

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparison of image quality of low voltage CT angiography (80 kilovoltage) with standard condition (100 kilovoltage) in patients suspicious to pulmonary emboli

Protocol summary

Summary

The aim of the present study is to compare the image quality of CT angiography of 80 kilovoltage with 100 kilovoltage (standard protocol) in suspicious patients to pulmonary emboli. In this triple blind single center clinical trial, 142 patients suspicious to pulmonary emboli referring to Golestan Hospital of Ahvaz city, in two parallel groups with equal sample size, will be evaluated. In intervention group: pulmonary CT Aangiography will be done by 80 kilovoltage condition and in control group: Pulmonary CT Aangiography will be done by 100 kilovoltage condition will be done. Inclusion criteria: written informed consent of the patient and weight lower than 110 kg and exclusion criteria is tendency of the patients to quit from the study every time he/she wants. Main outcome variables are number of sizable arteries in different segments of lungs, pulmonary vascular enhancement, image noise and image quality score.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201208084811N2**
Registration date: **2013-05-21, 1392/02/31**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2013-05-21, 1392/02/31

Registrant information

Name

Ali Kabir

Name of organization / entity

Shahid Beheshti University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Ahvaz Jundishapour University of Medical Sciences

Expected recruitment start date

2012-04-20, 1391/02/01

Expected recruitment end date

2013-04-20, 1392/01/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of image quality of low voltage CT angiography (80 kilovoltage) with standard condition (100 kilovoltage) in patients suspicious to pulmonary emboli

Public title

Comparing image quality of low voltage CT angiography with 100 kilovoltage

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: written informed consent of the patient, weight lower than 110 kg. Exclusion criteria: tendency of the patients to quit from the study every time he/she wants (causes of this tendency will be asked to be able for doing sensitivity analysis)

Age

No age limit

Gender

Both

Phase

1

Groups that have been masked

No information

Sample size

Target sample size: **142**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Triple blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features

Patients are allocated to each group based on block randomization method. Patient, physician (who reports the CT Angiographies) and person who do statistical analysis are all blind to the voltage used in each case. All images are coded by a colleague who is not involved in taking and reporting graphics or analyzing data. So, the study is triple blinded.

Secondary Ids

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Ahvaz Jundishapour University of Medical Sciences

Street address

1st Floor, Ahvaz Jundishapour University of Medical Sciences, Vice Chancellor for Research, University city

City

Ahvaz

Postal code

61357-15794

Approval date

2012-07-16, 1391/04/26

Ethics committee reference number

ajums.REC.1392.30

Health conditions studied**1****Description of health condition studied**

Pulmonary emboli

ICD-10 code

I26

ICD-10 code description

Pulmonary embolism

Primary outcomes**1****Description**

Number of sizable arteries in different segments of lungs

Timepoint

after CT angiography

Method of measurement

CT Angiography

2**Description**

Pulmonary vascular enhancement

Timepoint

after CT angiography

Method of measurement

CT Angiography

3**Description**

Image noise

Timepoint

after CT angiography

Method of measurement

CT Angiography

4**Description**

Image quality score

Timepoint

after CT angiography

Method of measurement

CT Angiography

Secondary outcomes**1****Description**

Age

Timepoint

Before intervention

Method of measurement

Taking history from the patient

2**Description**

Gender

Timepoint

Before intervention

Method of measurement

Taking history from the patient

3

Description

Weight

Timepoint

Before intervention

Method of measurement

Taking history from the patient

4

Description

Height

Timepoint

Before intervention

Method of measurement

Paper meter

5

Description

Underlying diseases

Timepoint

Before intervention

Method of measurement

Taking history from the patient

6

Description

smoking

Timepoint

Before intervention

Method of measurement

Taking history from the patient

Intervention groups

1

Description

Intervention group: Pulmonary CT Aangiography will be done by 80 kilovoltage condition

Category

Diagnosis

2

Description

Control group: Pulmonary CT Aangiography will be done by 100 kilovoltage condition

Category

Diagnosis

Recruitment centers

1

Recruitment center**Name of recruitment center**

Golestan Hospital

Full name of responsible person

Dr Sudabeh BlashAbadi

Street address

Radiology Ward, Golestan Hospital, Golestan Blvd.

City

Ahvaz

Sponsors / Funding sources

1

Sponsor**Name of organization / entity**

Vice chancellor for research, Ahvaz Jundishapour University of Medical Sciences

Full name of responsible person

Dr Mostafa Fegghi

Street address

Vice chancellor for research, Ahvaz Jundishapour University of Medical Sciences, University city

City

Ahvaz

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Vice chancellor for research, Ahvaz Jundishapour 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**Name of organization / entity**

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Ali Kabir

Position

MD, MPH

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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