

## Arthroscopic treatment of osteochondral lesions of talus

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### **Talusun osteokondral lezyonlarında artroskopik tedavi**

*Semptomatik talus osteokondral lezyonu bulunan, yaşları 22 ile 44 arasında değişen 10 hastaya artroskopik inceleme ve tedavi uygulandı. 4 hastada talus kubbesinin anterolateralinde kırığı ve serbest fragmanı içeren yeni posttravmatik lezyon mevcuttu. Artroskopik tedavi osteokondral fragmanın alınmasından ve talusun debridman ve küretajından ibaretti. 6 hastada kubbenin posteromedial yüzünde nekrozlu kronik lezyon vardı. Bunlar osteokondral lezyonun debridman ve küretajı ile tedavi edildiler. Ayak bileğine anteromedial veya anterolateral yaklaşım kullanıldı. Posterior lezyonda talus kubbesinin posterior yüzüne ayak bileğinin distraksiyonu ve ayağın plantar fleksiyonu ile ulaşılır. Hastaların takip süresi 10 ay ile 2 yıl arasında değişmektedir. Yeni posttravmatik kırığı olan, serbest fragmanın çıkarılması ile tedavi edilen 2 hastada artroskopiden 15 gün sonra ayak bileği hareketleri tırnak, şişme ve ağrı yoktur. Postero-medial osteonekrozu olan vakalarda sonuçlar mükemmeldi. Yalnız 1 vakada orta sonuç alındı. Bu çalışma talusun osteokondral lezyonlarının artroskopik tedavisinin cerrahi tekniklerle aynı sonuçları minimal morbidite, daha kısa süreli hospitalizasyon ve hızlı fonksiyonel iyileşme ile sağladığını göstermektedir.*

**Anahtar kelimeler:** Osteokondrit, talus, artroskopi

*10 patients aged 22 to 44 with symptomatic osteochondral lesions of the talus underwent arthroscopic examination and treatment. 4 patients had recent post-traumatic lesion with fractures located on the anterolateral aspect of the talar dome with free loose fragment. Arthroscopic treatment consisted of the removal of the osteochondral fragment and of the debridement and curettage of the talus. 6 patients had chronic lesions with necrosis on the postero-medial aspect of the dome. These were treated by debridement of the osteochondral lesion and curettage. The antero-medial or the antero-lateral approach to the ankle was used. In posterior lesions, the posterior aspect of the dome of the talus was reached by distracting the ankle and administering plantar flexion of the foot. Follow up ranged from 10 months to 2 years. The 2 patients with recent posttraumatic fracture treated by removal of the loose fragment showed excellent results with full ankle function 15 days after the arthroscopy and without any pain or swelling. The results of the cases with postero-medial osteonecrosis were excellent. Only 1 was poor. This study suggests that arthroscopic treatment of the osteochondral lesions of the talus can yield the same results as surgical techniques with minimal morbidity, brief hospitalisation and rapid functional recovery.*

**Keywords :** Osteochondritis, talus, arthroscopy

During the past few years, the advances in arthroscopic surgery of post-traumatic lesions of the ankle allowed to use this method not only for diagnostic purposes but also for surgical treatment (1). This fact is not surprising, since ankle traumas occur frequently and are common in orthopaedic practice while the diagnosis of the lesions caused to the talocrural joint is often incomplete. Physical examination is based primarily on patient complaints instead of clinical proof furnished by the examination itself. X-rays often fail to supply any information and use of more sophisticated techniques, such as ultrasound, NMR or CAT-scan, may become necessary.

The lesions of the talar cartilage are frequently associated with swelling, recurrent pain, functional disorders such as painful block and pseudo-block and

apparent instability of the talocrural joint.

It is our opinion that this type of mostly subjective symptoms, which are accompanied by specific, but frequently silent, clinical picture, should be treated with arthroscopic surgery (2).

### **Material and method**

At present, talar arthroscopy is not so developed as shoulder or knee joint arthroscopy. However, it plays an important role in the treatment of post-traumatic lesions and can solve a large number of problems confronting the orthopaedic surgeon (3, 4).

