

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Sep 2026

Effect of magnesium in reducing arrhythmias in patients after CABG surgery

Protocol summary

Summary

This study investigated the effect of magnesium in reducing arrhythmia after CABG surgery on 140 patients undergoing elective surgery were to be done in Imam Khomeini hospital of Ardabil. Based on initial blood levels of magnesium, patients are divided into two main groups of normo-Magnesium and hypo-Magnesium. Magnesium Blood levels of hypo-Magnesium patients corrected with administration of 2 g of magnesium sulfate. Then both main groups undergo surgery with normal blood levels. After surgery, both groups were randomly divided into two sub-groups. In one Sub-group 2 grams of magnesium sulfate intravenously in a single dose, given for prophylaxis, and next sub-group in the same amount of distilled water as a placebo given intravenously. This process done on both subgroups of the main groups. Then, this four sub-groups will be monitored for the occurrence of arrhythmias, blood levels of magnesium and complications for three days. Finally, the results are interpreted and compared according to the subgroup.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015092224133N1**

Registration date: **2015-10-05, 1394/07/13**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-10-05, 1394/07/13

Registrant information

Name

Farshad Tofighi

Name of organization / entity

Ardabil University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 45 3371 5561

Email address

farshad.to02@gmail.com

Recruitment status

Recruitment complete

Funding source

Governmental-Ardabil University of Medical Sciences

Expected recruitment start date

2014-04-04, 1393/01/15

Expected recruitment end date

2015-03-19, 1393/12/28

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of magnesium in reducing arrhythmias in patients after CABG surgery

Public title

The effect of magnesium in post-CABG arrhythmias

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion :1- All patients candidate elective CABG surgery
Cardiac Surgery 2-Primary blood levels of magnesium
exclusion : death in the CABG surgery or during the 12 hours after surgery

Age

No age limit

Gender

Both

Phase

2-3

Groups that have been masked

No information

Sample size

Target sample size: **140**

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

Ardabil University of Medical Sciences

Street address

Janbazan Square, Daneshgah Avenue, opposite
Shorabil, University of Medical Sciences, Faculty of
Medicine and Paramedical

City

Ardabil

Postal code

5618953141

Approval date

2015-08-08, 1394/05/17

Ethics committee reference number

IR.ARUMS.REC.1394.20

Health conditions studied

1

Description of health condition studied

Ventricular premature depolarization

ICD-10 code

I49.3

ICD-10 code description

Ventricular premature depolarization

2

Description of health condition studied

Atrial fibrillation

ICD-10 code

I48

ICD-10 code description

Atrial fibrillation and flutter

Primary outcomes

1

Description

Cardiac arrhythmia

Timepoint

3 days after surgery

Method of measurement

Electrocardiogram

Secondary outcomes

1

Description

Blood levels of magnesium

Timepoint

daily for 3 day

Method of measurement

Milligrams per deciliter by arterial blood samples

Intervention groups

1

Description

2 g of magnesium sulfate prescribed in the intervention
group before and after surgery, intravenous, single dose

Category

Prevention

2

Description

In the control group administered 2 g of distilled water
before and after surgery, intravenous, single dose

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini hospital of Ardabil

Full name of responsible person

Street address

City

Ardabil

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ardabil University of Medical Sciences

Full name of responsible person

Parvaneh naft-chi

Street address

School of Medical -Research Unit

City

Ardabil

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

Yes

Title of funding source

Ardabil 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**

Ardabil University of Medical Sciences

Full name of responsible person

Farshad Tofighi

Position

Student of medicine

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

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

Ardabil University of Medical Sciences

Full name of responsible person

Dr Alireza mohammadzadeh

Position

Heart Surgery Subspeciality

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Ardabil University of Medical Sciences

Full name of responsible person

Farshad Tofighi

Position

Student of medicine

Other areas of specialty/work**Street address****City****Postal code****Phone**

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Fax**Email****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