

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

Assessing the effect of prophylactic Furosemide infusion on Glomerular filtration Rate (GFR) in adult cardiac surgery

Protocol summary

Summary

Objective: studying the effect of furosemide on Glomerular filtration rate (GFR) in cardiac surgery
Design: Prospective randomized clinical trial
Setting and conduct: Eighty adult patients candidate for elective cardiac surgery using cardiopulmonary bypass, randomly will be allocated in two furosemide and placebo groups (N=40). Preoperative plasma creatinine will be measured in all patients and GFR will be calculated. After induction of anesthesia, in furosemide group, furosemide infusion (2 milligram per hour) and in placebo group 2 milliliter 0.9 percent saline infusion will be started and will be continued up to 12 hours post operatively. Plasma creatinine will be measured in second and fifth post operative days and GFR will be calculated. At the end the plasma creatinine and GFR changes will be compared between two groups
Inclusion criteria: Patients between 18-60 Years olds who are candidate for elective cardiac surgery
Exclusion criteria: urgent surgery; redo surgery; Plasma creatinine more than 1.5 milligram per deciliter ; GFR less than 50 milliliter per minute; Left Ventricular EF less than 40 percent
Intervention: Starting infusion of furosemide infusion 2 milligram per hour after induction of anesthesia up to 12 hours post operatively
Outcome measures: Post to preoperative plasma creatinine and GFR changes

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138706091127N1**
Registration date: **2014-09-22, 1393/06/31**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2014-09-22, 1393/06/31

Registrant information

Name

Eissa Bilehjani

Name of organization / entity

Tabriz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 41 3329 6124

Email address

bilehjanii@tbzmed.ac.ir

Recruitment status

Recruitment complete

Funding source

Tabriz University of Medical Sciences

Expected recruitment start date

2014-09-06, 1393/06/15

Expected recruitment end date

2015-03-06, 1393/12/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Assessing the effect of prophylactic Furosemide infusion on Glomerular filtration Rate (GFR) in adult cardiac surgery

Public title

Effect of Furosemide Kidney Function in adult cardiac surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion Criteria: All Patients Between 18-60 Years Olds

Who Are Candidate for Elective Cardiac Surgery
Exclusion Criteria: Urgent Surgery; Redo Surgeries;
Plasma Creatinine >1.5 milligram per deciliter;
GFR<50ml/min; Left Ventricular EF<40 percent

Age

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

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **80**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tabriz University of Medical Sciences

Street address

Golgasht, Daneshgah Street, Tabriz

City

Tabriz

Postal code

Approval date

2014-05-05, 1393/02/15

Ethics committee reference number

9320

Health conditions studied

1

Description of health condition studied

Acute Post Operative Renal Failure

ICD-10 code

N17.9

ICD-10 code description

Acute Renal Failure, Unspecified

Primary outcomes

1

Description

Estimated Glomerular Filtration Rate

Timepoint

At Preoperative, Second and Fifth Post Operative Days

Method of measurement

On Line Glomerular Filtration Rate Calculator Using
Plasma Creatinine by Cockcroft-Gault Formula

Secondary outcomes

1

Description

Plasma Creatinine Concentration

Timepoint

At Preoperative, Second and Fifth Post Operative Days

Method of measurement

In Hospital Laboratory (Milligram per deciliter)

Intervention groups

1

Description

Intervention group: After Anesthesia Induction,
Intravenous Furosemide (Alborz Darou) Infusion 2 mg/h
(100 mg in 50 cc of normal saline) Will Be Started And
Continued up to 12 Hour Post Operatively

Category

Treatment - Drugs

2

Description

Control group: After Anesthesia Induction, NaCl 0.9%
Infusion (2 ml/h) Will Be Started and Continued up to 12
Hour Post Operatively.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Madani Heart Hospital

Full name of responsible person

Eissa Bilehjani

Street address

Madani Heart Center, Daneshgah Street, Tabriz

City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research of Tabriz University of Medical Sciences

Full name of responsible person

Mohammad Reza Rashidi

Street address

Tabriz University of Medical Sciences, Daneshgah Street, Tabriz

City

Tabriz

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 of Tabriz 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

Medicine faculty, Tabriz University of Medical Sciences

Full name of responsible person

Hassan Soleiman Pour

Position

Vice Chancellor for research of Tabriz University of Medical Sciences

Other areas of specialty/work

Street address

Tabriz Medicine faculty, Daneshgah Street, Tabriz

City

Tabriz

Postal code

Phone

+98 41 1336 4667

Fax

Email

soleimanpourh@tbzmed.ac.ir

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

Eissa Bilehjani

Position

Assistant Professor in Anesthesiology

Other areas of specialty/work

Street address

Madani Heart Center, Daneshgah Street, Tabriz

City

Tabriz

Postal code

516615573

Phone

+98 41 1337 3950

Fax

Email

bilehjanii@tbzmed.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

Eissa Bilehjani

Position

Assistant Professor in Anesthesiology

Other areas of specialty/work

Street address

Madani Heart Center, Daneshgah Street, Tabriz

City

Tabriz

Postal code

Phone

+98 41 1332 1454

Fax

Email

bilehjanii@tbzmed.ac.ir

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