Study protocol

Anaesthesia was standardised for all patients. After applying routine monitoring, 3 drops of 0.05% Oxymetazoline hydrochloride were administered into each nostril, followed by preoxygenation. General anaesthesia was induced with fentanyl 2 μg kg^{-1}, midazolam 0.05 mg kg^{-1} and propofol 2-3 mg kg^{-1} followed by succinylcholine 1.5 mg kg^{-1} to facilitate tracheal intubation. The more patent nostril, predetermined by patient self-evaluation and the nasal occlusion test, was selected for starting intubation. If undecided, the right nostril was used. All intubations were performed by the same anaesthesiologist. Nasal reinforced cuffed ETT with 7.5- and 7.0-mm ID was used for male and female patients, respectively. All tubes were lubricated with water-soluble lubricating gel before insertion.

In the control group, the ETT was gently advanced through the selected nostril along the nasal floor. If resistance was encountered, gentle rotation and tilting of the tube were performed. If the tube failed to enter the pharynx, the other nostril was used. If that also failed, the tube size was reduced to 7.0-mm ID for males and 6.5-mm ID for females, and the procedure was repeated. The smallest acceptable tube sizes for inclusion in the study were 6.5-mm ID for males and 6.0-mm ID for females. The force used, tube manipulation, and decision to change nostril or ETT size were decided by the anaesthesiologist. Once the tube tip reached the pharynx, tracheal intubation was completed using videolaryngoscopy (Glidescope®), with or without using Magill forceps. Video recordings during tracheal intubation were made for later review and labelled with a unique randomisation code.

In the guided group, a well-lubricated 14-French suction catheter was first inserted through the ETT, with about 10 cm of the catheter protruding from the distal end. The catheter tip was gently inserted through the selected nostril until it reached the pharynx. If resistance was encountered, the other nostril was tried, and the nostril with less resistance was used to complete the procedure. The ETT was then advanced over the catheter while holding the catheter proximal to the tube to prevent it from moving forward and avoid kinking. If resistance encountered during tube advancement, the same protocol as the control group was followed. Once the tube tip reached the pharynx, the suction catheter was withdrawn from the ETT, and the control group protocol was resumed. No additional appointments were required for data collection.

Statistical analysis

The IBM SPSS Statistics software (version 28.0) was used for statistical analysis. For independent group comparisons, Pearson's Chi-square test or Fisher's Exact test was used for comparison the incidence and extent of bleeding, as well as other categorical data. The t-test or Mann-Whitney U test were used for continuous data. $P<0.05$ was considered statistically significant.

The Weighted Cohen's Kappa was used to assess intra-rater reliability. The primary outcome investigator assessed the bleeding score in each record twice, with a minimum time interval of 2 weeks between assessments.