

Clinical Trial Protocol

Iranian Registry of Clinical Trials

03 Aug 2026

Comparing the treatment results of intramedullary suture anchor fixation method with tension band wiring method in patients with osteoporotic fractures of the olecranon

Protocol summary

Summary

The aim of the present study is to compare the treatment outcomes of fixation of osteoporotic olecranon fractures provided by suture anchor fixation method and tension band wiring technique. In this controlled multi-center clinical trial, 40 patients with osteoporotic olecranon fractures who refer to orthopedic clinics of Quaem, Imam Reza, and Shahid Kamyab hospitals will be enrolled in the study after giving consent. They will be randomly allocated into two groups of tension band wiring and intramedullary suture anchor fixation with 20 patients in each. All subjects will be followed-up for a minimum of 6 months and the treatment outcomes in terms of fracture union, range of motion of the elbow, complications, joint stability, and function will be compared between the two groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016022426734N1**

Registration date: **2017-07-05, 1396/04/14**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-07-05, 1396/04/14

Registrant information

Name

Ahmadreza Zarifian

Name of organization / entity

Mashhad University of Medical Sciences

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Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Mashhad University of Medical Sciences

Expected recruitment start date

2017-06-22, 1396/04/01

Expected recruitment end date

2021-03-20, 1399/12/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the treatment results of intramedullary suture anchor fixation method with tension band wiring method in patients with osteoporotic fractures of the olecranon

Public title

Comparison of two treatment methods for olecranon elbow fractures in patients with osteoporosis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Olecranon fractures of Mayo type 1A & 2A including non-comminuted fractures of the olecranon without concomitant instability; Signs of Osteoporosis in pre-operative distal radial CT scan (218 HUD in women or 246 HUD in men); Patient consent for enrollment
Exclusion criteria: patient's unwillingness to continue the

study; Patients with fractures other than Mayo type 1A & 2A

Age
No age limit

Gender
Both

Phase
3

Groups that have been masked
No information

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
Randomization will be performed using closed envelopes containing papers with odd or even numbers on them.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Mashhad University of Medical Sciences, Medical School

Street address

Azadi Square, Mashhad University of Medical Sciences, Medical School

City

Mashhad

Postal code

Approval date

2017-04-15, 1396/01/26

Ethics committee reference number

IR.MUMS.fm.REC.1395.97

Health conditions studied

1

Description of health condition studied

Osteoporotic Olecranon Fractures

ICD-10 code

S52.0

ICD-10 code description

Fracture of upper end of ulna

2

Description of health condition studied

Osteoporotic Olecranon Fractures

ICD-10 code

M80

ICD-10 code description

Osteoporosis with pathological fracture

Primary outcomes

1

Description

fracture union

Timepoint

3, 6, 12, and 24 weeks after surgery

Method of measurement

elbow radiography

Secondary outcomes

1

Description

Need for re-operation

Timepoint

24 weeks after surgery

Method of measurement

Patient's profile

2

Description

Range of elbow motion

Timepoint

2nd and 6th week, then 3rd and 6th month and finally one year after surgery

Method of measurement

Orthopedic goniometer

3

Description

Elbow function

Timepoint

2nd and 6th week, then 3rd and 6th month and finally one year after surgery

Method of measurement

Mayo Elbow Performance Score

4

Description

Pain

Timepoint

2nd and 6th week, then 3rd and 6th month and finally one year after surgery

Method of measurement

VAS

Intervention groups

1

Description

Intervention group: Intramedullary suture anchor fixation of the fracture

Category

Treatment - Surgery

2

Description

Control group: Tension band wiring fixation of the fracture

Category

Treatment - Surgery

Recruitment centers

1

Recruitment center

Name of recruitment center

Quaem hospital

Full name of responsible person

Niloofar Alavi

Street address

Quaem Hospital, AhmadAbad Street, Mashhad

City

Mashhad

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research, Mashhad University of Medical Sciences

Full name of responsible person

Saeed Eslami

Street address

Vice chancellor of Research, Ghorashi Building, Mashhad University of Medical Sciences, Daneshgah street

City

Mashhad

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice Chancellor for Research, Mashhad University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Mashhad University of Medical Sciences

Full name of responsible person

Amir Reza Kachooei

Position

MD, Assistant Professor of Orthopedics

Other areas of specialty/work

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Web page address**Sharing plan****Deidentified Individual Participant Data Set (IPD)**

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty