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Technique of arthroscopic meniscal surgery

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Artroskopik menisküs cerrahisinin tekniği

Cerrahın tecrübesinin gelişmesi ile birlikte teknik olarak zor olan vakalar da dahil olarak her meniskus lezyonu artroskopik olarak yapılabilir. Subtotal veya total menisektomi nadiren uygulanmalıdır. Yapılan bütün araştırmalar "gerektiği kadar, mümkün olduğunca az" prensibini en seçkin yöntem olarak önermektedir, ayrıca meniskusu kurtarıcı ameliyat yöntemleri de gittikçe kullanılmaya başlanmıştır.

Anahtar Kelimeler: *Menisküs cerrahisi, artroskopi*

In fact all operations for meniscal lesions can be done by arthroscopy and with long lasting experience of the surgeon even operations technically very difficult can be performed. Subtotal and total meniscectomy should be done in single cases only. Related to studies recently done partial resections following the principle "as much as necessary, as little as possible" is still a current method, although the international trend for meniscus saving operations is obvious.

Keywords: *Meniscal surgery, arthroscopy*

Introduction:

The operation most frequently performed in knee joint surgery is the arthroscopic operation of the traumatic and degenerative changed meniscus. The big advantage of arthroscopy is the possibility of inspecting and diagnosing the whole knee joint and even the posterior parts of both menisci more exactly than done by arthrotomy, and that the joint is less traumatized.

Staging of meniscal tears:

1. Traumatic origin

Commonly by non direct trauma to the bent and rotated knee joint, rarely by direct trauma as a tibial head fracture.

2. Degenerative disease

Spontaneous lesions mainly in the fourth and fifth decade

3. Secondarily in instability of the joint

Frequently the lesions of the posterior horn of the menisci are combined with lesions of the ACL. The explanation is that in loosened or ruptured ACL's the posterior horn of the medial meniscus is limiting the rotation, gets therefore elongated and tends to rupture after being continuously under pressure (7, 8, 9, 10, 14, 16).

Arthroscopic operation of the meniscus

Basically one can divide between resecting and meniscus saving procedures. Resections are done mechanically, with motorized instruments like shavers or with electrosurgical equipment. A further method like laser surgery is still under clinical trials.

1. Subtotal or total meniscectomy

In subtotal meniscectomy the basic vascularized zone is saved, whereas in total meniscectomy it is resected. As a main disadvantage meniscectomy leads to arthrotic changes of the knee joint radiologically in 70 %, clinically in more than 20 %.

As you can see for instance after 20 years a one sided arthrosis in 56 % of the patients. Therefore, with a few exceptions, we do no longer perform subtotal or total meniscectomy primarily.

2. Partial meniscectomy

The goal of partial meniscectomy is to save stable part of the meniscus.

Further advantages are:

* less traumatizing
* less bleeding postoperatively
* reduced rate of arthrosis (12).

In dogs Arnoczky even found a remodeling after partial meniscectomies (1).

3. Suturing of meniscal tears

The main indication is the acute isolated longitudinal tear near the basis. Special instruments are necessary for performing the various techniques of meniscus suturing (3, 4, 6, 7, 11, 17, 18, 19).

* outside-in
* inside-out
* all inside (13)

For the reason of neurovascular complications in

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up to 30 % doing the epifascial suturing (5), we tend to prefer the all inside-technique (13). Generally non resorbable suture material is used.

Postoperative management

Under protection of a knee brace limited up to 60° flexion we allow partial weightbearing for the following 6 weeks. Full sports activity is allowed after 6 months.

In indications as mentioned before the sutured lesions will heal in a high percentage. Nevertheless the healing rate is decreasing when there are additional tears of the ligaments and the capsule.

If there is an old ACL-lesion as well, meniscus repair should be done in addition, for the failure of the motion limiting meniscus would probably cause secondary instability (14).

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