Arthroscopic partial meniscectoy(Short term clinical result)

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الخلاصة

تمت دراسة حالة ثلاثون مريض يعانون من تمزق الغضروف الهلالي للمفصل الركبة،للفترة من 2009-2010 بعد إكمال الفحص ألسريري، و فحص الرنين المغناطيسي للركبة للتأكد من الإصابة ، تم القيام بعملية استئصال للجزء المصاب من الغضروف بواسطة ناظور الركبة.بعد إكمال العملية تمت متابعة حالة المرضى لفترة ثلاثة أشهر للتأكد من نتائج العملية . من خلال المتابعة القصيرة الأمد ،كانت النتائج جيدة بنسبة كبيرة.

Abstract

A Prospective clinical study , done in the orthopedic department of Aldiwanyia teaching hospital in the last year after introduction of arthroscopy in our hospital, including 30 patients with isolated traumatic meniscus injury , all of them are male, mean age was (27.5)year. All patients were under clinical assessment and MRI examination prior to the surgery to exclude other intra-articular lesion (cruciate ligaments injury or cartilage damage).

Surgery done for them, which including diagnostic arthroscopy to confirm the diagnosis and then, partial arthroscopic meniscectomy done(19 patients, medial partial meniscectomy. 11 patients, lateral partial meniscectomy).

Each knee was classified 3 months after surgery as excellent, good, fair and poor result using criteria based on Hoover classification. There were 16 patients with excellent result (53.3%), 8 patients with good result(26.6%), 3 patients with fair result (10%),and 3 patients with poor result(1o%).

From overall results, we conclude that, that, our arthroscopic partial meniscectomy gives comparable results with the same surgery done outside our country, on short term follow up.

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Introduction

The meniscus acts as a shock absorber in distributing the forces of weight bearing on the joint surface. It also helps to provides a lubricating effect on the knee joint, providing some degree of stability and essential for normal biomechanics of the knee.(1,2).

Meniscus injury is a common injury among knee joint pathology, its common in general population with estimated frequency of 61 per 100,000. Although different etiologies, converge into the same symptomatology ,clinical manifestation and treatment.(3,4).

Since introduction of the therapeutic arthroscopy, by Oconnor, arthroscopic partial meniscectomy or meniscal repair become the treatment of choice of the meniscus tear whenever possible, which allows some preservation of normal meniscal function to avoid or reduce the risk of osteoarthritis that might develop after total meniscectomy. The major disadvantage of closed meniscus surgery is its technical difficulty while being learnt.(5,6,7).

In our locality , arthroscopy introduce in the 2009, since that time we started to perform diagnostic arthroscopy and gradually move to do arthroscopic meniscectomy. So the aim of this study is to evaluate our early results after arthroscopic partial meniscectomy, in order to improve our learning curve.

Patients and methods

During the period from April 2009 to August 2010, arthroscopic partial meniscectomy were performed at the orthopedic department of Aldiwaniyia teaching hospital.

The procedures was performed in thirty (30) male patients with isolated traumatic meniscus injury, there age was range from 20-35 years old (average 27.5year).preoperative diagnosis was made by clinical examination confirm them by MRI examination of the knee. Patients with complex knee injury(ligamentous injury or cartilage damage in addition to meniscus injury were excluded from study.

Operative procedures

Surgery done under general anesthesia in all patients except one patient we did it under regional anesthesia (spinal), mid-thigh Esmarch tourniquet was used in all patients.

We used the classical anterio-lateral port of entry for introduction of the scope to the knee and anterio-medial port for introduction of the probe and operating instruments (grasper and punch).
Diagnostic arthroscopic exanimation of the knee was done firstly to confirm the diagnosis and exclude other injuries, then proceed to do arthroscopic excision of the injured part of the meniscus and smoothing the edge of the meniscus by shaver.
After completion of surgery, irrigation of the knee joint by normal saline fluid to bring the debris of meniscus outside the joint.
We didn't closed the port of entry to the knee and we used Robert Jones dressing for the knee.
Postoperative regime
1- Elevate d the leg (ankle joint higher than hip joint)for 24 h. postoperatively.
2-Usually patient leave the hospital at the first day postoperatively.
3-Use of crutches for 1-2 days postoperatively.
4- Encourage Quadriceps exercise from the start and knee flexion once the patient can do that.
Our follow up of the patients continue as monthly visit for 3 months after surgery.

Results

All of our patients are male patient, there mean age was 27.5 years(20-35).Table(1).
All of them are injured due to the sport which is football injury, right knee injured in 17 patients, left knee in 13 patients. Pain at the joint line and Tenderness are the most common presenting symptom, followed by recurrent attack of locking of the knee during sport activity, only 3 patients presented to us with acute locked knee(10%).Table(2).
Medial meniscus injury more than lateral one was found in 19 patients(63.3%), while lateral meniscus injury in 11 patients (36.6%). Posterior horn tear of the meniscus is the commonest seen in 14 patients. Table(3).

