

Clinical Trial Protocol

Iranian Registry of Clinical Trials

06 Jul 2026

Evaluating the effect of ubiquinone (CoQ10) on the prevention of postoperative Acute Kidney Injury (AKI) following Coronary Artery Bypass Grafting surgery (CABG)

Protocol summary

Study aim

Evaluation of ubiquinone effects on the prevention of Acute Kidney Injury after Coronary Artery Bypass Graft surgery

Design

In this study, 50 patients who are candidates for Coronary Artery Bypass Graft surgery and referred to Masih Daneshvari Hospital in Tehran are enrolled in the study. Participants are randomly divided into intervention and control groups and each participant is assigned a code.

Settings and conduct

Place of study: Masih Daneshvari Hospital
How to do the study: 50 patients who are candidates for Coronary Artery Bypass Graft surgery are randomly divided into two intervention and control groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Patients who undergo Coronary Artery Bypass Grafting at Masih Daneshvari Hospital are randomly enrolled in the study; there are no restrictions on age and gender for entry. Exclusion criteria: History of hypersensitivity reaction to ubiquinone; Chronic liver failure (Stage II & III); Chronic Kidney Disease (Stage IV & V) or patients with Glomerular Filtration Rate of lower than 30 ml/min; Patient with INR of more than 2.5; Patients who receive anti-inflammatory agents at least two weeks before admission; Patients who undergo emergency CABG.

Intervention groups

In the drug group, patients will receive 600 mg of ubiquinone (300 mg every 12 hours) for 2 days before surgery. The control group does not receive the drug.

Main outcome variables

Incidence of Acute Kidney Injury; Increasing of NGAL biomarker

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20151227025726N16**

Registration date: **2020-05-28, 1399/03/08**

Registration timing: **retrospective**

Last update: **2020-05-28, 1399/03/08**

Update count: **0**

Registration date

2020-05-28, 1399/03/08

Registrant information

Name

Farzaneh Dastan

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 912 270 5933

Email address

f_dastan@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Faculty of Pharmacy, Shahid Baheshti University of Medical Sciences

Expected recruitment start date

2016-06-19, 1395/03/30

Expected recruitment end date

2017-06-20, 1396/03/30

Actual recruitment start date

2016-06-19, 1395/03/30

Actual recruitment end date

2017-06-20, 1396/03/30
Trial completion date
2017-07-21, 1396/04/30

Scientific title

Evaluating the effect of ubiquinone (CoQ10) on the prevention of postoperative Acute Kidney Injury (AKI) following Coronary Artery Bypass Grafting surgery (CABG)

Public title

Evaluating the effect of ubiquinone (CoQ10) on the prevention of Acute Renal Injury following open heart surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

The patients who are candidates for Coronary Artery Bypass Graft surgery in Masih Daneshvari Hospital

Exclusion criteria:

History of hypersensitivity reaction to ubiquinone Chronic liver failure (Stage II & III) Chronic kidney disease (Stage IV & V) or patients with Glomerular Filtration Rate of lower than 30 ml/min Patient with INR of more than 2.5 Patients who receive anti-inflammatory agents at least two weeks before admission Patients who undergo emergency CABG.

Age

No age limit

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **50**
More than 1 sample in each individual
Number of samples in each individual: **3**
Plasma sample
Actual sample size reached: **50**
More than 1 sample in each individual
Actual sample size in each individual: **3**
Plasma sample

Randomization (investigator's opinion)

Randomized

Randomization description

Simple randomization method using table of random numbers is applied to the study population. Unit of randomization is individual. Even and odd numbers are chosen for the case and the control group, respectively. Numbered drug containers are applied for allocation concealment.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of School of Pharmacy, Nursing, and Midwifery; Shahid Beheshti University of Medica

Street address

No. 2660, Vali-e Asr St., Niyayesh Junction, Tehran

City

Tehran

Province

Tehran

Postal code

141556153

Approval date

2016-03-01, 1394/12/11

Ethics committee reference number

IR.SBMU.PHNM.1394.311

Health conditions studied

1

Description of health condition studied

Acute Kidney Injury

ICD-10 code

N99.0

ICD-10 code description

Postprocedural (acute) (chronic) kidney failure

Primary outcomes

1

Description

Acute Kidney Injury

Timepoint

before surgery and 6 & 24 hours after surgery

Method of measurement

Evaluation of NGAL kits

Secondary outcomes

1

Description

Checking of inflammatory biomarkers

Timepoint

before surgery and 24 hours after surgery

Method of measurement

Evaluation of CRP kit

Intervention groups

1

Description

Intervention group: administration of ubiquinone oral tablets, 300 mg, 2 times a day (every 12 hours), for 2 days (48 hours before surgery)

Category

Prevention

2

Description

Control Group: will not receive the drug .

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Masih Daneshvari Hospital

Full name of responsible person

Farzaneh Dastan

Street address

Masih Daneshvari Hospital, Daar-Abad, Shahid Bahonar St. (Niavaran)

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1956944413

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fzh.dastan@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Afshin Zarghi

Street address

3rd floor, School of Medicine, Evin St, Shahid Chamran Highway

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1983963113

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mpd@sbm.ac.ir

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Shahid Beheshti University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Masih Daneshvari Hospital

Full name of responsible person

Alireza Jahangirifard

Position

Associate professor

Latest degree

Specialist

Other areas of specialty/work

Anesthesiology

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Farzaneh Dastan

Position

Assistant Professor, Clinical Pharmacy Specialist

Latest degree

Ph.D.

Other areas of specialty/work

Medical Pharmacy

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Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available

Title and more details about the data/document

All potential data can be shared after blinding.

When the data will become available and for how long

Six months after results publishing

To whom data/document is available

Researchers working in academic institutions

Under which criteria data/document could be used

For research purposes and meta-analysis studies

From where data/document is obtainable

Dr. Farzaneh Dastan, Masih Daneshvari Hospital, Daar-Abad, Niavaran

What processes are involved for a request to access data/document

Official letter to the researchers

Comments

Person responsible for updating data

Contact

Name of organization / entity

Masih Daneshvari Hospital

Full name of responsible person

Raha Eskandari

Position

Pharm.D

Latest degree

Medical doctor

Other areas of specialty/work

Medical Pharmacy

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