

Arthroscopic surgery of the knee

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Diz ekleminin artroskopik cerrahisi

Artroskopi deneyimimiz 1983'de başladı. Vakaların 25'i kadın olan 348 artroskopik girişimimiz oldu. 58'i artrotomiyle tedavi olan ve arka boynuz kova sapı yırtıkları rezeksiyonunda güçlük çektiğimiz 187 menisk lezyonu saptadık. Sonuç olarak artroskopik cerrahi, yeterli diagnostik artroskopi sonrası oluşacak deneyimi gerektirmektedir.

Anahtar kelimeler: Artroskopik cerrahi, menisektomi

Our experience in arthroscopy began in 1983, we made 348 arthroscopic procedures (25 of cases are women). We found 187 meniscal lesions, 58 of them treated by arthrotomy, we had difficulty in resection of bucket handle tears in posterior horn. Consequently surgical arthroscopy needs experience after enough diagnostic arthroscopy.

Key words: Arthroscopic surgery, meniscectomy

Knee has an important functional and aesthetic role in gait biomechanics and it is the main joint for the active continuation of life.

Arthroscopy gains importance as it provides people to go back to their daily activities earlier in diagnosis and treatment of joint pathology as a result of trauma.

It is possible to diagnose and treat degenerative arthritis and to evaluate traumatic cases with arthroscopy. Removal of loose bodies, lateral retinacular release, synovectomy and abrasion arthroplasty are done with arthroscopy. In recent years the common concept of total excision of meniscus by arthrotomy shows changes towards protection of meniscus as much as possible by way of partial resection, suturation of meniscus, meniscus tissue cultures and meniscus transplantation.

Material and method

The application of diagnostic arthroscopy by direct visual observation started in 1983 in Gülhane Military Medical Faculty, Orthopaedics and Traumatology Department. The application of arthroscopy using video camera and monitor started in December 1988. Diagnostic arthroscopy is done according to Watanabe method, surgical arthroscopy is done according to the triangulation technique.

Findings

25 of 348 cases are women (7.19%) and 323 are

men (92.8%). Average age of cases is 28.4 (9-63 yr.) Results of the diagnostic arthroscopy of 348 cases are shown in Table I.

Arthroscopic diagnosis	Number of cases	Percentage of cases
Meniscus pathology	159	45.18%
Osteocondritis dissecans	33	9.37%
Chondromalacia patella	18	5.12%
Pathologic medial plica	4	1.13%
Loose body	17	4.83%
Synovial hypertrophy	3	0.86%
Lateral subluxation of patella	14	3.98%
Foreign body	2	0.56%
Traumatic process of osteochondritis	6	1.70%
Degenerative arthritis	15	4.26%
Rupture of ACL	24	6.80%
Rupture of ACL+PCL	1	0.28%
Intact	28	7.95%
ACL lesions+meniscal pathology	19	5.40%
Synovial hypertrophy+meniscal pathology	9	2.55%
Total	352	100.00%

Table 1: Arthroscopic results of 352 knees in 348 cases

In diagnostic arthroscopy, 124 out of 187 cases are evaluated as medial meniscopathy (5.32%), 63 cases are evaluated as lateral meniscopathy (33.68%). The distribution of 187 meniscopathy according to the tear types and medial lateral position is shown in Table II.

Arthroscopic partial meniscectomy is applied to 129 (36.64%) cases, arthrotomy+meniscectomy are applied to 58 cases (16.49%). From 25 cases with ACL rupture to 2 cases, ACL remnant excision (0.56%), to 6 cases only wash-out (1.70%) are applied.

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Type of tear		Number of cases	Percentage of cases	Number of cases	Percentage of cases	TOTAL
LONGITUDINAL	- Incomplete	2	1%	-	-	2
	- Peripheral detachment	4	2.1%	3	1.6%	7
	- Bucket handle	43	23 %	24	13 %	67
HORIZONTAL CLEAVAGE	- Superior	7	3.8%	8	4.5%	15
	- Inferior	15	8 %	4	2.1%	19
OBLIQUE	- Posterior	6	3.2%	3	1.6%	9
	- Anterior	9	4.8%	2	1 %	11
RADIAL	- Complete	7	3.8%	3	1.6%	10
	-Incomplete	3	1.6%	1	0.5%	4
	- Parrot beak	14	7.6%	9	4.8%	25
DEGENERATIVE	- Normal	10	5.4%	2	1 %	12
	-Cystic	2	1 %	1	0.5%	3
COMPLEX		2	1 %	1	0.5%	3
DISCOID MENISCUS		-	-	2	1 %	2
TOTAL		124	66.3%	63	33.7%	187

Table II

The rest indicated 17 cases (4.83%) ACL reconstruction is applied at second operation. Other operations and applications are shown in Table III.

Performed operation / application	Number of cases	Percentage of cases
Partial meniscectomy	129	36.64 %
Arthrotomy+meniscectomy	58	16.49 %
Lateral capsular release	24	6.83 %
Debridement of cartilage+Drilling	33	9.38 %
Removal of loose body	17	4.83 %
Abrasion arthroplasty	15	4.26 %
Shaving of cartilage	14	3.98 %
Synovectomy+Biopsy	3	0.85 %
Excision of ACL remnant	2	0.56 %
Excision of pathologic medial plica	4	1.13 %
Removal of foreign bodies	2	0.56 %
Wash-out	34	9.66 %
ACL reconstruction at second operation	17	4.83 %
TOTAL	352	100.00 %

Table III

195 cases are included in the retrospective analysis after 3 months in postoperative period. Average follow-up period changes between 3 and 20 months with the average of 14 months. The average Lysholm knee score is found 86.7 (62-100 good and excellent). Tegner Activity Level average is found 5.8 (1-9) before patients have started complaining and the postoperative average is found 5.4 (0-9).

3 months after surgical arthroscopy, bilateral torque deficit measurement is done to 58 out of 195 patients with Cybex II isokinetic measurement device. In 12 patients bilateral torque deficit is found above 10% while in 46 patients it is found below 10%.

The recorded complications in 352 patients: fluid extravasation in 17 patients (4.8%), postoperative effusion 12 patients (3.4%), postoperative haemarthrosis in 3 patients (0.8%), iatrogenic cartilage damage in 6 patients (1.6%), instrument breakage in 1 pati-

ents (0.2%). Arthroscopy is done again 2 patients because they continued their complaints. In the first one, no pathologic finding is observed, in the other one, posterior longitudinal tear is observed in the posterior horn of lateral meniscus as it is thought not to have been seen in the previous arthroscopic examination. According to this, validity rate of our 352 patients is found $351/352=99.71\%$ in arthroscopic diagnosis.

Discussion and results

In our 352 patients, to 58 with meniscus lesion found by diagnostic arthroscopy, meniscectomy is done by arthrotomy. The patient who we decided to apply arthrotomy were the patients who we believed to give damage when we insisted on surgical arthroscopy. Not to give any harm to patient, arthrotomy is done. Especially at the beginning, we had difficulty in resection of bucket handle tears in posterior horn. Arthrotomy is applied as we believed that basket forceps would damage femur condyles.

As a result, surgical arthroscopy needs patience, experience and education. So it should be done by experienced person and surgical arthroscopy shouldn't be done without enough diagnostic arthroscopic experience.

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