

Clinical Trial Protocol

Iranian Registry of Clinical Trials

22 Jul 2026

Comparing the effects of 5% albumin and 6% hydroxyethyl starch 130/0.4 on glomerular filtration rate and serum creatinine when used as priming solutions for cardiopulmonary bypass pump.

Protocol summary

Summary

The aim of this study is Comparing the effects of 5% albumin and 6% hydroxyethyl starch 130/0.4 on glomerular filtration rate and serum creatinine when used as priming solutions for cardiopulmonary bypass pump. Sixty adult patients undergoing coronary bypass graft heart surgery were randomly assigned to either the human albumin or hydroxyethyl starch group. Inclusion criteria: patients undergoing elective coronary artery bypass grafting; age between 30 - 60 . Exclusion criteria: chronic renal failure; cardiopulmonary by pass pump time over 2 hours; Patients were underwent an emergency operation; infective endocarditis; preoperative coagulation disorder; liver insufficiency; a left ventricular ejection fraction of less than 50%; previous cardiac surgery; a hemoglobin level of less than 10 milligram per deciliter before surgery. 500 milliliter of 5% human albumin (human albumin group), N:30 or hydroxyethyl starch 130/0.4 (starch group), N:30 were added to the priming solution of the Cardiopulmonary bypass pump circuit for each group, respectively. renal function variables included serum creatinine and glomerular filtration rate were measured preoperative and postoperative at 24, 48 and 72 hour.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015011620112N4**

Registration date: **2015-02-04, 1393/11/15**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-02-04, 1393/11/15

Registrant information

Name

Pooya Derakhshan

Name of organization / entity

Birjand University of Medical Sciences

Country

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Phone

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Recruitment status

Recruitment complete

Funding source

Birjand University Of Medical Sciences

Expected recruitment start date

2012-01-01, 1390/10/11

Expected recruitment end date

2014-09-01, 1393/06/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the effects of 5% albumin and 6% hydroxyethyl starch 130/0.4 on glomerular filtration rate and serum creatinine when used as priming solutions for cardiopulmonary bypass pump.

Public title

Albumin Versus Hydroxyethyl Starch in Cardiopulmonary Bypass Surgery

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: patients undergoing elective coronary artery bypass grafting; age between 30 - 60 . Exclusion criteria: chronic renal failure; cardiopulmonary by pass pump time over 2 hours; Patients were underwent an emergency operation; infective endocarditis; preoperative coagulation disorder; liver insufficiency; a left ventricular ejection fraction of less than 50%; previous cardiac surgery; a hemoglobin level of less than 10 milligram per deciliter before surgery.

Age

From **30 years** old to **60 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

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

Double blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Birjand University of Medical Sciences

Street address

N:56, Ghafari Ave.

City

Birjand

Postal code

1973456783421589

Approval date

2010-08-20, 1389/05/29

Ethics committee reference number

1391-78-90

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

Atherosclerotic heart disease

ICD-10 code

I25.1

ICD-10 code description

Atherosclerotic heart disease

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

serum Creatinine

Timepoint

preoperative and every 24 hours to 72 hours
postoperatively

Method of measurement

isotope dilution mass spectrometry

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

Glomerular filtration rate

Timepoint

preoperative and Every 24 hours to 72 hours
postoperatively

Method of measurement

isotope dilution mass spectrometry

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

500 milliliter human albumin 5% as a priming solution of cardiopulmonary bypass pump.

Category

Treatment - Drugs

2**Description**

500 milliliter 6% hydroxyethyl starch 130/0.4 as priming solution of cardiopulmonary bypass pump

Category

Treatment - Drugs

Recruitment centers**1****Recruitment center****Name of recruitment center**

Vali Asr Hospital

Full name of responsible person

Pooya Derakhshan

Street address

Imam Reza Hospital, Taleghani St.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Birjand University of Medical Sciences

Full name of responsible person

Mahmood Hosseini Zadeh Maleki

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Ghafari Ave.

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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

Birjand 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**

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Full name of responsible person

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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