Clinical Trial Protocol
Iranian Registry of Clinical Trials

28 Jun 2026

Investigating the effect of abdominal compression on consequences of cardiopulmonary resuscitation in hospitalized patients

Protocol summary

Study aim
Determining the effect of abdominal compression on the consequences of cardiopulmonary resuscitation in hospitalized patients

Design
The present study is a interventional study, parallel design, with a sample size of 90 people. Block randomization based on block permutation is used for randomization. To conceal the allocation, block sizes are also randomly selected (4, 6).

Settings and conduct
The study sample is selected by random sampling method from patients with cardiopulmonary arrest admitted to Razi hospital. Study subjects are blind to the intervention due to lack of knowledge about the type of cardiopulmonary resuscitation (due to loss of consciousness).

Participants/Inclusion and exclusion criteria
Inclusion criteria: Written informed consent from the client's family or guardian, age of 18 to 85 years, hospitalized patients with cardiopulmonary arrest. Exclusion criteria: patients with liver cirrhosis, history of abdominal surgery in the last two weeks, active gastrointestinal bleeding, abdominal ascites.

Intervention groups
In the intervention group, chest compression will be performed 100 times in a minute at a depth of 5 cm and ventilation will be performed using an Ambobag. Also in this group, abdominal compression is performed simultaneously with chest compression with the hands open and integrated and it is applied in the center of the abdomen between the xiphoid process and the umbilicus during the resting phase of the chest compression. In the control group, chest compression will be performed as in the intervention group, but no abdominal compression will be applied.

Main outcome variables
Spontaneous return of blood flow

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20080901001174N14**
Registration date: **2021-05-28, 1400/03/07**
Registration timing: **prospective**

Last update: **2021-05-28, 1400/03/07**
Update count: **0**

Registration date
2021-05-28, 1400/03/07

Registrant information

Name
Atefeh Ghanbari

Name of organization / entity
Guilan University of Medical Sciences

Country
Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-07-06, 1400/04/15

Expected recruitment end date
2021-12-06, 1400/09/15

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Investigating the effect of abdominal compression on consequences of cardiopulmonary resuscitation in hospitalized patients

Public title
The effect of abdominal compression on consequences of cardiopulmonary resuscitation

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Written informed consent from the client's family or guardian Age of 18 to 85 years Hospitalized patients with cardiopulmonary arrest

Exclusion criteria:
Patients with liver cirrhosis History of abdominal surgery in the last two weeks Active gastrointestinal bleeding Patients with abdominal ascites

Age
From **18 years** old to **85 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **90**

Randomization (investigator's opinion)
Randomized

Randomization description
In this research, block randomization based on block permutation will be used. Initially, based on the specified sample size, the samples will be placed inside the blocks and in each block there will be an equal number of control and intervention groups. The site https://www.sealedenvelope.com/, which was set up to randomize clinical trials, will be used to generate a random allocation sequence in each block. To hide the allocation, the block size will be selected randomly (4, 6). In this case, for the present study, which have two groups, blocks with a size of 4 will include 2 participants from the control group and 2 participants from the intervention group. Also, blocks with a size of 6 will include 3 participants from the control group and 3 participants from the intervention group. Sampling will continue based on the assigned sequences in each block to complete the specified sample size. If the patient leaves the study, the relevant code will be assigned to the next sample.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

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

Street address
Deputy of Research and Technology of Guilan University of Medical Sciences., In front of 17Sharivar Hospital., Shahid Siadati St., Namjoo Blvd.

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Rasht

Province
Guilan

Postal code
4146939114

Approval date
2021-03-10, 1399/12/20

Ethics committee reference number
IR.GUMS.REC.1399.665

Health conditions studied

1

Description of health condition studied
Cardiac arrest

ICD-10 code
I46

ICD-10 code description
Cardiac arrest

Primary outcomes

1

Description
Spontaneous return of blood flow

Timepoint
After intervention (immediately after onset and half an hour after cardiopulmonary resuscitation).

Method of measurement
Cardiopulmonary monitor

Secondary outcomes

1

Description
Mean arterial pressure

Timepoint
After intervention (immediately after onset and half an hour after cardiopulmonary resuscitation).

Method of measurement
Cardiopulmonary monitor

2

Description
Arterial blood oxygen saturation
Timepoint
After intervention (immediately after onset and half an hour after cardiopulmonary resuscitation).
Method of measurement
Arterial blood gas test

3

Description
Heart rate
Timepoint
After intervention (immediately after onset and half an hour after cardiopulmonary resuscitation).
Method of measurement
Cardiopulmonary monitor

Intervention groups

1

Description
Intervention group: In the intervention group, chest compression will be performed 100 times in a minute at a depth of 5 cm and ventilation will be performed as soon as possible after intubation. Ventilation will be performed using an Ambobag and intravenous epinephrine and other drugs will be injected intravenously if necessary during resuscitation. Cardiopulmonary resuscitation will continue until the spontaneous return of blood flow and its termination will be one of the indications for termination of cardiopulmonary resuscitation. In this study, abdominal compression is performed simultaneously with chest compression with the hands open and integrated and it is applied in the center of the abdomen between the xiphoid process and the umbilicus during the resting phase of the chest compression. According to similar articles, the depth, rhythm and number of abdominal compression are similar to those of a chest compression, and the pressure on the abdomen continues until the next chest compression begins.
Category
Treatment - Other

2

Description
Control group: In this group, chest compression will be performed and ventilation will be performed as soon as possible after intubation. Ventilation will be performed using an Ambobag and intravenous epinephrine and other drugs will be injected intravenously if necessary during resuscitation. Cardiopulmonary resuscitation will continue until blood flow returns spontaneously and its termination will be one of the indications for termination of cardiopulmonary resuscitation.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Razi Educational & Remedial Center, Rasht
Full name of responsible person
Atefeh Ghanbari
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Sponsors / Funding sources

1

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Full name of responsible person
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Web page address
https://www.gums.ac.ir/research/default.aspx?tabid=303
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Deputy of Research and Technology of Guilan 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
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Full name of responsible person
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Person responsible for scientific inquiries

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
Yes - There is a plan to make this available
Statistical Analysis Plan
Yes - There is a plan to make this available
Informed Consent Form
Yes - There is a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Yes - There is a plan to make this available
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
Main and total data
When the data will become available and for how long
After publication of the results, the access period begins
To whom data/document is available
Universities and scientific institutions

Under which criteria data/document could be used

In case of citing the article and observing the principles of intellectual property

From where data/document is obtainable

Executor of proposal

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

Contact with proposal executor and making ethical agreement

Comments