Using the Intubation Difficulty Scale (IDS) more than 5 as a standardized definition of difficult intubation, we propose a new score to predict difficult intubation: the Simplified Predictive Intubation Difficulty Score (SPIDS).

We prospectively studied 1024 patients scheduled for elective surgery under general anaesthesia. Using bivariate and multivariable analysis, we established risk factors of difficult intubation. Then, we assigned point values to each of the adjusted risk factors, their sum composing the SPIDS. We assessed its predictive accuracy using sensitivity, specificity, positive (PPV) and negative predictive values (NPV), and the area under the receiver operating characteristic (ROC) curve (AUC), and compared it with the corresponding nonweighted score. The optimal predictive level of the SPIDS was determined using ROC curve analysis.

We found five adjusted risk factors for IDS more than 5: pathological conditions associated with difficult intubation (malformation of the face, acromegaly, cervical rheumatism, tumours of the airway, and diabetes mellitus), mouth opening less than 3.5 cm, a ratio of patient's height to thyromental distance 25 at least, head and neck movement less than 80 degrees , and Mallampati 2 at least. Sensitivity, specificity, PPV and NPV of the SPIDS were 65, 76, 14 and 97%, respectively. AUC of the SPIDS and the nonweighted score (obtained previously using a stepwise logistic regression) were respectively 0.78 [95% confidence interval (CI) 0.72-0.84] and 0.69 (95% CI 0.64-0.73). The threshold for an optimal predictive level of the SPIDS was above 10 of 55.

The SPIDS seems easy to perform, and by weighting risk factors of difficult intubation, it could help anaesthesiologists to plan a difficult airway management strategy. A value of SPIDS strictly above 10 could encourage the anaesthesiologists to plan for the beginning of the anaesthetic induction with 'alternative' airway devices ready in the operating theatre [1].

[1]

L'Hermite J, Nouvellon E, Cuvillon P, Fabbro-Peray P, Langeron O, Ripart J. The Simplified Predictive Intubation Difficulty Score: a new weighted score for difficult airway assessment. Eur J Anaesthesiol. 2009 Dec;26(12):1003-9. doi: 10.1097/EJA.0b013e32832efc71. PubMed PMID: 19593145.

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