

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jul 2026

Investigation of the Synergistic Effects of Multiple Drilling and Magneto-therapy on Reduction of Complaints in Patients with Knee Osteochondritis Dissecan.

Protocol summary

Study aim

Investigation of the synergistic effects of multiple drilling and magneto-therapy on reduction of complaints in patients with knee osteochondritis dissecan.

Design

A single-blinded, controlled clinical trial with factorial groups design of 36 patients.

Settings and conduct

32 patients in age group 18 to 50 years, with grade I, II knee osteochondritis dissecan are studied in three groups of surgery (intervention 1), surgery + magneto-therapy (intervention 2) and control in Ahvaz Imam Khomeini Hospital.

Participants/Inclusion and exclusion criteria

Inclusion criteria are patients with grade I, II knee osteochondritis dissecan, based on Dipaola classification system and age range of 18 to 45 years; The exclusion criteria are patients with history of ligament or meniscus injury, fracture history in the last 4 weeks, morphine consumption more than 3 months, osteoarthritis, history of surgery around the knee, history of intra-articular knee injection in the last 6 months and patient with impaired musculoskeletal function.

Intervention groups

In the Intervention group (1), surgical treatment is performed with multiple drilling technique. In the Intervention group (2), in addition to surgical treatment, 3 days after surgery, for 20 sessions and 6 days a week, patients will be exposed with a pulsed electromagnetic field with a frequency of 20 Hz and intensity of 4.5 mT. In the control group, patients are prescribed Nonsteroidal anti-inflammatory drugs (NSAIDs) for one month along with 15 sessions of physiotherapy in the form of isometric exercises and adjustment of daily activities.

Main outcome variables

Pain score, functional level, knee injury outcome and quality of life

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200819048462N1**

Registration date: **2020-08-30, 1399/06/09**

Registration timing: **registered_while_recruiting**

Last update: **2020-08-30, 1399/06/09**

Update count: **0**

Registration date

2020-08-30, 1399/06/09

Registrant information

Name

Samaneh Rashidi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 61 3222 0168

Email address

rashidi.s@ajums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-08-22, 1399/06/01

Expected recruitment end date

2021-03-17, 1399/12/27

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigation of the Synergistic Effects of Multiple Drilling and Magneto-therapy on Reduction of Complaints in Patients with Knee Osteochondritis Dissecan.

Public title

Investigation of the synergistic effects of Multiple Drilling and Magneto-therapy on Knee Osteochondritis Dissecan.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Patients with grade I, II knee osteochondritis dissecan, based on Dipaola classification system Patients with age range of 18 to 45 years

Exclusion criteria:

History of ligament or meniscus injury that has caused a major problem for the patient. Fracture history in the last 4 weeks. Morphine consumption for more than 3 months. Osteoarthritis caused by inflammatory diseases including rheumatoid arthritis (RA), gout, Chondrocalcinosis and... History of any surgery around the knee. History of intra-articular knee injection in the last 6 months. The patient has severe pain or dysfunction.

Age

From **18 years** old to **50 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size

Target sample size: **36**

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Responsible person for data collection and data analyzer will be unaware of how patients are grouped to prevent personal opinion.

Placebo

Not used

Assignment

Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Ahvaz University of Medical

Sciences

Street address

Research deputy, Ahvaz Jundishapur University Of Medical Sciences, Golestan Blvd.

City

Ahvaz

Province

Khouzestan

Postal code

6135715794

Approval date

2018-01-23, 1396/11/03

Ethics committee reference number

IR.AJUMS.REC.1396.906

Health conditions studied

1

Description of health condition studied

Knee Osteochondritis Dissecan

ICD-10 code

M93.2

ICD-10 code description

Osteochondritis dissecans

Primary outcomes

1

Description

Pain

Timepoint

Before any intervention (surgical or pharmaceutical), 3 and 6 months after the first evaluation

Method of measurement

Visual Analogue Scale (VAS) (0 to 10)

2

Description

Functional level

Timepoint

Before any intervention (surgical or pharmaceutical), 3 and 6 months after the first evaluation

Method of measurement

According to grading the Tegner Lysholm knee scoring scale

3

Description

Knee injury and osteoarthritis outcome

Timepoint

Before any intervention (surgical or pharmaceutical), 3 and 6 months after the first evaluation

Method of measurement

Knee injury and Osteoarthritis Outcome Score (KOOS)

4

Description

Quality of life
Timepoint
Before any intervention (surgical or pharmaceutical), 3 and 6 months after the first evaluation
Method of measurement
The 36-item short form health survey questionnaire (SF-36)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group (1): Surgical treatment is performed with multiple drilling technique. The multiple drilling technique was performed using a suction hemovac drain needle, and 4 to 6 weeks after surgery, the knee movement was limited by a brace to control the range of motion and prevent collision of the femoral and tibial condyles.

Category

Treatment - Surgery

2

Description

Intervention group (2): In addition to surgical treatment with multiple drilling technique, 3 days after surgery, for 20 sessions and 6 days a week, patients will be exposed with a pulsed electromagnetic field with a frequency of 20 Hz and intensity of 4.5 mT.

Category

Treatment - Devices

3

Description

Control group: Patients are prescribed nonsteroidal anti-inflammatory drugs (NSAIDs) for one month along with 15 sessions of physiotherapy in the form of isometric exercises and adjustment of daily activities.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini Hospital, Ahvaz Jundishapur University of Medical Sciences

Full name of responsible person

Mohammad Fakoor

Street address

Orthopedic Department, Imam Khomeini Hospital, Azadegan Ave.

City

Ahvaz
Province
Khouzestan
Postal code
6135715794
Phone
+98 61 3222 0168
Email
dr_m_fakoor@hotmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Mohammad Badavi, PhD

Street address

Deputy of Research, Ahvaz Jundishapur University of Medical Sciences, Golestan Blvd.

City

Ahvaz

Province

Khouzestan

Postal code

6135715794

Phone

+98 61 3373 8383

Email

info@ajums.ac.ir

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Ahvaz University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Samaneh Rashidi

Position

Medical physicists

Latest degree

Master

Other areas of specialty/work

Medical Physics

Street address

Magnet therapy Clinic, Imam Khomeini Hospital,
Azadegan Ave.

City

Ahvaz

Province

Khouzestan

Postal code

6135715794

Phone

+98 61 3222 0168

Email

samanehrashidi92@gmail.com

Person responsible for scientific inquiries**Contact****Name of organization / entity**

Ahvaz University of Medical Sciences

Full name of responsible person

Samaneh Rashidi

Position

medical physicists

Latest degree

Master

Other areas of specialty/work

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Email

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Person responsible for updating data**Contact****Name of organization / entity**

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Not applicable

Data Dictionary

Not applicable