PATIENTS' CHARACTERISTICS INFLUENCING THE PERFORMANCE OF THE FASTRACH®

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INTRODUCTION

It is important for anesthesiologists to identify patients' characteristics that are likely to influence airway management. FastrachTM(FT), an intubating laryngeal mask airway that retains the ventilatory efficacy of the classic LMATM, has been proven effective for intubation of normal or difficult airways.^{1,2} Yet, no predictor has been clearly identified to help anticipate how appropriate this device is with regard to patients' specific features. The purpose of this prospective unblinded study is to determine what characteristics, if any, influence the utilisation of the FT, particularly the time and number of attempts needed for tracheal intubation.

METHODS

After obtaining approval from the Institutional Review Board and written consent from each participant, patients scheduled to undergo elective surgery with general anesthesia were recruited. Before surgery, morphometric and demographic factors known to be associated with difficult direct laryngoscopy, or believed to influence the utilisation of FT, were recorded. All patients were paralyzed before insertion of a size # 4 FT by a single experienced investigator. A normal endotracheal tube (ETT) # 7.0 or 7.5 was inserted blindly through the FT. The number of attempts and time needed for intubation were recorded. Correlation coefficients between time or number of attempts and studied factors were calculated.

RESULTS

Two hundred patients were studied. Ventilation was judged adequate in every patient. Intubation was successful in 196 patients (98%); 168 on first (84%), 24 on second (12%) and 4 on third attempt (2%). Mean time to intubate was 78.1 (+/-56.4) seconds. Time to intubation and number of attempts increased with weight, height and neck circumference (Table). Some factors known to be associated with difficult direct laryngoscopy such as Mallampati class and mouth opening did not influence the performance of the FT but number of attempts increased with thyromental distance.

DISCUSSION

The FT is an effective alternative for endotracheal intubation. Still, multiple attempts and increased time to intubation are associated with heavier, taller patients and individuals exhibiting larger necks. These characteristics should be taken into consideration to optimize the choice of an airway management device.

REFERENCES

1. Anaesthesia 1998;53(12):1174-1179
2. Anesthesiology 2001;95(5):1175-1181

Correlation between	Characteristic	Correlation coefficient	95% confidence interval	P value significant ³
Time to intubate and:	Weight ¹	0.2518	0.1171 to 0.3774	*
	Height ¹	0.2919	0.1596 to 0.4139	*
	Neck circumference ¹	0.3337	0.2044 to 0.4516	*
	Body mass index ¹	0.1015	-0.0378 to 0.2369	ns
	Mallampati class ²	-0.0248	-0.1671 to 0.1184	ns
	Thyromental distance ¹	0.0824	-0.0570 to 0.2187	ns
	Mouth opening ¹	0.0439	-0.0955 to 0.1815	ns
Number of attempts to intubate and:	Weight ¹	0.2343	0.0987 to 0.3613	*
	Height ¹	0.3042	0.1728 to 0.4251	*
	Neck circumference ¹	0.3188	0.1884 to 0.4382	*
	Body mass index ¹	0.0763	-0.0631 to 0.2061	ns
	Mallampati class ²	-0.0296	-0.1717 to 0.1137	ns
	Thyromental distance ¹	0.2187	0.0824 to 0.3469	*
	Mouth opening ¹	0.1227	-0.0164 to 0.2571	ns

1. Pearson correlation coefficient
2. Spearman correlation coefficient
3. With Bonferroni correction
* p<0.05