Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 May 2026

Evaluating the effect of L-carnitine on CK-MB and troponin T value following coronery artery bypass grafting (CABG) surgery

Protocol summary

Summary

The goal of this randomized clinical trial is evaluation of the impacts of L-carnitine on the prevention of postoperative atrial fibrillation following coronery artery bypass grafting (CABG) surgery. One of the most common adverse effects after CABG surgery is atrial fibrillation (AF) which occurs to 15% to 40% of the patients. AF causes pump failure and ventricular filling dysfunction, so prevention of AF has a great effect on reducing the mortality of patients. L-carnitine has the ability to transport the long-chain fatty acids from cytoplasm to mitochondria where the oxidative metabolism produces ATP for myocardia. One hundred patients were randomly placed in two groups of 50 people (intervention and control group). The first group of patients will receive 3 g L - carnitine (1 g every 8 hours) for 2 days before and after surgery. The next group will not receive the drug. In both groups, blood samples are collected and CK-MB and Troponin T (as baseline level before surgery and 8 and 24 hours after surgery) will be measured.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201404268698N13**
Registration date: **2014-06-12, 1393/03/22**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2014-06-12, 1393/03/22

Registrant information

Name

Azita Hajhossein Talasaz

Name of organization / entity

Department of Clinical Pharmacy, Faculty of Pharmacy, Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 66954709

Email address

atalasaz@razi.tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Sciences

Expected recruitment start date

2013-08-01, 1392/05/10

Expected recruitment end date

2014-08-01, 1393/05/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluating the effect of L-carnitine on CK-MB and troponin T value following coronery artery bypass grafting (CABG) surgery

Public title

Evaluating the effect of L-carnitine on CK-MB and troponin T value following coronery artery bypass grafting (CABG) surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: The patients who candidate for Coronary artery bypass graft surgery in Tehran Heart center are selected by simple randomised method; There are not any limitations for age; and sex in this study.

Exclusion criteria: Valvular surgery; History of supraventricular arrhythmia; History of siezure; History of hypersensitivity reaction to l-carnitine; Chronic liver failure (Liver enzymes more than 3 times of ULN); Chronic kidney disease (Stage IV & V); Hypothyroidism; Use of Magnesium, NSAIDs and Antiarrhythmic medication, history of myocardial infarction within 1 month of hospitalization

Age
No age limit

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **100**

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
Tehran Heart Center

Street address
Jalal Ale Ahmad, North Karegar

City
Tehran

Postal code

Approval date
2012-08-13, 1391/05/23

Ethics committee reference number
567

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
Atrial fibrillation

Timepoint
5 days post CABG surgery

Method of measurement
ECG, CK-MB

Secondary outcomes

1

Description
Atrial fibrillation

Timepoint
5 days post CABG surgery

Method of measurement
Troponin T

Intervention groups

1

Description
Intervention group: administration of L-carnitine, 1 g oral solution vial, 3 times a day (TDS) every 8 hours, duration of intervention is 4 days (from 48 hours before surgery until 48 hours after it)

Category
Treatment - Drugs

2

Description
Control group: This group does not receive any interventions

Category
N/A

Recruitment centers

1

Recruitment center

Name of recruitment center
Tehran heart center

Full name of responsible person

Street address

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Tehran university of medical sciences

Full name of responsible person
Fatemeh Saeidi
Street address
Keshaverz Blv, Qods St, Tehran university of medical sciences, Research deputy
City
Tehran
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Tehran 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
Tehran University of Medical Sciences
Full name of responsible person
Azita Hajhossein Talasaz
Position
Assisstant professor, Clinical pharmacy specialist
Other areas of specialty/work
Street address
Enghelab St., 16 Azar St., Faculty of pharmacy, Tehran university of medical sciences
City
Tehran
Postal code
Phone
+98 21 6695 4709
Fax
Email
atalasaz@razi.tums.ac.ir
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Azita Hajhossein Talasaz
Position
Assisstant professor, Clinical pharmacy specialist
Other areas of specialty/work
Street address
Enghelab St., 16 Azar St., Faculty of pharmacy, Tehran university of medical sciences
City
Tehran
Postal code
Phone
+98 21 6695 4709
Fax
Email
atalasaz@razi.tums.ac.ir
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Tehran university of medical sciences
Full name of responsible person
Azita Hajhossein Talasaz
Position
Assisstant professor Clinical pharmacy specialist
Other areas of specialty/work
Street address
Department of Clinical Pharmacy, Faculty of Pharmacy, Tehran University of Medical Sciences
City
Tehran
Postal code
Phone
+98 21 6695 4709
Fax
Email
atalasaz@razi.tums.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