

Clinical Trial Protocol

Iranian Registry of Clinical Trials

20 Jun 2026

Comparison of the effect of intravenous catheter washing with Heparin, Normal saline, and Taurolock solution on phlebitis severity

Protocol summary

Study aim

Comparison of the effect of intravenous catheter washing with Heparin, Normal saline, and Taurolock solution on phlebitis severity

Design

Clinical trial with a control group, with parallel groups, one-way blind, randomized, on 80 patients (4 groups of 20 people). Excel software rand function was used for randomization.

Settings and conduct

Shafa Hospital.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Absence of vascular disorders; The patient should be alert and have proper communication; Healthy feeling of pain; No wounds or trauma to an organ with an intravenous catheter. Exclusion criteria: Patients with heparin allergy; History of coagulation disorders and warfarin tablets; Contraindications to heparin and tarolac.

Intervention groups

Intervention group 1: In the first group (washing the catheter with heparin solution); Diluted heparin solution at a concentration of 100 units / ml is injected every 8 hours in a volume of 12 units with an insulin syringe into intravenous catheters (angiocatheter) and lasts up to 72 hours. Intervention group 2: In the second group (rinsing the catheter with normal saline solution); Normal saline 0.9% sterile infusion for infusion is injected every 8 hours in a volume of 12 units with an insulin syringe into intravenous catheters (angiocatheter) and lasts up to 72 hours. Intervention group 3: In the third group (rinsing the catheter with tarolak solution); Trolidine citrate solution (brand name Tarolak) with a volume of 12 units (insulin syringe) is injected every 8 hours into intravenous lines (angiocatheter) and lasts up to 72 hours. Control group: Only routine procedures and care are performed.

Main outcome variables

Phlebitis

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20151228025732N56**

Registration date: **2020-10-20, 1399/07/29**

Registration timing: **registered_while_recruiting**

Last update: **2020-10-20, 1399/07/29**

Update count: **0**

Registration date

2020-10-20, 1399/07/29

Registrant information

Name

Alireza Emadi

Name of organization / entity

Semnan University of Medical Sciences, Semnan, Iran

Country

Iran (Islamic Republic of)

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+98 23 3345 1336

Email address

are20935@semums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-09-22, 1399/07/01

Expected recruitment end date

2021-03-19, 1399/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of intravenous catheter washing with Heparin, Normal saline, and Taurolock solution on phlebitis severity

Public title

Comparison of the effect of intravenous catheter washing with Heparin, Normal saline, and Taurolock solution on phlebitis severity

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria:

Absence of vascular disorders
The patient should be alert and have proper communication
Healthy feeling of pain
No wounds or trauma to an organ with an intravenous catheter

Exclusion criteria:

Patients with heparin allergy
History of coagulation disorders and warfarin tablets
Contraindications to heparin and tarolac

Age

From **20 years** old to **80 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **80**

Randomization (investigator's opinion)

Randomized

Randomization description

Block randomization; Individual; Random Number Tables. Randomized permutation blocks (block 4). Using Excel software to generate random number tables

Blinding (investigator's opinion)

Single blinded

Blinding description

Participants are unaware of the type of grouping.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Semnan University of Medical Sciences

Street address

Semnan University of Medical Sciences, Basij Blvd,

Semnan

City

Semnan

Province

Semnan

Postal code

3514799442

Approval date

2020-08-25, 1399/06/04

Ethics committee reference number

IR.SEMUMS.REC.1399.164

Health conditions studied

1

Description of health condition studied

Thrombophlebitis

ICD-10 code

I80

ICD-10 code description

Phlebitis and thrombophlebitis

Primary outcomes

1

Description

Phlebitis

Timepoint

24, 48, and 72 hours after intervention

Method of measurement

Phlebitis Jackson Observation Scale

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: In the first group (washing the catheter with heparin solution); Diluted heparin solution at a concentration of 100 units / ml is injected every 8 hours in a volume of 12 units with an insulin syringe into intravenous catheters (angiocatheter) and lasts up to 72 hours.

Category

Treatment - Drugs

2

Description

Intervention group 2: In the second group (rinsing the catheter with normal saline solution); Normal saline 0.9% sterile infusion for infusion is injected every 8 hours in a volume of 12 units with an insulin syringe into intravenous catheters (angiocatheter) and lasts up to 72 hours.

Category

Treatment - Drugs

3

Description

Intervention group 3: In the third group (rinsing the catheter with tarolak solution); Trolidine citrate solution (brand name Tarolak) with a volume of 12 units (insulin syringe) is injected every 8 hours into intravenous lines (angiocatheter) and lasts up to 72 hours.

Category

Treatment - Drugs

4

Description

Control group: Only routine procedures and care are performed.

Category

Diagnosis

Recruitment centers

1

Recruitment center

Name of recruitment center

Shafa Hospital

Full name of responsible person

Mohammadreza Asgari

Street address

Twenty meters Vahdat Street, Semnan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Parviz Kokhaei

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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

Semnan 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

Semnan University of Medical Sciences

Full name of responsible person

Mohammadreza Asgari

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Nursery

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Mohammadreza Asgari

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity
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Full name of responsible person
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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

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available