Introduction

Obstructive sleep apnea (OSA) is an increasingly common sleep disorder, which is of particular concern to anesthesiologists as it is associated with increased perioperative morbidity and mortality. The prevalence of OSA is estimated to be 5-25%; However with aging and obesity, it is expected to increase significantly. Most importantly, OSA is undiagnosed in an estimated 70-80 % of patients. Preoperative identification of OSA should alter anesthesiologist to the potential concern included difficulty in securing and maintaining the upper airway as well as postoperative airway obstruction and respiratory depression (1).

During rapid eye movement (REM) sleep, there is loss of upper airway muscle tone, which can lead to increased pharyngeal resistance, generate negative pharyngeal pressure during inspiration and cause upper airway collapse. The factors that contribute to upper airway narrowing and subsequent collapse during sleep including; obesity, large neck circumference, upper airway abnormalities (e.g. anatomical or craniofacial abnormalities affecting the airway), and age. (2)

Hypoxia and hypercarbia resulting from obstructive apnea lead to arousal from sleep followed by restoration of muscle tone and airflow. Resumption of airflow is usually followed by hyperventilation, which may cause hypocapnea and loss of respiratory drive, and further predispose to apnea. Frequent arousal results in sleep disruption and excessive daytime somnolence. In addition, oxygen desaturation, sympathetic hyper activity,

and systemic inflammatory response may contribute to cardiovascular co-morbidities including systemic hypertension, cardiac arrhythmias, myocardial ischemia, pulmonary hypertension, and heart failure. (2)

The growing OSA managemnt problems is almost certainly fueled by the growin obesity epidemic; the large majority of these patients (70-90 %) are obese (BMI >35 kg/m2). the number of people with clinically significant OSA in 1993 was approximately 18 million and is certainly much higher in 2006. (3)

OSA and anesthesia creats a multidimintional problem: The litrature indicates that at the present time desastrous respiratory out comes during the perioperative management of patients with OSA are major and increasing problems for the anesthesia community. (4)