Evaluation of Flexible Tip Bougie in Simulated Difficult Intubation on Manikin using Video Laryngoscope: Comparison with Portex Single-use and Frova Intubating Introducers

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INTRODUCTION
Incidence of difficult intubation is around 5% in general population who underwent anaesthesia.

AIM
General Objective: To compare the efficacy of Flexible Tip bougie, Portex single-use and Frova intubating introducers in difficult intubation and explore a better single-use bougie.

Specific Objectives:
1. To determine and compare differences in the intubation time and ease of use between the bougies.
2. To determine and compare differences in the intubation time and ease of use in the ease-of-use score.
3. To determine the relationships between experience of work and POGO score, intubation time and ease-of-use score.

METHOD
Design:
- Randomized, cross-over and experimental manikin study.

Settings:
- Department of Anaesthesiology and Intensive Care of HTAA, Kuantan and Sultan Ahmad Shah Medical Centre @HIU, Kuantan

Population:
- Medical officers regardless of experience of work

Data collection:
- Manikin was used to simulate a Cormack Lehane grade 3A laryngeal view.
- Participants were instructed to perform single intubation attempt with each type of bougie by using GlideScope with GVL 4 blade.
- There were total 6 possible orders of arrangement.
- POGO score obtained by each participant was recorded.
- Intubation time and ease-of-use score were recorded.

RESULTS

Success Rate of Intubation

<table>
<thead>
<tr>
<th>Bougie Type</th>
<th>Intubation Time, s (QR)</th>
<th>Ease of Intubation Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible Tip Bougie</td>
<td>16.06 (13.1) 19.39 (17.60) 18.25 (18.07) 0.449</td>
<td>69.64 (50.59)</td>
</tr>
<tr>
<td>Portex Single-use</td>
<td>21.42 (21.42) 33.42 (33.42)</td>
<td>78.66 (50.00)</td>
</tr>
<tr>
<td>Frova Intubating</td>
<td>42.16 (42.16) 21.42 (21.42)</td>
<td>78.66 (50.00)</td>
</tr>
</tbody>
</table>

Correlation and Regression Analysis:
- There was a significant correlation between experience of work and POGO score, intubation time and ease-of-use score.
- Flexible Tip Bougie had the highest success rate of intubation.

CONCLUSIONS
In this simulation study, Flexible Tip bougie:
- More efficient in achieving successful endotracheal intubation
- Easier to use

Type of bougie does not have significant effect on intubation time.
Experience of work is not significantly related to the POGO score, intubation time and ease-of-use score.

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REFERENCES

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