

Clinical Trial Protocol

Iranian Registry of Clinical Trials

30 Oct 2026

Comparison of muscular relaxation quality between the combination of remifentanil-atracurium and succinylcholine in rapid sequence induction intubation

Protocol summary

Summary

Objectives: Rapid sequence induction and intubation is a quick method which can survive the patient by rapid control of airways in life-threatening emergencies. Therefore, an ideal muscle relaxant is a medication which has a rapid onset of action and makes endotracheal intubation possible in the shortest time. In this research, pharmaceutical combination of remifentanil-atracurium and succinylcholine are compared in terms of muscle relaxation quality. Design: Block randomization, without placebo, trial phase 2, including 70 patients under elective herniorrhaphy or limb orthopedic surgeries. Setting and conduct: Fentanyl, 1 µg/kg, intravenously, for anesthesia induction. Nesdonal, 6 mg/kg, intravenously, for anesthesia induction. Participants including major eligibility criteria: 70 patients under elective herniorrhaphy or limb orthopedic surgeries. Intervention: Group 1: Succinylcholine, 1.5 mg/kg, intravenously, for muscle relaxation. Group 2: Atracurium, 0.5 mg/kg, intravenously, for muscle relaxation. Remifentanil, 1 µg/kg, intravenously. Main outcome measures: Muscle relaxation quality, ease of laryngoscopy, ease of endotracheal intubation.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013071914056N1**
Registration date: **2015-07-19, 1394/04/28**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-07-19, 1394/04/28

Registrant information

Name

Hesameddin Modir

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 86 3313 9680

Email address

he_modir@arakmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Arak University of Medical Sciences, Vice Chancellor for Research

Expected recruitment start date

2013-03-21, 1392/01/01

Expected recruitment end date

2015-03-21, 1394/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of muscular relaxation quality between the combination of remifentanil-atracurium and succinylcholine in rapid sequence induction intubation

Public title

Comparison of muscle relaxation of two medications in breathing intubation of patients

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: Age between 15-65 years old;

Candidate for hernioraphy or elective limb orthopedic surgery; ASA class I and II; Body mass index of less than 26; Mallampati score 1 and 2. Exclusion criteria: Mallampati score of 3 or more; patients with neuromuscular diseases; Family history of malignant hyperthermia; Family history of pseudocholinesterase deficiency; Pregnancy; Sensitivity to study medications.

Age

From **15 years** old to **65 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **70**

Randomization (investigator's opinion)

Randomized

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

Double 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 Arak University of Medical Sciences

Street address

Arak University of Medical Sciences. Basij Square. Sardasht. Arak. Iran

City

Arak

Postal code**Approval date**

2011-09-05, 1390/06/14

Ethics committee reference number

112-90-3

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

Intubation

ICD-10 code

T88.4

ICD-10 code description

Failed or difficult intubation

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

Relaxation of jaw muscles

Timepoint

50 seconds after the injection of last medication

Method of measurement

Cooper scoring system

2**Description**

Ease of intubation

Timepoint

50 seconds after the injection of last medication

Method of measurement

Cooper scoring system

3**Description**

Ease of laryngoscopy

Timepoint

50 seconds after the injection of last medication

Method of measurement

Cooper scoring system

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group 2: Atracurium, 0.5 mg/kg, intravenously, for muscle relaxation, before anesthesia. Remifentanyl, 1 µg/kg, intravenously, before anesthesia.

Category

Other

2**Description**

Intervention group 1: Succinylcholine, 1.5 mg/kg, intravenously, for muscle relaxation, before anesthesia.

Category

Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Vali-e-Asr hospital

Full name of responsible person

Hesameddin Modir

Street address

Vali-e-Asr hospital, Vali-e-Asr square, Arak.

City

Arak

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Arak University of Medical Sciences, Vice Chancellor
for Research

Full name of responsible person

Dr Ali Asghar Yaghoobi

Street address

Arak University of Medical Sciences, Basij Square,
Sardasht, Arak, Iran.

City

Arak

Grant name

Grant code / Reference number

**Is the source of funding the same sponsor
organization/entity?**

Yes

Title of funding source

Arak University of Medical Sciences, Vice Chancellor for
Research

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

Arak University of Medical Sciences

Full name of responsible person

Hesameddin Modir

Position

Anesthesiologist

Other areas of specialty/work

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**Person responsible for scientific
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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