44517 - PREVALENCE OF DIFFICULT AIRWAY IN OBSTRUCTIVE SLEEP APNEA PATIENTS

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INTRODUCTION: Obstructive sleep apnea syndrome (OSA) is a common condition (2-4% of adults) that has been associated with an increased risk of difficult intubation. Two smaller studies (n=15-36) and one larger study (n=90) have estimated the rate of difficult intubation to be 16.7-53% in OSA patients[1-3]. The purpose of this retrospective study was to determine the prevalence of difficult intubation in a large cohort of OSA patients.

METHODS: After obtaining IRB approval, OSA patients undergoing surgical procedures were identified by combining a database of polysomnography patients with our surgical booking database (Jan 2003-Dec 2005). Sleep lab charts were reviewed for height, weight, apnea-hypopnea indices, lowest nocturnal oxygen saturation and self-reported scores of sleep disturbance. Anesthetic records were reviewed for type of surgery and anesthetic method. The lowest oxygen saturation at induction (LSAT) and pertinent airway data were also extracted. Difficult intubation was defined as Cormack-Lehane Grade 3 or 4 direct laryngoscopy, fibre-optic intubation (FOB) or more than 2 intubation attempts by any method[3].

RESULTS: A total of 215 OSA patients (147/68 Male/Female) underwent 297 anesthetic procedures over a 3-year period. Lefort-BSSO surgeries were the most common procedure (11%). The anesthetic and airway techniques employed were: direct laryngoscopy 52.9% (n=157), awake/asleep FOB 6.1% (n=18), Lightwand 6.1% (n=18), Bullard/Glidescope 1.3% (n=4), LMA 11.8% (n=35), spinal/regional 5.1% (n=15), sedation/local 12.5% (n=37) and other 1.0% (n=3). An endotracheal tube was already in-situ for 10 procedures. Table 1 summarizes the airway grades, BMI, and LSAT at induction (mean $\pm$ SD). Three patients with Grade 1-2 laryngeal view required 3 laryngoscopic intubation attempts. Based on these results the overall prevalence of difficult intubation was calculated to be 38/197 (19.3%).

Table 1. Airway Grade, BMI (ANOVA *N.S.) and LSAT (ANOVA *p < 0.05)

	Grade 4	Grade 3	Grade 2	Grade 1
Number (n)	1	16	33	107
BMI	29.3	38.6 $\pm$ 11.4 [#]	34.2 $\pm$ 7.5 [#]	35.5 $\pm$ 11.8 [#]
LSAT %	94	93.5 $\pm$ 6.8 [*]	95.7 $\pm$ 3.7	96.8 $\pm$ 3.2

DISCUSSION: This large retrospective study demonstrates that difficult intubation is common in OSA patients (19.3%). Although the prevalence of difficult intubation in OSA is higher than the general population[4], it is somewhat lower than previously reported[1,2].

REFERENCES: 1.BJA 1998;80:606-11. 2.Anesth Analg 2002;95:1098-102. 3.CJA 2006;53:393-97. 4.CJA 1996;43:30-34.