

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)

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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
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Tehran University of Medical Sciences, Enghelab Ave,
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Email
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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