Test-retest reliability of drug-induced sleep endoscopy using midazolam

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**Purpose of the study:** Drug-induced sleep endoscopy (DISE) has been suggested as a valuable method for determining the obstruction site causing sleep disordered breathing. However, recently questions about reliability of DISE have arisen due to a variety of previous reported DISE findings. We aimed to verify the test-retest reliability of DISE using midazolam, another popular sedative drug for DISE, under same setting of sleep depth and evaluation time.

**Materials and methods used:** Thirty-four patients diagnosed with obstructive sleep apnea were prospectively included in this study. The patients underwent two separate DISE examinations at different days using same drug (midazolam) and technique. The two tests were conducted under same range of sleep depth using bispectral index and examination period. VOTE classification was used to classify the obstruction findings and the findings were compared between the two tests.

**Results:** There were 30 men and 4 women; the mean age was 45.4 ± 13.14 years old. The mean RDI was 38.3 ± 22.6 and the lowest oxygen saturation was 77.5 ± 12.4%. Upper airway obstruction between two DISE tests showed very good agreement in the configuration as well as degree of obstruction. Reliability was higher at the hypopharynx than the palate.

**Conclusions:** The higher agreements were shown at our study than the previous study, which might be attributed to the same depth of sleep and length of evaluation time. DISE has good test-retest reliability in the use of midazolam as well as propofol.