

Comparing the ease of intubation between C-MAC, McGrath, and Conventional Macintosh Laryngoscope in a simulated difficult airway of a Laerdal Mannequin

ABSTRACT

Tracheal intubation is an essential skill for doctors. Tracheal intubation is done in patients with questionable airway patency, poor respiratory drive, hypercarbia, or hypoxia. The objective of this study was to compare the ease of tracheal intubation using Macintosh Laryngoscopes, C-MAC, and McGrath on a simulated difficult airway mannequin. The rationale of the study was to identify the easiest device to use for tracheal intubation. This randomized clinical trial was done at the Teluk Intan Hospital, Perak, Malaysia, from March 2020 to February 2021. Sixty-five medical officers participated in this study. The results showed that the mean time for tracheal intubation was significantly shorter when the participants were using the C-MAC than the conventional direct laryngoscope and McGrath. (C-MAC: 20.8 seconds, Direct Laryngoscope: 27.7 seconds, McGrath: 34.6 seconds) The results showed that C-MAC and McGrath had a better first-attempt success rate than conventional direct laryngoscopes. C-MAC scored the highest first-attempt success rate, followed by McGrath. (95% compared to 83%) Regarding Cormack-Lehane grading, the C-MAC device showed a better view than McGrath and Direct Laryngoscope. The preferred device by medical officers for tracheal intubation was the C-MAC. (45% compared to other devices) In conclusion, the C-MAC device was superior in first attempt success rate and was the most preferred device compared to McGrath and direct laryngoscope. However, using the C-MAC device must be accompanied by adequate training and practice.