



ULTRASONOGRAPHIC ASSESSMENT OF ANTERIOR NECK SOFT TISSUE THICKNESS AND OBSTRUCTIVE SLEEP APNOEA PARAMETERS AS PREDICTORS OF DIFFICULT LARYNGOSCOPY IN ADULTS UNDERGOING ELECTIVE SURGERY: A PROSPECTIVE OBSERVATIONAL STUDY

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ABSTRACT

Background: Accurate prediction of difficult laryngoscopy remains a major challenge in anaesthetic practice. Conventional bedside airway assessment tests such as the Modified Mallampati classification have limited predictive accuracy. Airway ultrasonography and obstructive sleep apnoea (OSA) screening using the STOP-BANG questionnaire have emerged as promising adjuncts for improving preoperative airway assessment. **Objective:** To evaluate the role of ultrasonographic airway measurements and OSA screening in predicting difficult laryngoscopy and compare their diagnostic performance with the Modified Mallampati classification. **Methods:** A prospective observational study was conducted in 60 adult patients aged 18–65 years with ASA I–II undergoing elective surgery under general anaesthesia. Preoperative assessment included Modified Mallampati classification, ultrasonographic airway measurements and STOP-BANG scoring. Laryngoscopy was graded using the Cormack–Lehane classification. **Results:** Difficult laryngoscopy was observed in 18.3% of patients. Tongue thickness and anterior neck soft tissue measurements showed superior predictive performance. Patients with STOP-BANG scores ≥ 3 had a higher incidence of difficult laryngoscopy. Combining ultrasound, Modified Mallampati classification and STOP-BANG improved prediction. **Conclusion:** Airway ultrasonography together with STOP-BANG screening enhances prediction of difficult laryngoscopy and may improve airway planning and perioperative patient safety.

KEYWORDS : Airway Ultrasonography; Difficult Laryngoscopy; Modified Mallampati Classification; Obstructive Sleep Apnoea; STOP-BANG Questionnaire; Tongue Thickness; Anterior Neck Soft Tissue; General Anaesthesia.

REFERENCES (APA 7TH EDITION)

1. Adhikari, S., et al. (2011). Pilot study to determine the utility of point-of-care ultrasound in the assessment of difficult laryngoscopy. *Academic Emergency Medicine*, 18(7), 754–758.
2. Chung, F, Abdullah, H. R., & Liao, P (2016). STOP-Bang questionnaire: A practical approach to screen for obstructive sleep apnea. *Chest*, 149(3), 631–638.
3. Yao, W., et al. (2022). Ultrasound assessment of anterior neck soft tissue for prediction of difficult laryngoscopy: A systematic review and meta-analysis. *BMC Anesthesiology*, 22, 284.