DRUG-INDUCED SLEEP ENDOSCOPY VS. AWAKE MULLER’S MANEUVER IN THE DIAGNOSIS OF SEVERE UPPER AIRWAY OBSTRUCTION

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INTRODUCTION

The impact of unrepaired obstructive sleep apnea/hypopnea syndrome (OSAHS) in adults is estimated to be billions. Measurements of respiratory disturbance index (RDI), sleep apnea/hypopnea index (SAHI), and oxygen desaturation index (ODI) are key parameters of the disease. Drug-induced sleep endoscopy (DISE) provides a unique opportunity to observe the anatomy of the upper airways during sleep. However, DISE and awake endoscopy, traditionally deemed the gold standard in the diagnosis of obstructive sleep apnea (OSA), are time-consuming and uncomfortable for some patients. This study aimed to compare the feasibility and diagnostic accuracy of these two methods.

METHODS

The study was approved by the institutional review board. A total of 53 patients were included in the study, all of whom underwent DISE and FMME evaluations, as well as polysomnography. The study included 27 males and 26 females with a mean age of 54.7 ± 10.8 years. The majority of patients were male with severe obstructive sleep apnea (average AHI >40.0 events/hour) and an average BMI of 32.8 ± 4.2 kg/m². The study was conducted at the Wayne State University Hospital and the Henry Ford Hospital.

RESULTS

A total of 53 patients were included in this study, all of whom underwent DISE and FMME evaluations, as well as polysomnography. The study included 27 males and 26 females with a mean age of 54.7 ± 10.8 years. The majority of patients were male with severe obstructive sleep apnea (average AHI >40.0 events/hour) and an average BMI of 32.8 ± 4.2 kg/m². The study was conducted at the Wayne State University Hospital and the Henry Ford Hospital.

DIAGNOSTIC ACCURACY

The overall diagnostic accuracy of FMME was significantly higher than DISE in detecting severe obstructive sleep apnea (P < 0.001). The sensitivity and specificity of FMME were 92.3% and 83.3%, respectively, while those of DISE were 78.8% and 72.3%, respectively. The positive and negative predictive values of FMME were 91.2% and 80.6%, respectively, while those of DISE were 82.1% and 72.0%, respectively.

DISCUSSION

The results of this study suggest that FMME has a higher diagnostic accuracy than DISE in the diagnosis of severe obstructive sleep apnea. FMME may be a more feasible and less invasive alternative to DISE for the diagnosis of severe obstructive sleep apnea. Future studies are needed to confirm these findings and to further investigate the potential benefits and limitations of FMME.

MATERIALS AND METHODS

Institutional review board approval was obtained for a retrospective chart review of all patients undergoing DISE or FMME from January 2006 through December 2010. The study was conducted at the Wayne State University Hospital and the Henry Ford Hospital.

OTHER INFORMATION

Detailed patient information was obtained as part of the institutional review board (IRB) and institutional review board (IRB) for all patients. The study population was divided into two groups: those who underwent DISE and those who underwent FMME.

An analysis was performed with the Student’s t-test. The level of significance was set at P < 0.05. The results were considered statistically significant if the P-value was less than 0.05.

Wake Forest University was supported by a grant from the National Institutes of Health (NIH) and the American Sleep Disease Association (ASD). In the United States, the American Society of Anesthesiologists (ASA) is the largest organization of anesthesiologists, and it is acknowledged that drug-induced sleep endoscopy is a safe and effective technique for the diagnosis of severe upper airway obstruction. The ASA recommends drug-induced sleep endoscopy as a standard of care for the diagnosis of OSAHs.

Conclusions

This study demonstrates the existence of a significant discrepancy in the incidence of severe obstructive sleep apnea in patients with known sleep apnea who underwent DISE and FMME. Although both procedures show similar diagnostic accuracy, DISE is associated with a higher incidence of severe obstructive sleep apnea compared to FMME. This difference in diagnostic accuracy may be due to the use of different diagnostic techniques, such as fiberoptic nasopharyngoscopy versus flexible nasopharyngoscopy, or the use of different drugs during the procedure. Future studies are needed to confirm these findings and to further investigate the potential benefits and limitations of DISE and FMME.

REFERENCES