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LETTER TO THE EDITOR

Optimal insertion depth of endotracheal tube among Japanese

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To the Editor:

A recent clinical trial from Austria recommended "the 20/22 cm rule" to determine the insertion depth of an endotracheal tube (ETT) to 20 cm in women and 22 cm in men, measured at the corner of the mouth [1]. In this study, we determined the insertion depth of ETT using the vocal cord marker, measured the distance between the distal tip of ETT and carina (T–C length), and compared the actual distance with the calculated distance if the insertion depth of ETT was determined by the 20/22 cm rule.

This retrospective study was approved by the research ethics committee of Kyorin University Hospital, which granted a waiver of written informed consent. In 69 Japanese patients undergoing general anesthesia requiring oral endotracheal intubation, we decided the depth of ETT using the vocal cord marker during tracheal intubation. We measured the T–C length on a portable chest radiograph taken at the end of surgery (the T–C length by the vocal cord marker). In the same patients, we calculated the T–C length if the depth of ETT was determined by the 20/22 cm rule (the T–C length by the 20/22 cm rule). According to the T–C length, the insertion depth of ETT was defined as "appropriate" (2–6 cm), "shallow" (>6 cm), and "deep" (<2 cm).

Figure 1 shows the T–C length by the vocal cord marker and by the 20/22 cm rule. No statistical difference in the T–C length was detected by paired *t* test, although these nonsignificant differences can be false negatives because of the limited sample size. However, three females shorter than 150 cm in height were supposed to get endobronchial intubation when the depth of ETT was determined by the 20/22 cm rule.

In conclusion, when we apply the 20/22 cm rule to Japanese patients, caution is needed for females shorter than 150 cm.

Conflict of interest There are no financial interests or conflicts of interest to declare.

References

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