We asses our postoperative results after 3 months of the surgery according to Hoover classification ,into excellent, good, fair and poor. Table(4).(8).

Excellent results was seen in 16 patients(53.3%), good results in 8 patients(26.6%), fair results in 3 patients(10%), and poor result in 3 patients(10%).Table(5).

The results were better in patients with signs and symptoms of less than 6 months prior to surgery than those patients complaining more than 6 months. Fair- poor results seen mainly in patients with bucked handle injury to the meniscus.

Table (1). Age of the patients.

Age	number	Percentage
20-25 years	12 patients	40%
26-30 years	1o patients	33.3%
31-35 years	8 patients	26.6%

Table (2). Presenting symptoms.

Presenting symptoms	Number of patients	Percentage
Joint line tenderness	21	70%
Recurrent locking	6	20%
Locked knee	3	10%

Table (3). Type of meniscus injury.

Type of injury	Number of patients	Percentage
medial meniscus	19	63.3%
Bucked handle	5	16.6%
Posterior horn	8	26.6%
Anterior horn	4	13.3%
Complex tear	2	6.6%
Lateral meniscus	11	36.7%
Bucked handle	2	6.6%
Posterior horn	6	20%
Anterior horn	3	10%

Table(4). Hoover classification of the results.

Excellent	Completely normal knee
Good	Knee with minor symptoms but no disability, functional in all activity including the sport with some of aching or swelling afterward.
Fair	Symptomatic knee that prevent sport
Good	Symptomatic knee (aching and swelling) that interfere with daily activity

Table (5). Result

Result	Number of patients	Percentage
Excellent	16	53.3%
Good	8	26.6%
Fair	3	10%
Poor	3	10%

Table(6). Compares of our results with the other results.

STUDY	Total no. of patients	Excellent-good results
Briol Gulman study	128	75.8%
Gilberto luis study	194	92.2%
Martin etal study	116	84.5%
BK Tay study	51	76.5%
Our study	30	80%

Discussion

Advantage of the arthroscopy in diagnosis and treatment of meniscus lesion has been accepted for decade now, since the first meniscus tear to be partially excised under arthroscopic control in Tokyo in 1962.(9,10).

Increasing awareness of importance of the meniscus in the knee joint function and stability has resulted in abundance of the one of common surgical procedure,(complete meniscectomy), in favor of the meniscus preserving surgery (partial meniscectomy, meniscal repair).(11,12).

With advent of arthroscopy and its refinements over the past 10 year, it has become possible for surgeon to inspect the knee joint and allowing them to do meniscus repair and removal of injured part of meniscus, which allow to preserve the function of meniscus which lost with total meniscectomy.(13).

In our locality, we start to do diagnostic arthroscopy of the knee after introduction of arthroscopy in 2009,then we move to do partial meniscectomy, in this study we try to evaluate our initial result of partial meniscectomy done in 30 patients.

All our patients are male, mean age was 27.5 years, with isolated meniscus injury(to avoid the other pathology that might affect on results), Posterior horn injury of the medial meniscus is the commonest injury in our patients, 19 patients, (63.3%) with medial meniscus injury, 8 patients of them (26.6%) with posterior horn injury.

We used Hoover classification to evaluate the result postoperatively because it's simple and easy to apply on our patients.

When we go through the literatures to compare our results with other results that use the same Hoover classification to evaluate the results.

Briol Gulman, reported excellent-good result in 73.8% after partial meniscectomy done in 128 patients operated by him.(14)

Gilberto Luis Camanho et al, reported excellent- good result in 179 patients out of 194 patients(92.2%), with traumatic meniscus injury, poor result in 14 patients (7.73%).(15).

Martin MA etal, reported excellent results in 41.5%, good results in 43%, fair results in 12% and poor results in 3.5%, on short term after partial arthroscopic meniscectomy done in 116 patients.(16).

BK Tay et al,reported excellent-good result in 39 patients out of 51 patients operated by arthroscopic partial meniscectomy,(76.5%).(17)

Fair result in 10 patients (19.6%). Poor result in 2 patients only(3.9%).

We find that, our results is comparable with these results, we reported excellent-good result in 80%, fair-poor result in 20%, although our sample of patients is smaller than other study.

We find fair-poor result in our study , in those patients with signs and symptoms that last more than 6 months, probably because that long term complaint with recurrent attack of locking and effusion might result in chronic irritation of the synovial membrane of the joint, that affect the result.

Also we find that , some of our patients with bucked handle tear of the meniscus, after surgery although there's no more locking of the joint but still complaining, probably because , we fail to remove the posterior part of the of handle completely.

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