Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Evaluation of the effectiveness of inhaled furosemide in patients with acute asthma attack

Protocol summary

Study aim

- Determining the effectiveness of inhaler furosemide in patients with acute asthma attack in terms of FEV1 compared to the control group - Determining the effectiveness of inhaler furosemide in patients with acute asthma attack in terms of PEFR compared to the control group - Determining the effectiveness of inhaler furosemide in patients with acute asthma attack in terms of clinical criteria of asthma (CAS) in comparison with the control group - Determine the effectiveness of inhaler furosemide in patients with acute asthma attack in terms of patient residence in emergency department in comparison with the control group

Design

This study was performed as a clinical trial of one-blind phase 3. 90 patients with acute asthma attack were Non randomly divided into two groups of 45 (parallel) intervention and control.

Settings and conduct

This study was conducted at the Shahid Rajai hospital in Karaj. Patients were not aware of the type of treatment. Each patient was assigned a blind direction code.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Satisfaction to participate in the study Asthma diagnosis The incidence of mild to moderate asthma attack (the clinical criterion of asthma 1 to 6) Ability to perform respiratory tests Exclusion criteria: Start over 10 hours of symptoms History of smoking over 10 pack-year Simultaneous acute illness Pregnancy Beta 2 agonist consumption in 6 hours before referral Pneumonia

Intervention groups

In the intervention group, patients, in addition to oxygen, received salbutamol with a dose of 5 mg and Frosemide with a dose of 40 mg with nebuliser Mask. In the control group, oxygen and salbutamol with a dose of 5 mg prescribed for patients with nebuliser Mask.. Patients in both groups received 300 mg of Hydrocortisone intravenously.

Main outcome variables

FEV1 PEFR

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180522039784N2**
Registration date: **2021-11-25, 1400/09/04**
Registration timing: **prospective**

Last update: **2021-11-25, 1400/09/04**
Update count: **0**

Registration date

2021-11-25, 1400/09/04

Registrant information

Name

Pouria Chaghamirzayi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 26 3450 2485

Email address

pouriachaghamirzayi@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-12-22, 1400/10/01

Expected recruitment end date

2022-03-20, 1400/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Evaluation of the effectiveness of inhaled furosemide in patients with acute asthma attack

Public title
Evaluation of the effectiveness of inhaled furosemide in patients with acute asthma attack

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Satisfaction to participate in the study Asthma diagnosis The incidence of mild to moderate asthma attack (the clinical criterion of asthma 1 to 6) Ability to perform respiratory tests

Exclusion criteria:
Start over 10 hours of symptoms History of smoking over 10 pack-year Simultaneous acute illness Pregnancy Beta 2 agonist consumption in 6 hours before referral Pneumonia

Age
From **18 years** old to **65 years** old

Gender
Both

Phase
3

Groups that have been masked

- Participant

Sample size
Target sample size: **90**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description
At the beginning of the study, a code will be defined for each patient that the patient will not be aware of the type of treatment.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Alborz University of Medical Sciences

Street address
Shahid Madani Hospital-Shahid Madani Square-jahanshahr

City
Karaj

Province
Alborz

Postal code
1631735361

Approval date
2021-07-18, 1400/04/27

Ethics committee reference number
IR.ABZUMS.REC.1400.103

Health conditions studied

1

Description of health condition studied
آسم

ICD-10 code
J45

ICD-10 code description
Asthma

Primary outcomes

1

Description
First second of forced expiration

Timepoint
Before starting treatment, 15, 30 and 45 minutes

Method of measurement
Bionet SPM-7 Spirometr device

2

Description
peak expiratory flow rate

Timepoint
Before starting treatment, 15, 30 and 45 minutes

Method of measurement
Bionet SPM-7 Spirometr device

Secondary outcomes

1

Description
Heart rate

Timepoint
Before starting treatment, 15, 30 and 45 minutes

Method of measurement
The heart rate per minute by examination

2

Description
Respiratory rate

Timepoint
Before starting treatment, 15, 30 and 45 minutes

Method of measurement

The respiratory rate per minute by examination

3

Description
Clinical criteria of asthma
Timepoint
Before starting treatment, 15, 30 and 45 minutes
Method of measurement
Clinical Criterion of Asthma (CAS)

Intervention groups

1

Description
Intervention group: In the intervention group, patients, in addition to oxygen, received salbutamol with a dose of 5 mg and Frosemide with a dose of 40 mg with nebuliser Mask.Patients in both groups received 300 mg of Hydrocortisone intravenously.
Category
Treatment - Drugs

2

Description
Control group: In the control group, oxygen and salbutamol with a dose of 5 mg prescribed for patients with nebuliser Mask.Patients in both groups received 300 mg of Hydrocortisone intravenously.
Category
Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Rajaee Hospital
Full name of responsible person
Dariush Shiri
Street address
Shahid Rajaee Hospital - Ghalam Street - Hesarak
City
Karaj
Province
Alborz
Postal code
3197635141
Phone
+98 26 3455 2001
Email
Rajaei@abzums.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Karaj University of Medical Sciences
Full name of responsible person
Dr Reza Bayrami
Street address
Nabovvat Blvd
City
Karaj
Province
Alborz
Postal code
1631735361
Phone
+98 26 3255 5000
Email
abzumc.ac.ir@gmial.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Karaj University of Medical Sciences
Proportion provided by this source
25
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
Karaj University of Medical Sciences
Full name of responsible person
Dariush Shiri
Position
Non-faculty doctor
Latest degree
Specialist
Other areas of specialty/work
Emergency Medicine
Street address
Shahid Madani Hospita-Shahid Madani Square-Jahanshahr
City
Karaj
Province
Alborz
Postal code
1631735361
Phone
0098 26 343434
Email
d.shiri@abzums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
Karaj University of Medical Sciences

Full name of responsible person
Dariush Shiri

Position
Non-faculty doctor

Latest degree
Specialist

Other areas of specialty/work
Emergency Medicine

Street address
Shahid Madani Hospital-Shahid Madani Square-Jahanshahr

City
Karaj

Province
Alborz

Postal code
1631735361

Phone
0098 26 343434

Email
d.shiri@abzums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
Karaj University of Medical Sciences

Full name of responsible person
Pouria Chaghamirzayi

Position
General practitioner

Latest degree
Medical doctor

Other areas of specialty/work
General Surgery

Street address
No 18-west Bahar st- Golshahr

City
Karaj

Province
Alborz

Postal code
1631735361

Phone
+98 26 3450 2485

Fax

Email
Pouriachaghamirzayi@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
There is no more information

Study Protocol
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not a plan to make this available

Analytic Code
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available