Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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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 enesthesia

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 enesthesia

Purpose

Prevention

Inclusion/Exclusion criteria

inclusion crateris : 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

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City

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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
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Sponsors / Funding sources

1

Sponsor

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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
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

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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