Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

Comparison of the speed of ultrasonic method and anatomical criteria for internal jugular vein catheter insertion in patients requiring cannulation

Protocol summary

Summary

Objectives: In many patients, especially in severely ill patients using a central vein such as internal jugular vein is necessary for hemodynamic monitoring, receiving intravascular fluids, blood, blood products and medications, total parenteral nutrition, hemodialysis or in patients with difficult or impossible peripheral intravenous cannulation. Accuracy in performing cannulation in minimum time and with the least amount of side effects has particular importance. The aim of the present study is to compare ultrasonic method with anatomical criteria for internal jugular vein catheter insertion in adults requiring cannulation. Design: Block randomization, without placebo, single center, trial phase 2, including 90 patients under internal jugular vein cannulation. Setting and conduct: By using a two-cc syringe with needle size equal to 22 and angle of 45-degree, we direct in the groove between the sternocleidomastoid muscles toward the nipple. Participants including major eligibility criteria: All patients who are supposed to undergo internal jugular vein cannulation. Intervention: By using an ultrasound probe and by a two-cc syringe with needle size equal to 22 and angle of 45-degree directs in the groove between the sternocleidomastoid muscle toward the nipple. By using of clinical criteria such as sternal notch, clavicle, and sternocleidomastoid muscle, a two-cc syringe with needle size 22 and 45 degree angle directs in the groove between the sternocleidomastoid muscle toward the nipple. Main outcome measures: The duration of cannulation, success rate, number of attempts to cannulate a patient.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014112520079N1**

Registration date: **2015-01-02, 1393/10/12**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-01-02, 1393/10/12

Registrant information

Name

Seyed Mohsen Ziyaeifard

Name of organization / entity

Iran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 8670 2503

Email address

mziyaeifard@rhz.ac.ir

Recruitment status

Recruitment complete

Funding source

Iran University of Medical Sciences, Vice Chancellor for Research

Expected recruitment start date

2014-12-22, 1393/10/01

Expected recruitment end date

2015-02-20, 1393/12/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the speed of ultrasonic method and anatomical criteria for internal jugular vein catheter insertion in patients requiring cannulation

Public title
Using sonography in finding the cervical vein of critically ill patients
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria: 1. Age between 14 to 65 years old
Exclusion criteria: 1. Pregnancy 2. Sensitivity to topical anesthetics 3. Infection or burn in neck
Age
From **14 years** old to **65 years** old
Gender
Both

Phase
2
Groups that have been masked
No information
Sample size
Target sample size: **90**
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
Ethics committee of Iran University of Medical Sciences
Street address
Headquarters building, 5th floor, intersection of Sheikh Fazl-Allah Noori and Shahid Chamran, Western Hemmat highway, Tehran, Iran
City
Tehran
Postal code
Approval date
2010-09-23, 1389/07/01
Ethics committee reference number
3892/105/93

Health conditions studied

1

Description of health condition studied
Cardiovascular problem
ICD-10 code
I51.6
ICD-10 code description
Cardiovascular disease, unspecified

Primary outcomes

1

Description
The duration of cannulation
Timepoint
At the end of cannulation
Method of measurement
Using chronometer and recording in questionnaire

2

Description
Percentage of successful cannulation
Timepoint
At the end of cannulation
Method of measurement
Recording the number of successful cannulations in questionnaire

3

Description
Number of attempts to cannulate a patient
Timepoint
At the end of cannulation
Method of measurement
Recording the number of cannulations for a patient in questionnaire

Secondary outcomes

empty

Intervention groups

1

Description
Intervention 1. Using ultrasound probe and by a needle size 19 attached to a 10 cc syringe, cannulate internal jugular vein groove between the sternocleidomastoid muscle.
Category
Treatment - Other

2

Description
Intervention 2. By using of clinical criteria, a two-cc syringe with needle size 22 and a 45 degree angle directs in the groove between the sternocleidomastoid muscle toward the nipple.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Rasool-e Akram hospital
Full name of responsible person
Seyed Mohsen Ziyaeifard
Street address
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Iran University of Medical Sciences, Vice Chancellor for Research
Full name of responsible person
Dr Seyed Ali Javad Mousavi
Street address
Headquarters building, 2nd floor, intersection of Sheikh Fazl-Allah Noori and Shahid Chamran, Western Hemmat highway, Tehran, Iran
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Iran University of Medical Sciences, Vice Chancellor for 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
Iran University of Medical Sciences
Full name of responsible person
Seyed Mohsen Ziyaeifard
Position
Anesthesiologist
Other areas of specialty/work
Street address
Headquarters building, 5th floor, intersection of Sheikh Fazl-Allah Noori and Shahid Chamran, Western Hemmat highway, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 8670 2503
Fax
Email
mziyaeifard@yahoo.com
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Iran University of Medical Sciences
Full name of responsible person
Seyed Mohsen Ziyaeifard
Position
Anesthesiologist
Other areas of specialty/work
Street address
Headquarters building, 5th floor, intersection of Sheikh Fazl-Allah Noori and Shahid Chamran, Western Hemmat highway, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 8670 2503
Fax
Email
mziyaeifard@yahoo.com
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Iran University of Medical Sciences
Full name of responsible person
Seyed Mohsen Ziyaeifard
Position
Anesthesiologist
Other areas of specialty/work
Street address
Headquarters building, 5th floor, intersection of Sheikh Fazl-Allah Noori and Shahid Chamran, Western Hemmat highway, Tehran, Iran
City
Tehran
Postal code
Phone
+98 21 8670 2503
Fax
Email
mziyaeifard@yahoo.com
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