

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

A comparison of the Extended Mallampati Score with the ratio of patient's height to thyromental distance, the modified Mallampati and the upper lip bite test in predicting difficulty in endotracheal intubation in patients undergoing general enesthesia

Protocol summary

Summary

Background and objective: Preoperative using of anatomical landmarks detects potentially difficult laryngoscopies. The main object of the present study was to evaluate the predictive power of Extended Mallampati Score in comparison with modified Mallampati test , the ratio of height to thyromental distance and the Upper-Lip-Bite test in isolation and combination. Material and Methods: Four hundred seventy six adult patients who candidate for elective surgery under general anesthesia requiring endotracheal intubation were included in this study and evaluated based of all four factors before surgery. After that, laryngoscopy was performed by an anesthesiologist who didn't involve in preoperative airway assessment and garaded based on Cormack and Lehane's classification. We calculated sensitivity, specificity, and area under receiver-operating characteristic (ROC) (AUC) for each score. Results: The AUC of the ROC was significantly more for the ULBT (AUC = 0.820, P = 0.049) and RHTMD score (AUC = 0.845, P = 0.033) than the EMS (AUC = 0.703). This variable was significantly higher for the EMS compared with MMT (0.703 vs. 0.569, P = 0.046 respectively). There was no significant difference between the AUC of the ROC for the ULBT and the RHTMD score (P = 0.685). The optimal cut-off point for the RHTMD for predicting difficult laryngoscopy was 29.3. Conclusion: EMS predicted difficult laryngoscopy better than MMT while both ULBT and RHTMD had more power than EMS and MMT in this regard. ULBT and RHTMD had similar predictive value for prediction of difficult laryngoscopy in general population. Keywords: Extended Mallampati Score, ratio of patient's height to thyromental distance, modified Mallampati, upper lip bite test, difficult laryngoscopy

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201102185362N2**

Registration date: **2012-11-15, 1391/08/25**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2012-11-15, 1391/08/25

Registrant information

Name

Mohammadreza Safavi

Name of organization / entity

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan

Country

Iran (Islamic Republic of)

Phone

+98 31 1273 2659

Email address

safavi@med.mui.ac.ir

Recruitment status

Recruitment complete

Funding source

Isfahan University of Medical Sciences

Expected recruitment start date

2011-03-21, 1390/01/01

Expected recruitment end date

2012-03-20, 1391/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty
Trial completion date
empty

Scientific title
A comparison of the Extended Mallampati Score with the ratio of patient's height to thyromental distance, the modified Mallampati and the upper lip bite test in predicting difficulty in endotracheal intubation in patients undergoing general anesthesia

Public title
A comparison of the Extended Mallampati Score with the ratio of patient's height to thyromental distance, the modified Mallampati and the upper lip bite test in predicting difficulty in endotracheal intubation in patients undergoing general anesthesia

Purpose
Prevention

Inclusion/Exclusion criteria
inclusion criteria : patients who had no previous history of burn or trauma to the airway; had no tumors or mass in the laryngeal; facial and cervical region; had no restricted mobility of the neck and mandible (e.g., rheumatoid arthritis or cervical disk disorders); had ability to sit and open their mouth.

Age
No age limit

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **476**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Not used

Assignment
Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Isfahan University of Medical Sciences, Isfahan, Iran
Street address
Isfahan University of Medical Sciences, Isfahan, Iran
City

Isfahan
Postal code
8174675731
Approval date
2011-01-30, 1389/11/10
Ethics committee reference number
390341

Health conditions studied

1

Description of health condition studied

intubation
ICD-10 code
T88.4
ICD-10 code description
Intubation, difficult or failed

Primary outcomes

1

Description
ELV
Timepoint
before intubation
Method of measurement
physical exam

2

Description
DLV
Timepoint
before intubation
Method of measurement
physical exam

Secondary outcomes

1

Description
reduce mortality
Timepoint
after intubation
Method of measurement
physical exam

Intervention groups

1

Description
different methods for measuring ELV and DLV
Category
Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

Full name of responsible person

Mohammadreza Safavi

Street address

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

City

Isfahan

Street address

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, Iran

City

Isfahan

Postal code

8174675731

Phone

+98 31162555555

Fax

+98 31 1668 4510

Email

safavi@med.mui.ac.ir

Web page address

www.mui.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

Full name of responsible person

Azim Honarmand

Street address

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

City

Isfahan

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

Yes

Title of funding source

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

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

Anesthesiology and Critical Care Research Center,
Isfahan University of Medical Sciences, Isfahan, I

Full name of responsible person

Mohammadreza Safavi

Position

Associate Professor of Anesthesia

Other areas of specialty/work

Person responsible for scientific inquiries

Contact

Name of organization / entity

Anesthesiology and Critical Care Research
Center, Isfahan University of Medical Sciences,
Isfahan, Ir

Full name of responsible person

Azim Honarmand

Position

Associate Professor of Anesthesia

Other areas of specialty/work**Street address**

Anesthesiology and Critical Care Research
Center, Isfahan University of Medical Sciences,
Isfahan, Iran

City

Isfahan

Postal code

8174675731

Phone

+98 31 1273 2659

Fax**Email**

honarmand@med.mui.ac.ir

Web page address

www.mui.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

Anesthesiology and Critical Care Research
Center, Isfahan University of Medical Sciences,
Isfahan, Ir

Full name of responsible person

Mohammadreza Safavi

Position

Associate Professor of Anesthesia

Other areas of specialty/work**Street address**

Anesthesiology and Critical Care Research
Center, Isfahan University of Medical Sciences,
Isfahan, Iran

City

Isfahan

Postal code

8174675731

Phone

+98 31 1625 5555

Fax

+98 31 1668 4510

Email

safavi@med.mui.ac.ir

Web page address

www.mui.ac.ir

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