Clinical Trial Protocol
Iranian Registry of Clinical Trials

17 Sep 2026

Determination of optimal prophylactic dose of magnesium sulfate for prevention of atrial fibrillation after CABG surgery

Protocol summary

Summary

This is a randomized double blind clinical trial study which will be conducted on 120 patients undergoing elective coronary artery bypass graft (CABG) surgery at Mazandaran Heart center, Sari, Iran. 120 Patients who meet inclusion criteria randomly divided into 3 equal groups. Group 1, 2 and 3 respectively receive 60, 80 and 100 mg/kg magnesium sulfate via cardioplegic solution during aortic cross clamp. Then all patients will be monitored for 3 days after surgery regarding occurrence of postoperative atrial fibrillation (AF). After collecting and classifying of information, data will be analyzed with SPSS18.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201211124365N15**
Registration date: **2012-12-15, 1391/09/25**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2012-12-15, 1391/09/25

Registrant information

Name

Afshin Gholipour Baradari

Name of organization / entity

Mazandaran University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 11 3326 1245

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gholipourafshin@mazums.ac.ir

Recruitment status

Recruitment complete

Funding source

Vice chancellor for research of Mazandaran University of Medical Sciences

Expected recruitment start date

2011-05-22, 1390/03/01

Expected recruitment end date

2012-05-21, 1391/03/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Determination of optimal prophylactic dose of magnesium sulfate for prevention of atrial fibrillation after CABG surgery

Public title

Determination of optimal prophylactic dose of magnesium sulfate for prevention of atrial fibrillation after CABG surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: signing informed consent; candidate for elective CABG based on angiography; use of cardiopulmonary bypass (CBP) during surgery; no previous history of any cardiac dysrhythmias that is under treatment (including AF); hemodynamic stability (MAP>50, heart rate between 50-110); age between 35&75 years old. Exclusion criteria: history of heart failure (Ejection Fraction less than 30%); more than 4 grafts; renal failure (serum creatinine >1.5 in two consecutive test); hepatic failure (liver function tests more than 1.5 times of normal value); history of COPD; hyperthyroidism; serum PH < 7.25 or > 7.55;

postoperative MI; second or third degree AV block; need for pacemaker after surgery; reoperation for any reason; history of pervious cardiac surgery; anti-arrhythmic drugs consumption (except beta blocker).

Age
From **35 years** old to **75 years** old

Gender
Both

Phase
2-3

Groups that have been masked
No information

Sample size
Target sample size: **120**

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
Ethic committee of Mazandaran University of Medical Sciences

Street address
Moallem Square, Mazandaran University of Medical Sciences

City
Sari

Postal code
46175866

Approval date
2011-02-05, 1389/11/16

Ethics committee reference number
89-130

Health conditions studied

1

Description of health condition studied
Atrial fibrillation

ICD-10 code
I48

ICD-10 code description
Atrial fibrillation and flutter

Primary outcomes

1

Description
Atrial fibrillation

Timepoint
up to 3 days after operation

Method of measurement
ECG monitoring

Secondary outcomes

1

Description
PH

Timepoint
Before Before trial, during the operation,1st day, 2nd day and 3th day after operation, during the operation,1st day, 2nd day and 3th day after operation

Method of measurement
Laboratory kit

2

Description
K

Timepoint
Before Before trial, during the operation,1st day, 2nd day and 3th day after operation, during the operation,1st day, 2nd day and 3th day after operation

Method of measurement
Laboratory kit - mEq/L

3

Description
Mg

Timepoint
Before Before trial, during the operation,1st day, 2nd day and 3th day after operation, during the operation,1st day, 2nd day and 3th day after operation

Method of measurement
Laboratory kit - mg/dl

Intervention groups

1

Description
Intervention 1: 60 mg/Kg MgSO4 via cardioplegic solution during cross clamping

Category
Prevention

2

Description
Intervention 2: 80 mg/Kg MgSO4 via cardioplegic solution during cross clamping

Category

Prevention

3

Description
Intervention 3: 100mg/Kg MgSO4 via cardioplegic solution during cross clamping
Category
Prevention

Recruitment centers

1

Recruitment center
Name of recruitment center
Mazandran Heart Center
Full name of responsible person
Afshin Gholipour Baradari, MD
Street address
Mazandaran Heart center, Artesh Blvd
City
Sari

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vice chancellor for research of Mazandaran University of Medical Sciences
Full name of responsible person
Ahmad Ali Enayati, MD
Street address
Moallem Square, Mazandaran university of medical sciences
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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
Vice chancellor for research of Mazandaran 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
Mazandaran University of Medical Sciences
Full name of responsible person
Afshin Gholipour Baradari, MD
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CCMF, Associate Professor, Chief of ICU
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Person responsible for scientific inquiries

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Person responsible for updating data

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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