Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Comparison of Obturator nerve block and Femoral nerve block with spinal anesthesia for analgesia after elective knee arthroscopy

Protocol summary

Study aim
Comparison of obturator nerve block and femoral nerve block with spinal anesthesia in analgesia after elective knee arthroscopy

Design
Randomise controlled trial, parallel group, blinded

Settings and conduct
Patients undergoing elective knee arthroscopy referring to Imam Reza Hospital are randomly assigned to two equal groups using randomized software. In one group, the femoral nerve block and obturator nerve block and in the other group of spinal anesthesia are performed for surgery. Patients will be evaluated in terms of pain intensity with the visual analog scale and the degree of satisfaction based on the scale of the VAS and the checklist prepared.(a study is one in which neither the nurse who is in charge of measuring the NRS nor the statistician know about used analgesia method)

Participants/Inclusion and exclusion criteria
Entry criteria: aged 18 to 50 years, classification of American Society of Anesthesiology (ASA1), lack of sensitivity to topical anesthetic drugs, BMI less than 30, patient satisfaction Non-compliance criterion: having coagulation disorders, the presence of infection at the injection site, having nerve disorders at the foot of the site

Intervention groups
Femoral nerve block and obturator nerve block in the group and spinal anesthesia in the other group of patients

Main outcome variables
The amount and severity of postoperative pain, the patient's satisfaction from analgesia

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20181128041783N1**
Registration date: **2019-01-19, 1397/10/29**
Registration timing: **registered_while_recruiting**

Last update: **2019-01-19, 1397/10/29**
Update count: **0**

Registration date
2019-01-19, 1397/10/29

Registrant information

Name
Mahsa Mahdavi siuki

Name of organization / entity

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-04-22, 1397/02/02

Expected recruitment end date
2019-03-13, 1397/12/22

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Comparison of Obturator nerve block and Femoral nerve block with spinal anesthesia for analgesia after elective knee arthroscopy

Public title

Comparison of Obturator nerve block and Femoral nerve block with spinal anesthesia for analgesia after elective knee arthroscopy

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Aged 18 to 50 years Classification of American Society of Anesthesiology (ASA-1) Non-sensitivity to local anesthetic drugs BMI less than 30 patient satisfaction.

Exclusion criteria:

Having coagulation disorders Infection in the injection site Having nerve disorders at the foot of the site

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: **72**

Randomization (investigator's opinion)

Randomized

Randomization description

Random Software

Blinding (investigator's opinion)

Double blinded

Blinding description

This is a double-blind interventional study (a study is one in which neither the nurse who is in charge of measuring the NRS nor the statistisian know about used analgesia method), all patients in Imam Reza hospital that are candidates for knee arthroscopy can be enrolled in this study after signing the contest form.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Mashhad University of Medical Sciences

Street address

No170, 36th Jalal Al-e-Ahmad Blv,

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Razavi Khorasan

Postal code

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Approval date

2018-10-15, 1397/07/23

Ethics committee reference number

IR.MUMS.MEDICAL.REC.1397.145

Health conditions studied

1

Description of health condition studied

Comparison of obturator nerve block and femoral nerve block with spinal anesthesia in analgesia after elective knee arthroscopy

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Severity of pain after surgery

Timepoint

The severity of pain in the recovery at 3, 6, 12 and 24 hours after surgery

Method of measurement

Numeric pain rating scale

Secondary outcomes

empty

Intervention groups

1

Description

1 Intervention group: For the obturator nerve block, the patient's hip should be placed in the abduction and the external rotational position. The ultrasound probe will be placed in the medial segment of the inguinal groove. After detecting the pectinose muscle, the probe head spins 40 to 50 degrees towards the cranial to reveal the hyperecho structure in the posterolateral pectinose (the lower edge of the upper rhomus pubis).Then, in the fascia space between the two muscles of Abductor Longus and the Abductor Brevis anterior branches, and between the abductor brevis and Abdactor magnus, the posterior branch of the obturator nerve is characterized by ultrasound and a stimulator of the nerve with a 0.5mA and proper stimulation of the contraction of the abductor muscles. Linear probe with a frequency of 10 MHz is used for this purpose and the block is performed out of plane. In the vicinity of each anterior and posterior branches of the obturator nerve 5 cc lidocaine 2% with 0.5 cc bicarbonate and 25 micrograms of fentanyl and then 3 cc marcaine 0.5% with epinephrine 1/200000 is injected to increase block length. For the femoral block, after the preparation of the probe area, ultrasound is placed in the

ligament of the inguinal lining. The lateral to the femoral artery and the sub facia Iliaka, the femoral nerve is targeted with the help of a nerve stimulus needle and in-plane ultrasound guidance. After a 0.5 mA quadriceps shrinkage, 10 cc lidocaine 2% with 1 cc bicarbonate and 50 micrograms fentanyl and then 6 cc marcaine 0.5% with epinephrine 1/200000 are injected to increase the block length.

Category
Other

2

Description
2 Intervention group: To perform the spinal anesthesia, the patient is placed in setting position. In L4-L5 space, in the midline, with needle number 25, the needle is perpendicular to the Dora axis, after inserting the needle into the subarachnoid space, the needle is 90 degrees Rotate counterclockwise and inject 15 mg of marcaine 0.5% with 25 µg of fentanyl. After the anesthesia, the surface of the block is checked with a pinprick test to ensure that the level of the block reaches l3, which is a suitable level for performing orthoscopy.

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Imam Reza hospital

Full name of responsible person
Mahdavi Siuki Mahsa

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Imam Reza hospital. Ebne sina Ave

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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Full name of responsible person
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Grant name

Grant code / Reference number

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

Title of funding source
Mashhad 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
Mashhad University of Medical Sciences

Full name of responsible person
Mokarram Dori Mehrdad

Position
Associate professor

Latest degree
Subspecialist

Other areas of specialty/work
Anesthesiology

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