

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Sep 2026

Effect of duration of injection on width of bruising and intensity of pain associated with subcutaneous low molecular weight heparin in hospitalized patients: A clinical trial study

Protocol summary

Summary

This study is a randomized clinical trial aimed at determining the effect of duration of injection on the area of bruising and pain of injection following enoxaparin subcutaneous injection. A total of 98 patients admitted in the Shohadaye-Khalije Fars Hospital in Bushehr will be enrolled. For each patient, two subcutaneous injections of 10-second duration (Technique A) on the right side of the abdomen (right of umbilicus) and 30-second duration injection (technique B) in the left abdomen (left of umbilicus) will be done symmetrically. Enoxaparin (6000 IU or 4000 IU) will be injected by a trained nurse randomly to either right or left side of abdomen with a 12 or 24 hour interval (according to the prescribed medication) outside a 50 mm radius of the umbilicus. After every injection, a circle of radius 5 cm is drawn around the injected area by using a waterproof marker, avoiding for re-selection, and that area is marked for bruises evaluation. The area of bruising, 48 hrs and 72 hrs after the injection and pain of injection, immediately, will be measured for all the patients and compared for two sides of abdomen.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201112208473N1**
Registration date: **2013-09-12, 1392/06/21**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2013-09-12, 1392/06/21

Registrant information

Name

Masoud Bahreini

Name of organization / entity

Bushehr University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Bushehr University of Medical Sciences

Expected recruitment start date

2013-06-22, 1392/04/01

Expected recruitment end date

2013-10-23, 1392/08/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of duration of injection on width of bruising and intensity of pain associated with subcutaneous low molecular weight heparin in hospitalized patients: A clinical trial study

Public title

Effect of duration of injection on width of bruising and intensity of pain associated with subcutaneous low molecular weight heparin in hospitalized patients: A clinical trial study

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: age greater than 18 years; newly admitted patients; orientation to person/place/time/situation; able to rate the pain perceived at the injection site; Exclusion criteria: coagulation disorders (thrombocytopenia and PT, PTT, INR, LFT impaired); Presence of scar tissue, any skin lesion or unilateral sensory obvious defects or damage and abdominal trauma at the injection areas; receiving other anticoagulants such as warfarin and heparin

Age

From **18 years** old to **100 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **98**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Not used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Bushehr University of Medical Sciences

Street address

Campus of Bushehr University of Medical Sciences,
Salman Farsi St., Bushehr, Iran

City

Bushehr

Postal code

7518759577

Approval date

2013-06-18, 1392/03/28

Ethics committee reference number

B-15-92-4

Health conditions studied

1

Description of health condition studied

Thromboembolism

ICD-10 code

T80.1

ICD-10 code description

Vascular complications following infusion, transfusion and therapeutic injection

Primary outcomes

1

Description

Bruising

Timepoint

48 hours and 72 hours after injection

Method of measurement

Area of bruising in squared millimeter by an special software

Secondary outcomes

1

Description

Pain intensity

Timepoint

Immediately after injection

Method of measurement

A numerical scale from 0 to 10

Intervention groups

1

Description

Subcutaneous injection of Enoxaparine (6000 IU or 4000 IU) over 30 seconds

Category

Treatment - Drugs

2

Description

Subcutaneous injection of Enoxaparine (6000 IU or 4000 IU) over 10 seconds

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Shohadaye-Khalije Fars Hospital

Full name of responsible person

Azar Dadain

Street address

Shohadaye-Khalije Fars Hospital

City

Bushehr

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice-chancellor for Research, Bushehr University of Medical Sciences

Full name of responsible person

Afshin Ostovar

Street address

Campus of Bushehr University of Medical Sciences, Salman Farsi St., Bushehr, Iran

City

Bushehr

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, Bushehr 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**

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Full name of responsible person

Azar Dadain

Position

MS in Nursing

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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