

Perioperative Monitoring of Patients with Obstructive Sleep Apnea Syndrome



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Abstract

Recognition of patients with Obstructive Sleep Apnea Syndrome (OSAS) in Perioperative period by medical staff is important in terms of preventing complications related to OSAS. As well as pulmonary hypertension, coronary artery disease, hypertension, heart failure, arrhythmia, stroke, and myocardial infarction can be regarded among complications caused by OSAS. All these complications increase morbidity and mortality of OSAS. The gold standard of OSAS is polysomnography. In the literature, it is known that, apart from patients who can be diagnosed with polysomnography; there are patients with OSAS who are not diagnosed yet. These patients pose risk in Perioperative period because they are not diagnosed. Diagnosing patients with additional health problems such as OSAS which can put patients' life in danger in the Perioperative period is important in terms of preventing unnecessary complications in intraoperative, postoperative periods, and providing early diagnosis and treatment. In this article prepared based on the literature, it was aimed to present the importance of recognition of patients with Obstructive Sleep Apnea in Perioperative period [1].

Keywords: Obstructive Sleep Apnea Syndrome; Surgery; Postoperative complication

Introduction

Obstructive Sleep Apnea Syndrome (OSAS) comprises the most important group of sleep-disordered breathing¹. OSAS is a breathing effort shown against full or partial airway obstruction. And, developed apnea is over with a loud snoring or arousal when airway is ensured again. It has been reported that OSAS is a more common disease compared to asthma and diabetes mellitus among adults. The main factors that increase the risk of OSAS are age, sex, genetic characteristics, being fat, neck circumference (short and thick neck), and craniofacial anomalies, use of hypnotic drugs, cigarette and alcohol [2].

The most distinct three symptoms observed in patients with OSAS are extreme snoring at night, apnea, and daytime sleepiness¹. Moreover, sudden awakening with the drowning sensation and apnea symptoms which are defined by bed partner are also observed. Polysomnography is the gold standard for disease diagnosis. As well as polysomnography, physical examination, radiological diagnosis, and endoscopic diagnosis are also used [3]. Prevalence of coronary artery disease in patients with OSAS was found high. Not only systemic hypertension, but also pulmonary hypertension, heart failure,

arrhythmia, stroke, and myocardial infarction can be observed. All these situations increase morbidity and mortality related to OSAS [4-5].

It has been argued that the rate of undiagnosed OSAS among surgical patients was between 21-28%³. It is important to diagnose patients with OSAS in preoperative period in terms of preventing development of complications which can put patients' life in danger. A retrospective study of Gupta et al. (2001) reported that 25% of surgical patients had high risk of OSAS. However, it has been stated that patients with OSAS cannot be adequately diagnosed by medical staff in Perioperative period [1].

Because of reasons such as the fact that the diagnosis process for OSAS is carried out in sleep laboratories, this process is expensive, and patients do not want to undergo this test, polysomnography is not carried out routinely. According to American Society of Anesthesiologists (ASA) diagnosis criteria for OSAS, patients whose body mass index (BMI) is 35 kg/m² or over, neck circumference is 42.5 or more cm for males and 41.5 or more cm for females, who have a history of snoring and sleep

apnea, a history of falling asleep easily, who experience frequency of daytime sleepiness, who are in Grades 3 or 4 according to the Mallampati classification are accepted as patients with high risk of OSAS (Table I).

Table 1: Modified Mallampati Scoring.

Class I	Soft palate, uvula, fauces, pillars visible.
Class II	Soft palate, uvula, fauces visible.
Class III	Soft palate, base of uvula visible.
Class IV	Only hard palate visible.

While taking patients' history, it is necessary for medical staff, working in surgical departments, to assess the risk of OSAS using the Mallampati classification scale, information about the situation of snoring during sleep, apnea, BMI, neck circumference, and to record on the observation form.

In post-surgery period, the most important complication observed in patients with OSAS is the development of upper airway obstruction related to sedation and use of analgesics drugs [6]. For these patients, severe airway complications developed relating to administering anesthetics, opioid-type analgesics and sedatives increase mortality and morbidity. These adverse results are mostly associated with cardiac arrest, difficult intubation, failure in intubation after administering opioid or sedative drugs, and respiratory tract obstruction after intubation. Administering sedative premedication on these patients aggravates airway obstruction thus; some authorities recommend to avoid premedication which is administered using sedatives [7].

It has been stated that increase in complications relating to hypertension, cardiac arrhythmia increase, oxygen desaturation, airway obstruction, reintubation, cerebral death, and death was observed among patients with OSAS in post-surgery period [8]. A study of Laiao et al. stated that there was higher risk of difficult intubation for patients with OSAS because of their additional diseases, that the risk of experiencing postoperative complications such as hypoxaemia increased two times. Because

these patients are not diagnosed in preoperative period, it will be more hard to diagnose complications when routine monitoring interval extends³. Therefore, determination of individuals with the risk of OSAS in preoperative period, oxygen saturation in postoperative period, monitoring them in terms of possible respiratory and cardiac complications, if possible, closely monitoring them in intensive care unit or in service are recommended [9]. If necessary, in-service training programs on diagnosing patients with OSAS, monitoring them, and providing them necessary care can be organized for the medical staff working in surgical services.

Conflict of interest

I declare if any economic interest or any conflict of interest exists.

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