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Comparison of single-use and reusable metal laryngoscope blades for orotracheal intubation during rapid sequence induction of anesthesia: a multicenter cluster randomized study.

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Abstract

BACKGROUND:

Single-use metal laryngoscope blades are cheaper and carry a lower risk of infection than reusable metal blades. The authors compared single-use and reusable metal blades during rapid sequence induction of anesthesia in a multicenter cluster randomized trial.

METHODS:

One thousand seventy-two adult patients undergoing general anesthesia under emergency conditions and requiring rapid sequence induction were randomly assigned on a weekly basis to either single-use or reusable metal blades (cluster randomization). After induction, a 60-s period was allowed to complete intubation. In the case of failed intubation, a second attempt was performed using the opposite type of blade. The primary endpoint was the rate of failed intubation, and the secondary endpoints were the incidence of complications (oxygen desaturation, lung aspiration, and/or oropharynx trauma) and the Cormack and Lehane score.

RESULTS:

Both groups were similar in their main characteristics, including the risk factors for difficult intubation. The rate of failed intubation was significantly decreased with single-use metal blades at the first attempt compared with reusable blades (2.8 vs. 5.4%, $P < 0.05$). In addition, the proportion of grades III and IV in Cormack and Lehane score were also significantly decreased with single-use metal blades (6 vs. 10%, $P < 0.05$). The global complication rate did not reach statistical significance, although the same trend was noted (6.8% vs. 11.5%, $P =$ not significant). An investigator survey and a measure of illumination pointed that illumination might have been responsible for this result.

CONCLUSIONS:

The single-use metal blade was more efficient than a reusable metal blade in rapid sequence induction of anesthesia.