

Clinical Trial Protocol

Iranian Registry of Clinical Trials

01 Aug 2026

Evaluating the effect of N-acetyl cysteine on the Early Remodeling Biomarkers (MMPs & NT-Pro-BNP) in patients following acute myocardial infarction

Protocol summary

Summary

The main objective of this study was to evaluate the efficacy of N-acetylcysteine in the prevention of cardiac remodeling secondary to ischemia and acute myocardial infarction. Hundred patients with diagnosis of acute myocardial infarction were assigned into two groups (50 each) to receive NAC 600 mg BD or placebo with the same dose for 3 days. The early biomarkers of remodeling will be measured after 24 and 72 hours. The results will be compared in these two groups to assess the possible effects of NAC on early cardiac remodeling biomarker.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138905093449N2**

Registration date: **2010-09-04, 1389/06/13**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2010-09-04, 1389/06/13

Registrant information

Name

Hossein Khalili

Name of organization / entity

Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 6695 4715

Email address

khalilih@tums.ac.ir

Recruitment status

Recruitment complete

Funding source

Tehran University of Medical Sciences

Expected recruitment start date

2010-08-23, 1389/06/01

Expected recruitment end date

2011-01-20, 1389/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluating the effect of N-acetyl cysteine on the Early Remodeling Biomarkers (MMPs & NT-Pro-BNP) in patients following acute myocardial infarction

Public title

Evaluation of N-acetylcystein effects on cardiac remodeling biomarkers

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: ST-elevation AMI diagnosed by the following criteria: (1) typical chest pain lasting >30 minutes, (2) 1-mm ST elevation in 2 contiguous limb leads or 2-mm ST elevation in 2 contiguous chest leads, and (3) increase in creatine kinase or in troponin T level to 2 times the upper limit of normal. Exclusion criteria: previous AMI or HF, AF or valve disease, and history of neoplastic, renal, liver, or thyroid disease, acute or chronic infections or autoimmune diseases, under treatment with anti-inflammatory drugs, or underwent surgical procedures in the preceding 3 months, unwillingness for entering in the study

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
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Tehran University of Medical Sciences

Street address
Tehran University of Medical Sciences

City
Tehran

Postal code

Approval date
2010-07-19, 1389/04/28

Ethics committee reference number
89-01-33-10373

Health conditions studied

1

Description of health condition studied
Acute Myocardial Infarction

ICD-10 code
I21

ICD-10 code description
Acute myocardial infarction

Primary outcomes

1

Description
MMP-9 as early cardiac remodeling biomarker

Timepoint
24 and 72 hours after administration of NAC

Method of measurement

Elisa

2

Description
Nt-pro-BNP as early cardiac remodeling biomarker

Timepoint
24 and 72 hours after administration of NAC

Method of measurement
Elisa

3

Description
MMP-2 as early cardiac remodeling biomarker

Timepoint
24 and 72 hours after administration of NAC

Method of measurement
Elisa

Secondary outcomes

empty

Intervention groups

1

Description
Intervention: NAC 600 mg BD PO for 3 days

Category
Prevention

2

Description
Control: Placebo BD PO for 3 days

Category
Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center
Tehran Heart Center

Full name of responsible person
Dr Mojtaba Salarifar

Street address
Tehran Heart Center, North Karegar Ave, Tehran, Iran

City
Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Tehran University of Medical sciences

Full name of responsible person
Fatemeh Saeedi

Street address
Tehran University of Medical Sciences, Enghelab Ave,

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

Person responsible for scientific inquiries

Contact

Name of organization / entity
Tehran university of Medical Sciences

Full name of responsible person
Hossein Khalili

Position
Associate Professor

Other areas of specialty/work

Street address
Tehran University of Medical Sciences, Enghelab Ave,

City
Tehran

Postal code
1417614411

Phone
+98 21 6695 4715

Fax
+98 66954709

Email
khalilih@tums.ac.ir

Web page address

Person responsible for updating data

Contact

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