

Arthroscopic surgery in young athletes with OCD of the elbow

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Ethical review	Not approved
Status	Will not start
Health condition type	Joint disorders
Study type	Observational non invasive

Summary

ID

NL-OMON34245

Source

ToetsingOnline

Brief title

OCD study

Condition

- Joint disorders

Synonym

cartilage defect, Panner's disease

Research involving

Human

Sponsors and support

Primary sponsor: Onze Lieve Vrouwe Gasthuis

Source(s) of monetary or material Support: vakgroep orthopedie OLVG

Intervention

Keyword: Arthroscopic surgery, Athletes, Elbow, Osteochondritis dissecans

Outcome measures

Primary outcome

- Short term follow up

Return to sport, we defined return to sports for our patients as returning to same pre injury type and level of sports. Pre injury and short term post injury type of sports and level of the gymnasts will be evaluated with a simple patient survey. Furthermore, return to sport will be scored with the *return to sport*-subscale of the MAESS. In addition, patient medical files will be retrieved to get any additional information.

- Long term follow up

MRI is the best technique available for assessment of articular cartilage.

Imaging of regions of cartilage damage has the potential to provide morphologic information about the region, such as fissuring, and presence of partial or full thickness cartilage defects. Therefore MRI will be used to evaluate development of OA.

Development of osteoarthritis (OA), will be scored as absent (grade 0) or present (grade I-III). OA will be evaluated on MRI by the following characteristics:

- Grade 0 lesions, defined as cartilage with a normal intrinsic signal and a normal surface contour
- Grade I lesions, defined as having areas of inhomogeneous signal intensity.

- Grade IIa lesions, as cartilage defects that involve less than half of the articular cartilage thickness.
- Grade IIb lesions, as cartilage defects involving more than half of the cartilage but less than full thickness.
- Grade III lesions, as cartilage defects exposing the bone.

Secondary outcome

- Pain: will be scored as present or absent
 - pre-operative (Yes / No) - retrieved from medical charts
 - between 3 and 6 months after surgery - retrieved from medical charts
 - > 3 years pain will be scored as present or absent. If pain is present, the Visual Analogue Scale (VAS) will be used to determine the degree of pain.
- ROM: flexion/extension, pro and supination
 - pre-operative - retrieved from medical charts
 - between 3 and 6 months after surgery - retrieved from medical charts
 - > 3 years after surgery - during physical examination
- Function of the elbow

Modified Andrews elbow scoring system and Mayo elbow performance score,

pre-operative - retrieved from medical charts

 - between 3 and 6 months after surgery - retrieved from medical charts
 - > 3 years after surgery - during physical examination

Study description

Background summary

Osteochondritis dissecans (OCD) is an avascular necrosis of the articular cartilage and underlying subchondral bone that occurs in the capitellum. The precise etiology of OCD of the humeral capitellum has not been universally agreed on.

A widely believed cause is injury due to repetitive stress on the affected bone, which explains why (young, [semi]-professional) athletes often develop OCD of the elbow. OCD of is a career-threatening injury and in the long-term may cause symptoms with daily activities [4]. These athletes are usually throwers (baseball), power grippers (weight lifters and racquet athletes), or those who use the elbow as a weight-bearing joint (gymnasts). Of these higher level risk sport, gymnastics is the most popular sport in the Netherlands. Therefore, most of the athletes seen with OCD of the elbow are gymnasts.

Patients with OCD of the elbow experience a dull, poorly localized lateral elbow pain with decreased range of motion. Late (mechanical) symptoms are popping, locking, and catching of the joint, which may result in a temporarily or permanent ending of sports activities in these relatively young patients. Clinical symptoms shown on radiographs, may show different changes in a localized area of the capitellum like a crater, flattening, and subchondral sclerosis. Long-term complications of OCD include radial head hypertrophy, early degenerative changes, and loss of range of motion.

The management of OCD lesions of the capitellum is controversial. Options include conservative treatment (close observation with activity modification), or surgical treatments (debridement, drilling or curettage, bone grafting, or reattachment).

Study objective

The surgical treatment aim is to resurface the osteochondral defect and restore osteochondral integrity. With respect to the patient, this will result in short-term decrease of pain, increase in range of motion, resulting in the ultimate aim to regain their previous sports level. Good short term results have been described in earlier studies. A recent review has shown the limitations of these studies, due to their low methodological quality (e.g. no pre- and postoperative data, small patient groups) and lack of long-term follow up [de Graaff et al]. Recently, a study, performed in 31 patients with OCD of the elbow has showed that on the long term, these patient have an increased risk on the development of osteoarthritis. However, more studies are needed to

confirm this.

Study design

Retrospective cohort study, performed at Onze Lieve Vrouwe Gasthuis, Dept of Orthopaedics and Traumatology, Amsterdam, The Netherlands.

At the outpatient clinic, patients will be asked several questions with regard to their past and current sport activities at the outpatient clinic, as well as two questionnaires on elbow function (MEPS and MAESS), followed by a physical examination (ROM) performed by the examiner (15 minutes). Thereafter an MRI will be made of the elbow (30 minutes). Both the examination and the MRI will preferably be in 1 visit.

Study burden and risks

Not applicable

Contacts

Public

Onze Lieve Vrouwe Gasthuis

Oosterpark 9
Postbus 95500, 1090 HM Amsterdam
Nederland

Scientific

Onze Lieve Vrouwe Gasthuis

Oosterpark 9
Postbus 95500, 1090 HM Amsterdam
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age

Adolescents (12-15 years)
Adolescents (16-17 years)
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

- Gymnast
- Osteochondritis dissecans
- Arthroscopic surgery

Exclusion criteria

- No informed consent
- Age < 12 years

Study design

Design

Study type: Observational non invasive

Masking: Open (masking not used)

Control: Uncontrolled

Primary purpose: Treatment

Recruitment

NL

Recruitment status: Will not start

Enrollment: 25

Type: Anticipated

Ethics review

Not approved
Date: 15-01-2011
Application type: First submission
Review commission: MEC-U: Medical Research Ethics Committees United (Nieuwegein)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL34746.100.10