This paper is to report our experience in arthroscopic treatment of the talar osteochondral lesions.

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Between August 1987 and December 1990 we performed 32 talar arthroscopies (5). In this paper, we take into consideration 10 cases with symptomatic talar dome lesions. In these cases, treated arthroscopically, the following symptoms were always present: talar pain, "pastiness", intraarticular snaps and crepitation and limited functional capacity.

Four out of 10 patients examined suffered recent traumatic lesions of the talus, while 6 subjects presented chronic lesion of the talar dome cartilage (6). The post-operative follow-up ranged between 10 and 24 months. Result evaluations were based on physical examination and standard 2-projection x-ray photography. Joint functioning was also estimated in relation to the type of physical activity that followed the surgery. The results were graded using the following scores; from 100 (maximum) to 90 points- excellent result, from 90 to 75 good results, from 75 to 50 - fairly good, under 50- bad results; the points of the score were attributed as follows: 50 points for stability, with no risk of instability, 20 points for motility and 30 points for functional capacity, i. e. the limitation of movement, pain tumefaction.

### Surgical procedure

The procedure is always performed under general, spinal or epidural anesthesia; the patient is supine; traction is exerted on the talus by means of Kirschner's threaded wire: this manouvre helps to dilate the joint, which is essential for the performance of the arthroscopic procedure. We put the pneumatic cuff around the root of the thigh.

Particular attention should be devoted to approaching the joint for precise localization of the intraarticular interface and noble structures, anterior and posterior, which should never be damaged by the lancet (7). Both anterior and posterior approaches are used for the talar arthroscopy:

#### Anterior approaches:

1. At the level of the external part, somewhat laterally to the extensor comunis digiti (antero-lateral approach);
2. Between the neurovascular bundle and extensor hallucis (antero-central approach);
3. Between the tibialis anterior and saphena vein (antero-medial approach).

#### Posterior approaches:

1. Between the small saphena and the achilles tendon (posterior-lateral approach);
2. Trans-calcaneal (postero-central);
3. Between the achilles tendon and the posterior neurovascular bundle (postero-lateral).

Having chosen the type of the approach, it is necessary to inspect the joint in order to visualize every recessus. Any lesions of the joint's bone, cartilage and soft tissues can be visualized, treated and cured without resorting to arthrotomy.

In cases with fractures or outcomes there of, accompanied by talar osteochondritis, we removed the necrotic cartilage cureted by means of mechanical devices or hand tools (8).

### Treatment after surgery

On the second day following surgery, the patient is always discharged from hospital with the recommendation to move his ankle. The patient is allowed to burden his limb immediately after surgery, except in cases of cartilage lesions, in which a 20-day "no-load" period is recommended.

### Evaluation of results

We examined 10 patients some time after surgery: physical examination of 8 patients showed complete disappearance of both pain and functional disorders; 6 out of this 8 patients were accustomed to practicing sports before the operation and had interrupted this type of activity because of the trauma; 5 of these individuals went back to practicing sports, such as skiing (2 cases) and soccer (3 cases). The remainder showed good clinical results and, in particular, even though the pain had disappeared, the patients continued to complain of occasional swelling, "heavyness" and tumefaction of the ankle.

### Discussion and conclusions

Although this type of disorder is chronic, it is our opinion that the arthroscopic treatment of post-traumatic lesions of the ankle can be conclusive, especially considering that detailed information about the severity of such lesions, provided by both, clinical and instrumental methods of diagnosis, is complete. Only CAT, MR and sometimes ultrasound are able to supply reliable information, necessary for studying talar disorders: today, only arthroscopy make it possible, through joint palpation and direct visualization, to detect the cause of such marked subjective symptomatology. Arthroscopy is a valuable therapeutic means also due to its much lesser invasiveness in respect to surgery.

Although our experience in arthroscopic surgery is not very extensive, it convinced us of this method's efficiency, even though the performance on the part of inexperienced hands may be arduous.

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