Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Comparison of atracurium and succinylcholine in anesthesia outcomes among patients receiving Electroconvulsive therapy (ECT) , a parallel and double blind clinical trial

Protocol summary

Study aim

Comparison of atracurium and succinylcholine in anesthesia for patients receiving electroshock therapy

Design

A double-blinded and randomized clinical trial with parallel groups design of 64 patients

Settings and conduct

This study will be done as a clinical trial at shafa Hospital in Rasht. Informed consent will be taken from patients and if not possible to communicate,it will be obtained from the patient's legal companion.procedure is the same for both groups.Standard monitoring is performed first, then atropine 0.5 milligrams will be prescribed.Blood pressure and heart rate will be recorded at baseline and 15 minutes after electroshock.All the necessary arrangements for emergency airway management will be available.After induction of anesthesia and administration of relaxant,patients will be electroshocked.Their spontaneous breathing and level of consciousness will be monitored for 15 to 20 minutes in recovery ward.By gaining 9 to 10 points based on the aldret scale discharge will be announced.

Participants/Inclusion and exclusion criteria

Inclusion criteria:18 years and older, ASA I, II,normal body mass index,no criteria for difficult mask ventilation,no contraindications for succinylcholine and atracurium Exclusion criteria:Endotracheal intubation or cardiac arrest during study

Intervention groups

succinylcholine group:Induction of anesthesia with 1.5 milligrams per kilogram propofol and 0.5 milligrams per kilogram succinylcholine Atracurium group: Induction of anesthesia with 1.5 milligrams per kilogram propofol and 0.2 milligrams per kilogram atracurium.0.04 milligrams per kilogram neostigmine and 0.02 milligrams per kilogram atropine will be prescribed as a reversal for muscle relaxant effect.

Main outcome variables

Heart rate,blood pressure,recovery time, side effects

General information

Reason for update

At first the appropriate sample size for each group was considered 15, which due to the circumstances indicating a deficiency of the drug saxinylcholine, the researchers of this project needed to use atracurium as an alternative drug in more cases.As a result, this number increased to 32 people per group.

Acronym

IRCT registration information

IRCT registration number: **IRCT20170314033069N2**
Registration date: **2020-11-01, 1399/08/11**
Registration timing: **registered_while_recruiting**

Last update: **2021-11-01, 1400/08/10**
Update count: **1**

Registration date

2020-11-01, 1399/08/11

Registrant information

Name

Gelare Biazar Biazar

Name of organization / entity

Guilan University of Medical Sciences,Alzahra Hospital

Country

Iran (Islamic Republic of)

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+98 13 3336 9024

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biazar@gums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date
2020-10-22, 1399/08/01
Expected recruitment end date
2021-04-21, 1400/02/01
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of atracurium and succinylcholine in anesthesia outcomes among patients receiving Electroconvulsive therapy (ECT) , a parallel and double blind clinical trial

Public title
Comparison of atracurium and succinylcholine in patients undergoing ECT
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
18 years and older ASA class I,II Normal body mass index No criteria for difficult mask ventilation No contraindication for atracurium and succinylcholine
Exclusion criteria:
Endotracheal intubation during study Cardiac arrest during study
Age
From **18 years** old
Gender
Both

Phase
3
Groups that have been masked

- Participant
- Care provider

Sample size
Target sample size: **64**
Randomization (investigator's opinion)
Randomized
Randomization description
Patients will be divided in two groups by an anesthesia technician who does not participate in the project, using four random blocks created by the computer (https://www.sealedenvelope.com/). This is done through a list of eligible patients who have given informed consent.They will be assigned to one of the two groups receiving saxinylcholine or atracurium by a sequence of randomization blocks in a 1: 1 ratio.
Blinding (investigator's opinion)
Double blinded
Blinding description
This is a double-blind study in which patients and the two trained technicians who evaluate and record the information, are unaware of the treatment groups. The anesthesiologist who is in charge is aware of the groups to take the necessary interventions in case of complications (headache, myalgia, bradycardia,masseter spasm, dysrhythmia).
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
Shahid Beheshti Freeway
City
Rasht
Province
Guilan
Postal code
4144654839
Approval date
2020-10-07, 1399/07/16
Ethics committee reference number
IR.GUMS.REC.1399.323

Health conditions studied

1

Description of health condition studied
Investigation of using atracurium instead of succinylcholine for anesthesia in electroshock therapy in cases that there is a contraindication for succinylcholine
ICD-10 code
T88.5
ICD-10 code description
Other complications of anesthesia

Primary outcomes

1

Description
Systolic and diastolic blood pressure (millimeters Hg)
Timepoint
Base time and 15 minutes after Electroshock
Method of measurement
Blood pressure measurement

2

Description
Heart rate (pulse/ minute)
Timepoint

Base time and 15 minutes after Electroshock

Method of measurement

Heart rate monitor

Secondary outcomes

1

Description

Recovery time

Timepoint

The time that patients stay in recovery room due to awareness and returning of spontaneous breathing, that is about 15 to 20 minutes

Method of measurement

Aldret score

2

Description

Complications

Timepoint

recovery time and in ward

Method of measurement

headache, myalgia, bradycardia, master spasm, dysrhythmia

Intervention groups

1

Description

Atracurium intervention group: Before receiving anesthesia and electroshock therapy, standard monitoring of non-invasive blood pressure, pulse oximetry, electrocardiogram, and end-tidal carbon dioxide will be established and atropine 0.5 milligrams will be prescribed. After establishing a proper intravenous cateter size 20-18, induction of anesthesia with propofol 1.5 miligrams/kilograms and atracurium 0.2 miligrams/kilograms will be prescribed.

Category

Treatment - Drugs

2

Description

Succinylcholine control group: After establishing a proper venous catheter, induction of anesthesia with propel 1.5 milligrams/kilograms and succinylcholine 0.5 milligrams/kilograms will be prescribed.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Shafa Hospital

Full name of responsible person

Dr Gelareh Biazar

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15 Khordad avenue

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Rasht

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice President of Research Guilan university of medical sciences

Full name of responsible person

Dr Mohammadreza Naghipoor

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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

Vice President of Research 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

Anesthesiology Research Center

Full name of responsible person

Dr Gelareh Biazar
Position
associate professor, Anesthesiologist
Latest degree
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be 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