

0454

IMPACT OF CLINICAL ASSESSMENT ON THE DIFFERENCE BETWEEN UNATTENDED LIMITED MONITORING AND FULL IN-LAB PSG

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Introduction: Indices of SDB have been shown to be similar when obtained by unattended limited monitoring (LM) and by in-lab PSG. We examined the interaction between clinical evaluation by a sleep specialist and the method of obtaining the SDB index.

Methods: 30 patients (23M/7F, 30-67 yrs, BMI 23-43 kg/m²) presenting to the NYU Sleep Disorders Center with a high clinical suspicion of SDB, one patient with isolated EDS and no suspicion of SDB and 11 volunteers recruited as research subjects (8M/3F, 21-73 yrs, BMI 19-27 kg/m²) underwent 2 nights of LM at home with the ARES™ Unicorder, followed by a full in-lab PSG. Clinical data from the medical chart were de-identified and then combined with the raw/tabulated data from either the PSG (C+PSG) or from the LM (C+LM). Diagnosis and treatment recommendations were established separately by two trained sleep specialists who were presented C+PSG and C+LM >2 weeks apart. Comparisons were made across presentations and between readers. Agreement between the AHI and RDI from LM and PSG has been previously presented (ICC=0.8, Ayappa et al www.aasmnet.org/jcsm/JCSM AcceptedPapers).

Results: Using C+PSG (42 subjects), Reader 1 made a diagnosis of SDB in 30/30 patients with suspected SDB and 2/12 of the others. 3 additional subjects were diagnosed with primary snoring. Treatment recommendations were for CPAP treatment or trial in 25 subjects, non-CPAP treatment in 8 and no treatment in 9. For Reader 1 agreement between decisions based on C+PSG and C+LM was 98% for diagnosis and 93% for treatment. For Reader 2 (31 subjects) agreement between decisions based on C+PSG and C+LM was 74% for diagnosis and 77% for treatment. Reader 2 found 5/31 LM studies to be inconclusive due to insufficient supine time. Using C+PSG (31 subjects) Reader 2 agreed with Reader 1 on the diagnosis in 87% and treatment in 84%. Using C+LM Reader 2 agreed with Reader 1 on the diagnosis in 77% and treatment in 74%.

Conclusion: When provided with the clinical plus PSG data there was good agreement between readers on diagnosis and treatment recommendations. Whereas Reader 1 arrived at the same diagnosis and therapeutic recommendations using C+PSG or C+LM in nearly every case, Reader 2 had a lower level of agreement between C+PSG and C+LM. The primary reason for this difference between the physicians was the importance one placed on finding insufficient supine time during the LM. These data highlight the importance the clinical algorithm plays in comparisons between the use of PSG and LM.

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