

Clinical Trial Protocol

Iranian Registry of Clinical Trials

14 Jul 2026

Comparison of In-plane with Out-plane Methods of Sonography for Internal Jugular Vein Catheterization in End Stage Liver Disease Patients

Protocol summary

Summary

Objectives: The aim of this study was to compare two methods of out plane method (short axis) internal jugular vein catheterization with ultrasound -guided and internal jugular vein catheterization by using ultrasound- guided by in plane method (long-axis) in terms of success rate and the percentage of short-term and long-term complications, especially in patients with coagulopathy, possibility of trauma, hematoma and venous thrombosis. Although, this procedure has significant complications as well as benefits, including failure at catheter placement, arterial injury, hematoma, pneumothorax, hemothorax, arrhythmias and brachial plexus injury. Ultrasound is used to improve the catheterization process, increasing the success rate and reduce complications. Inclusion criteria are 14 years of age and over, end stage liver disease, coagulopathy, indication for internal jugular vein catheterization. Exclusion criteria: refusal for consent, contraindication for internal jugular vein catheterization (e.g., infection of the site, thyroid enlargement, neck movement limitation.) All patients over 14 years who were undergoing liver transplantation with coagulopathy were enrolled to the study. In this clinical trial, 80 patients were divided into two groups. Intravenous catheterization was done by an Anesthesiologist by using one of the two methods of out plane or in plane catheterization. And all the information contained in the form accurately recorded. While, delayed complications were recorded in ICU, and data was checked and success rates of internal jugular vein catheterization with in-plane and out plane techniques were determined, at the time of catheter insertion, in the operating room, 24 hours after catheter insertion, one week after catheter insertion.

General information

Acronym

ICU(Intensive Care Unit)

IRCT registration information

IRCT registration number: **IRCT2014112619470N3**

Registration date: **2015-01-09, 1393/10/19**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-01-09, 1393/10/19

Registrant information

Name

Farzaneh Masihi

Name of organization / entity

Country

Iran (Islamic Republic of)

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Email address

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Recruitment status

Recruitment complete

Funding source

Vice Chancellor for Research, Shiraz University of Medical Science

Expected recruitment start date

2014-05-22, 1393/03/01

Expected recruitment end date

2014-09-23, 1393/07/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of In-plane with Out-plane Methods of Sonography for Internal Jugular Vein Catheterization in

End Stage Liver Disease Patients

Public title
Comparison of Different Techniques of Internal Jugular Vain Cathetrization in Liver Disease Patients

Purpose
Supportive

Inclusion/Exclusion criteria
Inclusion criteria: 14 years of age and over, End stage liver disease, Coagulopathy, Indication for Internal Jugular Vein Catheterization. Exclusion Criteria: Refusal for consent, Contraindication for Internal Jugular Vein Catheterization (e.g., Infection of the Site, Thyroid Enlargement, Neck Movement Limitation)

Age
From **14 years** old to **85 years** old

Gender
Both

Phase
2

Groups that have been masked
No information

Sample size
Target sample size: **120**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethic Committee of Shiraz University Of Medical Sciences

Street address
Central Building of Shiraz University of Medical Sciences, Zand Street

City
Shiraz

Postal code

Approval date
2010-09-23, 1389/07/01

Ethics committee reference number
CP-P-9366-6056

Health conditions studied

1

Description of health condition studied

Disease of Liver

ICD-10 code

K71.6

ICD-10 code description

Toxic Liver Disease with Hepatitis, not Elsewhere Classified

Primary outcomes

1

Description

To Determine the success rate of internal jugular vain catheterization with in-plane technique

Timepoint

at the time of catheter insertion, in the operating room, 24 hours after catheter insertion, one week after catheter insertion

Method of measurement

Observasion

Secondary outcomes

1

Description

To Determine the success rate of internal jugular vain cathettion with out-plane techniqueeriza

Timepoint

at the time of catheter insertion, in the operating room, 24 hours after catheter insertion, one week after catheter insertion

Method of measurement

Observasion

Intervention groups

1

Description

In the intervention group (1):The end stage liver disease patients will be undertaken of ultrasound -guided in-plane internal jugular vein catheterization.

Category

Prevention

2

Description

In the intervention group (2):The end stage liver disease patients will be undertaken of ultrasound -guided out-plane internal jugular vein catheterization.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Namazee Hospital

Full name of responsible person

Dr Zahra Nikeghbalian

Street address

Zand Street, Namazee Hospital

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research, Shiraz University of Medical Sciences

Full name of responsible person

Dr Seed Basir Hashemi

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Vice Chancellor for Research, Shiraz University of Medical Sciences, 7th floor, Central Building of Shiraz University of Medical Sciences, Zand Street

City

Shiraz

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, Shiraz 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

Shiraz University of Medical Sciences

Full name of responsible person

Zahra Nikeghbalian

Position

Physician, Anesthesiology Resident

Other areas of specialty/work

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Person responsible for scientific inquiries

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Shiraz University Of Medical Sciences

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Position

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

Farzaneh Masihi

Position

English Consultant, Anesthesiology Research Center Staff

Other areas of specialty/work

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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