Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Assessment of the effectiveness of N-acetylcysteine on improving pulmonary systolic blood pressure, protein C reactive, pro- BNP, and the degree of dyspnea in patients with pulmonary hypertension and heart failure before and after treatment

Protocol summary

Study aim
effect of N-acetylcysteine before and after treatment on CRP levels in heart failure patients PAP levels in heart failure patients shortness of breath and 6-minute walk test results in heart failure patients pro-BNP levels and right ventricular function

Design
This study is a single-group trial. 32 patients from the patients of Baqee Allah Azam Hospital clinic with pulmonary hypertension based on TDI echo with sPAP≥30 and heart failure are treated with N-acetylcysteine at a dose of 600 mg every 12 hours. Patients are measured for CRP, Pro-BNP, sPAP at baseline and 3 months after treatment, and their level of dyspnea is also questioned and they must rate it from 1 to 10. The numbers are recorded and compared.

Settings and conduct
Baqiyat Allah Hospital - Lung Clinic

Participants/Inclusion and exclusion criteria
Entry requirements 1.Pulmonary arterial hypertension and heart failure 2.sPAP ≥30 Conditions of non-entry 1.Pulmonary hypertension is caused by reasons other than heart disease, such as lung disease, metabolic disease, etc.

Intervention groups
To evaluate the effectiveness of N-acetylcysteine on patients with pulmonary hypertension due to heart disease and to evaluate the level of pulmonary hypertension and C-reactive protein before and after treatment with a dose of 600 mg every 12 hours.

Main outcome variables
sPAP; CRP; Pro-BNP ;Degree of dyspnea

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20260224068939N1**
Registration date: **2026-05-20, 1405/02/30**
Registration timing: **retrospective**

Last update: **2026-05-20, 1405/02/30**
Update count: **0**

Registration date
2026-05-20, 1405/02/30

Registrant information
Name
Shima Mehrabi
Name of organization / entity
Country
Iran (Islamic Republic of)
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+98 21 8805 0435
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mehrabishima808@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-02-19, 1404/11/30

Expected recruitment end date
2026-04-20, 1405/01/31

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

Assessment of the effectiveness of N-acetylcysteine on improving pulmonary systolic blood pressure, protein C reactive, pro- BNP, and the degree of dyspnea in patients with pulmonary hypertension and heart failure before and after treatment

Public title
Studying the effect of N-acetylcysteine on PAP, CRP, Pro-BNP and symptoms caused by pulmonary hypertension in patients with heart failure

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Pulmonary arterial hypertension and heart failure (heart failure patients with reduced ejection fraction, preserved left heart valve disease, cardiomyopathy, previous congenital diseases) sPAP ≥30

Exclusion criteria:
Dissatisfaction with medication for any reason at any stage of follow-up Pulmonary hypertension is a result of causes other than heart disease, such as lung disease, metabolic diseases, medications, infections, vascular collagen, etc.

Age
No age limit

Gender
Both

Phase
2

Groups that have been masked
No information

Sample size
Target sample size: **32**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
lEthics Committee of Baqiyatallah University of Medical Sciences

Street address
Baqiyatallah University of Medical Sciences ., Southern Sheykh bahayi Street., Mollasadra Ave.,Tehran

City
Tehran

Province
Tehran

Postal code
1435915371

Approval date
2026-02-15, 1404/11/26

Ethics committee reference number
IR.BMSU.BAQ.REC.1404.138

Health conditions studied

1

Description of health condition studied
Pulmonary hypertension due to heart disease

ICD-10 code
127.2

ICD-10 code description
Other secondary pulmonary hypertension

Primary outcomes

1

Description
CRP

Timepoint
At the beginning of the study and 3 months after treatment

Method of measurement
Laboratory based on milligrams per liter

2

Description
Dyspnea

Timepoint
At the beginning of the study and 3 months after treatment

Method of measurement
The patient rates their dyspnea from 1 to 10 before and after treatment.

3

Description
6-minute walk test result

Timepoint
At the beginning of the study and 3 months after treatment

Method of measurement
Based on meters

4

Description
Pulmonary artery blood pressure

Timepoint
At the beginning of the study and 3 months after treatment

Method of measurement
Based on specialized echocardiography

5

Description
pro-BNP
Timepoint
At the beginning of the study and 3 months after treatment
Method of measurement
Laboratory and unit picogram per milliliter

6

Description
Taking N-acetylcysteine
Timepoint
At the beginning of the study and 3 months after treatment
Method of measurement
Before and after consumption

7

Description
Right ventricular function
Timepoint
At the beginning of the study and 3 months after treatment
Method of measurement
Based on specialized echocardiography

8

Description
Age
Timepoint
Year
Method of measurement
Year calculation

9

Description
Gender
Timepoint
-
Method of measurement
Appearance

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Single-group clinical trial before and after treatment. 32 patients with pulmonary hypertension due to heart disease are treated with N-acetylcysteine 600 mg every 12 hours for 3 months from the Hakim brand. Before and after treatment, the criteria of shortness of breath, 6-minute test score, pulmonary hypertension score, C-reactive protein, pro-BNP, and right ventricular function are re-measured before and after 3 months of treatment.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Baqiyatallah Hospital
Full name of responsible person
Shima Mehrabi
Street address
Baqiyatallah University of Medical Sciences ., Southern Sheykh bahayi Street., Mollasadra Ave.,Tehran
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Phone
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Email
mehrabishima808@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Bagheiat-allah University of Medical Sciences
Full name of responsible person
Shima Mehrabi
Street address
Baqiyatallah University of Medical Sciences ., Southern Sheykh bahayi Street ., Mollasadra Ave.,Tehran
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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

Bagheiat-allah 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
Bagheiat-allah University of Medical Sciences

Full name of responsible person
Shima Mehrabi

Position
Lung disease fellowship

Latest degree
Specialist

Other areas of specialty/work
Internal Medicine

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Person responsible for scientific inquiries

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Person responsible for updating data

Contact

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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 data will be available in Excel format.

When the data will become available and for how long

Start of access period 6 months after publication of results

To whom data/document is available

Researchers employed in academic and scientific institutions

Under which criteria data/document could be used

For the purpose of verification Individuals with the qualifications mentioned in the previous section

From where data/document is obtainable

MEHRABISHIMA808@GMAIL.COM

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

After authentication as active researchers in academic and scientific institutions

Comments