

Clinical Trial Protocol

Iranian Registry of Clinical Trials

02 Jul 2026

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

Protocol summary

Study aim

- Determining the effectiveness of inhaled furosemide in patients with acute asthma attack in terms of FEV1 compared to the control group - Determining the effectiveness of inhaled furosemide in patients with acute asthma attack in terms of PEFR compared to the control group - Determining the effectiveness of inhaled 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 inhaled 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 Furosemide 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 Chaghmirzayi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 26 3450 2485

Email address

pouriachaghmirzayi@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 Flosemide 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 Rajaei Hospital

Full name of responsible person

Dariush Shiri

Street address

Shahid Rajaei 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

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+98 26 3255 5000

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abzumc.ac.ir@gmail.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

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Shahid Madani Hospita-Shahid Madani Square-Jahanshahr

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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

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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

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Fax**Email**

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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