Clinical Trial Protocol
Iranian Registry of Clinical Trials

28 Jun 2026

The effect of intravenous administration of Dexmedethomidine on the duration of ultrasound-guided supraclavicular brachial plexus block in comparison with Propofol, in patients undergoing upper extremity surgery in Shariati hospital

Protocol summary

Summary

Considering the advantages of using Brachial plexus nerve block to perform upper limb surgery and considering the importance of the type of drug used for intraoperative placement during blocking and increasing the duration of post-block analgesia, this study aimed to compare the effect of venous sedation with Dexmedetomidine and Propopoafol on the duration of Brachial plexus nerve block (supraclavecular technique) under ultrasound guidance in patients undergoing surgical procedure for upper extremity of Shariati Hospital. In this randomized, double blind clinical trial, 88 patients aged 20-50 years undergoing elective orthopedic surgery with ASA III, II, I, BMI below 35 and without a history of drug allergy, after receiving written consent, were divided into two groups of 44, and The start time of the sensory block, motion, and duration of the sensory block are compared to them. A group of supraclavicular injection of 25 ml of bupivacaine solution 0.5% and intravenous infusion of 0.5 mcg / kg / min of doxedetomidine, and the other group administered supraclavicular injection of 25 ml of bupivacaine 0.5% and intravenous infusion 50mcg / kg / min of propofol. The patient and anesthetist are not informed of the dual bundle form. Then, the sensory and motor blocks are controlled at intervals of 5-10-15-30 minutes after injection and then every 10 minutes after surgery. The level of the sensory block of the nerve is measured by the pinprik test and the patient's question with the analogue speech scale (from 100% normal to 0% completely numb) and the motor block rate is graded from 0 to 5 by the Lovett-rating-scale. The time of onset of the effect of the block of sensory and motor activity as the time between the completion of the last injection and the completion of the sensory and motor paralysis, the duration of the effect of the sensory block in the time between the completion of the sensory paralysis and the first postoperative pain, the duration of the motor block as the time between the completion of motion palsy and Movement power return is defined as normal. A quantitative study of opioid use is performed by the PCA in a recovery room that contains 30mg of morphine sulfate in 30ml of normal saline. Every time the patient has pain, he injects 1mg of morphine and locks for 15 minutes.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017051734005N1**
Registration date: **2017-07-17, 1396/04/26**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2017-07-17, 1396/04/26

Registrant information

Name

Fatemeh Elmi

Name of organization / entity

Medicine Faculty, Tehran university of medical science

Country

Iran (Islamic Republic of)

Phone

+98 21 2221 9958

Email address

f-elmi@student.tums.ac.ir

Recruitment status

Recruitment complete

Funding source
Tehran University of Medical Science

Expected recruitment start date
2017-06-22, 1396/04/01
Expected recruitment end date
2018-03-06, 1396/12/15
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
The effect of intravenous administration of Dexmedethomidine on the duration of ultrasound-guided supraclavicular brachial plexus block in comparison with Propofol, in patients undergoing upper extremity surgery in Shariati hospital

Public title
The effect of intravenous administration of Dexmedethomidine on the duration of ultrasound-guided supraclavicular brachial plexus block in comparison with Propofol, in patients undergoing upper extremity surgery in Shariati hospital
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: age between 20-50 years old; ASA class III, II, I; BMI less than 35; no history of drug allergy; satisfaction of the patient and filling out the consent form. Exclusion criteria: failure to perform supraclavicular block; duration of surgery for more than 180 minutes; cancellation of operation; occurrence of surgical complication during surgery; the need for general anesthesia.
Age
From **20 years** old to **50 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **88**
Randomization (investigator's opinion)
Randomized
Randomization description
Blinding (investigator's opinion)
Double blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Research Ethics Committee of the Medical Faculty of Tehran University of Medical Sciences
Street address
Professional Doctoral Theses Unite, Ground Floor, Education Building, Faculty of Tehran University of Medical Sciences
City
Tehran
Postal code
Approval date
2017-05-01, 1396/02/11
Ethics committee reference number
IR.TUMS.MEDICINE.REC.1396.2175

Health conditions studied

1

Description of health condition studied
Local anaesthetics
ICD-10 code
T41.3, Y48
ICD-10 code description
Local anaesthetics

Primary outcomes

1

Description
sensory block onset
Timepoint
sensory block will be checked continuously after completion of injection until complete sensory and motor block.
Method of measurement
pinprick test and a verbal rating scale from 100% (normal sensation) to 0 (no sensation).

2

Description
sensory block duration
Timepoint
after complete sensory block and every 15 minutes following the end of operation.
Method of measurement
pinprick test and a verbal rating scale from 100% (normal sensation) to 0 (no sensation).

3

Description
motor block onset
Timepoint
motor block will be checked continuously after completion of injection until complete motor block.
Method of measurement
Lovett rating scale

4

Description
motor block duration
Timepoint
after complete motor block and every 15 minutes following the end of operation
Method of measurement
the Lovett rating scale

Secondary outcomes

1

Description
Systolic blood pressure
Timepoint
continuously monitoring while the surgery is performing
Method of measurement
manometer

2

Description
Diastolic blood pressure
Timepoint
continuously monitoring while the surgery is performing
Method of measurement
manometer

3

Description
Heart rate
Timepoint
continuously monitoring while the surgery is performing
Method of measurement
Monitoring

4

Description
Respiratory depression
Timepoint
continuously monitoring while the surgery is performing
Method of measurement
O2 saturation & Respiratory Rate

5

Description
Drug consumption in the 24 hours after surgery
Timepoint
patient need
Method of measurement
Medical records

Intervention groups

1

Description
groupB: supraclavicular injection of 25 ml of bupivacaine 0.5% and of propofol 50 mcg / kg / min intravenously.
Category
Treatment - Drugs

2

Description
groupA: supraclavicular injection of 25 ml of bupivacaine and 0.5 mg / kg / min of dexamethmonide intravenously
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Dr. Shariati Hospital
Full name of responsible person
Dr. Fatemeh Elmi
Street address
Shariati hospital, Jalal-e-Al-e-Ahmad high way, district 6,Tehran, Iran
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University Of Medical Sciences Vice Chancellor Of Research
Full name of responsible person
Dr Shahin Akhond Zade Basti
Street address
Room 206, First Floor, Building 1, Medicine Faculty, Tehran university of medical science
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Tehran University Of Medical Sciences Vice Chancellor Of Research
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
Shariati Hospital, Anesthesilogy Department
Full name of responsible person
Dr. Fatemeh Elmi
Position
Medical Student
Other areas of specialty/work
Street address
Shariati Hospital, Jalal-e-Al-e-Ahmad High Way, District 6, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 2221 9958
Fax
Email
f-elmi@student.tums.ac.ir
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Shariati Hospital, Anesthesiology Department
Full name of responsible person
Dr. Reza Atef Yekta
Position
Assistant Professor
Other areas of specialty/work
Street address
Anesthesiology Unit, Surgery Room, Shariati Hospital, Jalal-Ae-Al-e-Ahmad High Way,District 6, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 84901
Fax
Email
rezaatefyekta@yahoo.com
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Shariati Hospital, Anesthesiology Department
Full name of responsible person
Dr. Fatemeh Elmi
Position
Medical Student
Other areas of specialty/work
Street address
Shariati Hospital, Jalal-Ae-Al-e-Ahmad High Way, District 6, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 2221 9958
Fax
Email
f-elmi@student.tums.ac.ir
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