed, thirty-six (59%) were arthroscopic partial resections, sixteen (26%) were open partial resections, eight (13%) were arthroscopic repairs and one (2%) was open repair.

The overall result for the whole group with meniscal tear were excellent in fifteen knees, good in twenty-eight knees, fair in nine knees and poor in three knees. Six patients could not be traced. Two of the poor results were due to subsequent ACL reconstruction for knee instability. The last poor result was from an army personnel obtained through questionnaire. For those patients whom no meniscal tear was found, the result was excellent in eight knees, good in four knees and fair in four knees. Three patients were lost in the follow-up and could not be reached. (Table II)

Table II
Results of Operations in Patients with and without Meniscal Lesion

Pathology	Number of Operations (Percentage)*					
	Excellent	Good	Fair	Poor	Defaulted	Total
Meniscal Tear	15 (27)	28 (51)	9 (16)	3 (7)	6	61
Normal Menisci	8 (50)	4 (25)	4 (25)	0 (0)	3	19

** Defaulted patients were excluded from percentage calculation.*

In those patients whom meniscal lesion was the only intraarticular pathology, eight had excellent result, eleven had good result, two had fair result and there was no poor result. Two patients could not be trace. When additional pathologies were found together with the meniscal tear, seven patients were graded as excellent, seventeen good, seven fair and three poor. Four patients could not be reached. In those knees where ACL was torn in addition to the meniscal tear, four patients had excellent result, eleven had good result, four had fair and two had poor results. Three patients could not be traced. (Table III)

Table III
Results of Operations in Patients with isolated meniscal lesion and Patients with additional pathologies

Pathology	Number of Operations (Percentage)*					
	Excellent	Good	Fair	Poor	Defaulted	Total
Meniscal Lesion only	8 (38)	11 (52)	2 (10)	0 (0)	2	23
All Additional Pathologies	7 (20.5)	17 (50)	7 (20.5)	3 (9)	4	38
Additional ACL Tear	4 (19)	11 (52)	4 (19)	2 (19)	3	24

Using the χ^2 test to compare the results of operations in those patients with isolated meniscal lesion with the group of patients with additional pathologies, the difference was found to be statistically not significant ($p>0.05$). This is also the same when the results of operations in those patients with isolated meniscal lesion were compared to those patients with additional ACL tear.

Complications

Ten patients had postoperative knee effusion. Most of them occurred in the early postoperative days. No deep infection was recorded but there was one patient with superficial portal infection. One patient complained of hypoaesthesia of the medial side of the incision after an open menisectomy. One patient complained of occasional click after a meniscal repair.

Discussion

With the advent of arthroscope, arthroscopic partial menisectomy is now preferred over open total menisectomy.[4,5] The results of partial menisectomy is generally good. In this series, an overall excellent or good results of 77% was achieved.

A variety of conditions can give rise to knee symptoms. In the presence of other coexisting pathologies, symptoms may not be due solely to the meniscal lesion. This study demonstrates that when meniscal lesion is the only pathology found, the percentage of excellent and good results is high (90%). Certain types of meniscal tear may not be clinically significant.[6] This would explain why some patients with isolated meniscal tear without other intraarticular pathologies do not do well after the meniscal surgery. Other pathologies such as an anterior cruciate deficiency, osteoarthritis, chondromalacia patellae etc. may contribute to the symptoms of the patient. Results would then be less favourable even after the meniscal lesions have been appropriately dealth with. This is shown by the reduction of the proportion of excellent and good results to 71% when there are coexisting pathologies present in the knee.

The need to reconstruct the anterior cruciate ligament during meniscal surgery is still unsettled.[7] In the group of patients with coexisting ACL deficiency, the result is slightly inferior to the overall result. Although two patients required ACL reconstruction after meniscal resection for troublesome instability, other patients including one professional footballer continue to participate actively in their sports despite the ACL deficiency. It is still unclear from this study which type of patients will require primary ACL reconstruction during the meniscal surgery. The tendency is to reconstruct the ACL in those patients whose primary complaint is troublesome knee instability. Those patients in whom meniscal repair is contemplated should also be considered for primary ACL reconstruction because of the high incidence of retear.[8] ACL deficient knee may continue to function well in the short run. However, the long term prognosis is less favourable.[9] Success of ACL reconstruction requires good motivation and active participation of the patients in the year-long post-operative rehabilitation programme. It is in this aspect that certain patients are not suitable for reconstruction who are otherwise clinically indicated.

Conclusion

The overall results for patients undergoing meniscal surgery is generally good. The result is better when meniscal lesion is the only intraarticular pathology. It is less favourable in the presence of other coexisting pathologies. ACL deficient knee also has an inferior result compared to the overall group. The need for primary reconstruction is still not clear.

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