Obesity Does Not Make Intubation Difficult

The reasons for difficult tracheal intubation are the same in obese patients as they are in other patients.

Many clinicians believe that obesity makes tracheal intubation more difficult. These authors studied 100 consecutive morbidly obese (body mass index [BMI] >40 kg/m²) patients undergoing elective surgery to determine factors that predict difficult intubation.

Mallampati score, neck circumference, mouth opening, thyromental distance, sternomental distance, neck mobility, dental condition, and history of obstructive sleep apnea were assessed preoperatively. After patients underwent rapid sequence induction of general anesthesia, the Cormack-Lehane laryngoscopic view at intubation was graded, and the grade was multiplied by the number of intubation attempts. Intubation was considered easy if the product was less than 3 and problematic if the product was 3 or greater. A complex model was used to relate intubation difficulty to patient characteristics.

The 78 women and 22 men had an average weight of 37 kg and an average BMI of 47.5 kg/m². The Mallampati score was one in 30 patients, two in 37 patients, three in 32 patients, and four in 1 patient. The laryngeal view was grade one in 75 patients, grade two in 16, and grade three in 9 patients. Ninety-two patients were intubated on the first attempt, 5 on the second, and 2 on the third; 1 patient could not be intubated. In a logistic regression analysis, only neck circumference predicted intubation difficulty; the likelihood of problematic intubation was 5% for a neck circumference of 40 cm versus 35% for 60 cm.

Comment: This small study, with only 12 problematic intubations, leaves many questions unanswered, but it strengthens the case that difficult intubation occurs in obese patients for the same reasons that it occurs in others and that obesity itself does not predict difficulty.

— Ron M. Walls, MD, FRCPC, FACEP

Published in Journal Watch Emergency Medicine May 29, 2002

CITATION(S):