

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

The effect of magnesium sulfate infusion on blood levels of ProBNP in patients undergoing coronary artery bypass grafting

Protocol summary

Summary

This study will evaluate the effect of MgSO₄ (as a vasodilator, improving agent for diastolic dysfunction and arrhythmia attenuator) on serum ProBNP (as the indicator of prognosis) in 60 patients who are undergoing coronary artery bypass grafting for the first time. These patients have at least 2 stenotic coronary arteries more than 70% and Ejection Fraction (EF) less than 45%. Patients who present renal failure, history of arrhythmia or need to undergo emergency operation will be excluded. Patients will be allocated to intervention and control group randomly. Intervention group will receive MgSO₄ infusion 20mg/kg/hour and control group infusion of Normal Saline as placebo. Serum level of ProBNP and mechanical ventilation time will be the outcome of this study which will be compared between groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201205069650N1**

Registration date: **2012-06-28, 1391/04/08**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2012-06-28, 1391/04/08

Registrant information

Name

Ehsan Bastanifar

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 2261 5486

Email address

e.bastanifar@gmail.com

Recruitment status

Recruitment complete

Funding source

Anesthesia research center, Shahid Beheshti University of Medical Sciences

Expected recruitment start date

2012-06-30, 1391/04/10

Expected recruitment end date

2012-09-15, 1391/06/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of magnesium sulfate infusion on blood levels of ProBNP in patients undergoing coronary artery bypass grafting

Public title

The effect of Mg on the cardiac biomarker proBNP

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: significant coronary artery stenosis (2VD or 3VD) and EF<45%. Exclusion criteria: 1.Conduction abnormality (branch block); 2.AF rhythm; 3.Diabetes mellitus. 4.cr>1.8; 5.Emergent surgery; 6.Unstable angina; 7.Redo surgery; 8.Combination surgery (carotid endarterectomy, vulvoplasty); 9.long QT syndrome, neuromuscular junction disorders.

Age

No age limit

Gender

Both

Phase

2-3

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**

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Shahid Beheshti University of medical sciences

Street address

Velenjak

City

Tehran

Postal code**Approval date**

2010-05-23, 1389/03/02

Ethics committee reference number

88011486646

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**

ProBNP

Timepoint

before intervention, 24 hours after intervention

Method of measurement

ELISA based lab kit

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

mechanical ventilation time

Timepoint

days on mechanical ventilation

Method of measurement

questionnaire

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

Control: infusion of Normal Saline

Category

Placebo

2**Description**

Intervention: MgSO4 infusion 20mg/kg/hour

Category

Treatment - Drugs

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

Modarres hospital

Full name of responsible person

Dr. Mahnoosh Foroughi

Street addressCardiac research center, Modarres hospital, Saadat
abad**City**

Tehran

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**Anesthesiology Research Center, Shahid Beheshti
University of medical sciences**Full name of responsible person**

Dr. Hedayat Allah Eliahi

Street addressAnesthesiology research center, Shahid Beheshti
University of Medical Sciences, Taleghani hospital**City**

Tehran

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Anesthesiology Research Center, Shahid Beheshti
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**

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr. Mahnoosh Foroughi

Position

Assistant Professor

Other areas of specialty/work**Street address**

Cardiac research center, Modarres hospital

City

Tehran

Postal code**Phone**

+98 21 2208 3106

Fax

+98 21 2208 3106

Email

mahnoosh.foroughi@gmail.com

Web page address**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr. Mahnoosh Foroughi

Position

assistant professor

Other areas of specialty/work**Street address**

Cardiac research center, Modarres hospital

City

Tehran

Postal code**Phone**

+98 21 2208 3106

Fax

+98 21 2208 3106

Email

mahnoosh.foroughi@gmail.com

Web page address**Person responsible for updating data****Contact****Name of organization / entity**

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Dr. Mahnoosh Foroughi

Position

Assistant Professor of cardiac surgery

Other areas of specialty/work**Street address**

Cardiac research center, Modarres hospital

City

Tehran

Postal code**Phone**

+98 21 2208 3106

Fax

+98 21 2208 3106

Email

mahnoosh.foroughi@gmail.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