

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jul 2026

Comparison of the effects of heparin and 0.9% sodium chloride solutions in maintenance of patency of central venous catheters in intensive care unite

Protocol summary

Summary

Occlusion of central venous catheters is one of the limiting factors in using them. Heparinised saline solution is the standard solution used for keeping the catheters open. The goal of this study was determining the effect of heparin saline solution and normal saline in maintenance of patency of central venous catheters. Methods: this double-blind study was performed on 84 intensive care unit patients who had central venous catheters. The patients were randomly divided into two groups of heparin saline receivers and normal saline receivers. In the heparin group after each drug injection into the lumen 3cc of heparin saline solution was injected in the catheter as well. The other group only received 10cc of normal saline instead. The catheters were examined for blood return and flushing every 8 hours for 21 days. Analysis of the data was performed using SPSS software version 20 and descriptive and analytic statistics were studied.

General information

Acronym

Heparin and 0.9% sodium chloride solutions for central venous catheters

IRCT registration information

IRCT registration number: **IRCT2014050613156N5**
Registration date: **2014-05-17, 1393/02/27**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2014-05-17, 1393/02/27

Registrant information

Name

Mohammad Ali Heydari Gorji

Name of organization / entity

Mazandaran University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for reaserch Mazandaran university of medical science

Expected recruitment start date

2014-04-21, 1393/02/01

Expected recruitment end date

2014-12-22, 1393/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effects of heparin and 0.9% sodium chloride solutions in maintenance of patency of central venous catheters in intensive care unite

Public title

Comparison of the effects of heparin and 0.9% sodium chloride solutions in maintenance of patency of central venous catheters

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria: age 18-60 years old; time passed from

insertion of the catheter would be less than 12 hours; usage of triple lumen silicone catheters; patient's blood platelet of 150000-450000; PT of 11-12.5 seconds; PTT in the range of 35-45 seconds and having received 1 liter of serum KVO during 24 hours Exclusion criteria: risk of bleeding; receiving blood products during study and an increase in body temperature higher than 37.7 C.

Age

From **18 years** old to **60 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **84**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Mazandaran university of medical science

Street address

Iran, Sari, Moallem SQ, Moallem street

City

Sari

Postal code

4763654811

Approval date

2014-03-07, 1392/12/16

Ethics committee reference number

67-92

Health conditions studied**1****Description of health condition studied**

CVA

ICD-10 code

G90.3

ICD-10 code description

G90.3

Primary outcomes**1****Description**

Maintenance of patency of central venous catheters

Timepoint

Each 8 hours for 21 days

Method of measurement

Chek list

Secondary outcomes**1****Description**

Hemoraghia

Timepoint

Each 8 hour for 21 days

Method of measurement

Chek list

Intervention groups**1****Description**

Heparin group: In the heparin group patient's solution will be prepared by a 1000 unit heparin ampoule will being added to half a liter normal saline and so each milliliter of the prepared solution will be contained 10 units of heparin. After injection of the drugs to patients 3 mL of this solution will be injected as well. Catheters will be examined by the researcher for blood return and flushing every 48 hours using patients medical data sheet . During the examination of the condition of the catheters all the patients were laying on their backs. If after this maneuver there was not a possibility of flushing or taking blood sample from the catheter the catheter was considered non-functional and was removed.

Category

Treatment - Drugs

2**Description**

Normal salin group: In normal saline group patients 10mL 0.9% sodium chloride was injected in each lumen of the catheter. Method will be done according heparin group

Category

Treatment - Other

Recruitment centers**1****Recruitment center**

Name of recruitment center

Babol Ayatollah Roohani Hospital
Full name of responsible person
Fatemeh Rezaei
Street address
Nasibeh Nursing and Midwifery, Veal Street, Sari, Iran
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Vice Chancellor for reaserch Mazandaran University of
Medical science
Full name of responsible person
Ahmad Ali Enayati
Street address
Moallem street, Moallem sq, Sari, Iran
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Sari

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice Chancellor for reaserch Mazandaran University of
Medical science

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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Person responsible for updating data

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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