Anesthesiologists and Obstructive Sleep Apnea

Simple Things May Still Work

To the Editor:

We read with interest the article published by Adesanya et al1 in a recent issue of CHEST (December 2010) on the perioperative management of patients with obstructive sleep apnea (OSA). We appreciate the excellent review of published articles on the topic,1 but we have to raise some concerns about the flowchart of the possible perioperative management of these patients:

1. A recent meta-analysis2 that included the STOP-Bang (snoring tiredness, observed apneas, elevated BP and BMI, age, neck circumference, and male gender), American Society of Anesthesiologists (ASA), and Berlin questionnaires concluded that only the ASA and STOP-Bang questionnaires had sufficient power to identify patients with OSA in the perioperative setting.

2. The STOP-Bang questionnaire has good sensitivity for identifying patients with high or moderate OSA but not for finding mild OSA, and its use leads to a high number of false-positives (ie, men > 50 y with a history of hypertension).

3. The ASA article by Gross et al3 published in 2006 states that when cardiopulmonary monitoring is lacking, a patient should always be considered as having moderate OSA. It also states that the patient should be considered as having severe OSA when he or she has a BMI > 35 kg/m² or a neck circumference > 43 cm in men (> 41 cm in women), or when an observer witnesses the patient stop breathing during sleep.

4. The acronym PAP is used in the article for both positive airway pressure and pulmonary artery pressure. This is confusing (and wrong in the flowchart legend); in the flowchart, it is not clear which positive airway pressure should be applied.

5. Autocontinuous positive airway pressure has several limitations and should not be proposed to a patient without a well-established OSA diagnosis.4 Moreover, it should be avoided when central apneas can occur (ie, opioids). Before considering auto-adjustable positive airway pressure, conventional noninvasive ventilation with a back-up rate ventilation should be recommended.

In daily practice, anesthesiologists need “simple things” in order to avoid “choking” the postanesthesia unit and overcrowding the critical care environments. We feel strongly that the OSA scoring system proposed by the ASA at present is one of the tools we have in our hands to decide the postoperative patient’s path. At the same time, anesthesiologists have the opportunity to closely observe their patients in the postanesthesia care unit and can give important information on where “the patient is going.”5 We hope that these observations can further support the authors’ proposals for managing patients who have a high risk of OSA and promote follow up for those who develop respiratory symptoms in the first hours after surgery. Simple things may still work.

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Response

To the Editor:

We thank Dr Gregoretti et al for their interest in our recent article and are happy to respond to their comments. The diagnosis and treatment of obstructive sleep apnea (OSA) in the perioperative setting is still evolving and will undoubtedly be modified as clinical evidence becomes available. The meta-analysis by Ramachandran and Josephs suggests that the STOP-Bang (snoring tiredness, observed apneas, elevated BP and BMI, age, neck circumference, and male gender) questionnaire is an average predictor of the diagnosis of OSA and an excellent predictor of severe OSA. Given the paucity of evidence to support the view that mild to moderate OSA is associated with significant adverse perioperative outcomes, we believe that substantial effort should focus on identifying and treating patients with severe OSA. In fact, identifying and treating patients with mild OSA in the nonperioperative setting has had the same impact on systemic disease as treating patients with severe OSA. Accordingly, some authors have suggested that mild OSA without hypoxia can be treated with standard postoperative monitoring.

With regard to the American Society of Anesthesiologists checklist, elements of the checklist have been incorporated into other validated questionnaires, with improved sensitivity for the diagnosis of OSA. We believe that, in addition to the American Society of Anesthesiologists checklist, these questionnaires should be administered to further identify patients with severe OSA.

The acronym PAP in the article depicts positive airway pressure and refers to the use of either continuous positive airway pressure (CPAP) or bi-level positive airway pressure. Since patients may be treated with either modality for sleep-disordered breathing, we intentionally left this open to interpretation for the treating physician, based on the patient’s current treatment. We agree with Dr Gregoretti et al that auto-CPAP should ideally be used for patients with an established diagnosis of OSA, although we also believe that auto-CPAP can be useful in the postoperative setting since opioids can lead to the exacerbation of obstructive respiratory events and higher PAP pressures than previously prescribed may be needed. It is also not uncommon that the patient is unaware of his or her actual PAP settings, and auto-CPAP can be used for in this setting for uncomplicated OSA treated in the hospital wards. It is important to highlight that not all patients with OSA who are being treated with opioids develop central events. However, if hypercapnia and alveolar hypoventilation occur as a result of sedation, noninvasive mechanical ventilation with a backup ventilatory rate should be used.

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Metal Particles and Endobronchial Ultrasound Needles

To the Editor:

The study by Goumant et al in a recent issue of CHEST (January 2011) raised important questions regarding the long-term safety of endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) needles, which require further study. It would be interesting to note the proportion of aspirates in the Goumant et al study in which obvious extracellular black particles were noted on cytology, as this is not our experience. Is mineral analysis of all samples advocated in the absence of particles were noted on cytology, as this is not our experience. Is mineral analysis of all samples advocated in the absence of noted cytologic extracellular black particles? Having audited the use of the Vizishot EBUS-TBNA needle (Olympus Ltd, Tokyo, Japan) for the last 97 patients in our institution, there have been no reports of extracellular black particles on the aspirates, although electron microscopic analysis was not performed; therefore, metal particle deposition cannot entirely be excluded. True anthracosis was noted in only three cases (3.2%). Sampling technique differences may also be relevant, as mentioned. Our aspirates were put in liquid-based cytology medium after two to four passes per node, with rinsing of the EBUS-TBNA needle between passes.

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