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Journal of Lung, Pulmonary & Respiratory Research

Case Report

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A case of occult obstructive sleep apnea

Abstract

A single case study illustrates the utility of a comprehensive interpretation of assessment data of sleep patients. Obstructive Sleep Apnea, a common sleep disorder, afflicts some 3 million people and is represented by patient presentations of insufficient sleep, bed partner complaints of loud snoring, witnessed breathing lapses, morning headache, and sore/dry throat. Pulmonology Physicians encounter patients with nighttime sleep difficulties presentations. Pulmonary function tests may include data indicative of sleep apnea diagnoses. The common, typical symptom profile for obstructive sleep apnea needing treatment, in this case, was not met, however, with a comprehensive consideration of all assessment data, a focused consideration of other diagnostic categories ultimately leading to Occult Obstructive Sleep Apnea was given.

Keywords: OSA, sleep disorder, hypopnea, apnea

Volume 11 Issue 2 - 2024

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Received: November 12, 2024 | **Published:** November 27, 2024

Introduction

Epidemiological studies of collected patient information have identified the need to determine depression in patients presenting with sleepiness and possibly hypersomnia conditions.[1] A common complaint presented by patients to sleep clinic is daytime sleepiness-that they are not feeling rested.[2] Some of the common causes sleepiness include the following: fragmented or little nighttime sleep, accumulated sleep loss. Reaction to sedating medications, if being treated with CPAP for Obstructive Sleep Apnea-irregular or inadequate CPAP use.[2] An assessment by a sleep specialist that may be followed by further assessment in the sleep laboratory of an all-night polysomnogram and possibly daytime nap studies. Sometimes. Concurrent referral to the patient; s PCP is done for laboratory testing to rule out constitutional symptomology.[3] The sleep psychologist assessment of a structured interview, specialty measures and sleep log analysis complement the "Pulmonology" practitioner assessment. In this assessment, possible emotional and situational factors may be contributing to the patient, s daytime fatigue.

Obstructive Sleep Apnea is common, with estimates of one billion cases worldwide.[4,5] In Obstructive Sleep Apnea, patients breathing is compromised at night as they lay down, often on their back which worsens soft tissue closure in their larynx causing a breathing occlusion.[3,6] The driving of air prompted by brain signaling, into the nose of mouth and expiration of air ventilating the flaccid tissues occurs loud snoring.[1,2] The patient is awakened each time the breathing occlusion occurs which interrupts their sleep cycle and prevents adequate air exchange.[3] The obstruction refers to the flaccid tissue that for some, approximately 5% of cases, ca be alleviated by sleeping on their side rather than back or abdomen.[4,5] In an night polysomnogram, sleep, breathing and movement are measured (in a MSLT as well) The effort to breath, number of breaths, timing between breath and amount of oxygen saturation in inspired air are a few of the measurement taken. A 47 year old married male with medical diagnoses of hypertension controlled by medicine presented with inadequate rest, sleepiness during easily morning at the sleep clinic. An night polysomnogram (PSG) followed by a multiple sleep latency test (MSLT) were conducted to determine Obstructive Sleep Apnea diagnoses per the AASM criteria. With these requirements interruption/failings in breathing are rigorously measured. Per AASM standards, criteria are specified using the PSG for diagnosis. In additional assessment, laboratory results are conducted to rule out anemia, vial conditions and other medical conditions that may present as daytime fatigue and inability to feel rested. Following assessment of OSA, treatment is determined based on the findings and clinical interview data. The case study demographics are described in Table 1. The presenting problem was a sensation of not feeling rested and sleep partner (wife) complaint of constant, loud snoring. This is a frequent symptom presented and on its own, warrants further assessment.[2,7]

The data in Table 1 indicated adequate sleep. Of note, however, was the Apnea + Hypopnea index value of 5 that is in the upper limits of the normal range. The patient stated that he was and has been compliant with his hypertension medications. In Table 2, the Sleep Psychologist data implies a variable sleep pattern. The interview data revealed sleep hygiene infractions of late night eating, screen use four to five hours beyond dinner time. Taken together, the medical testing findings listed in Tables 1 and Table e of intermediate clinical concern, added in the elevated Apnea + Hypopnea index increases the clinical concern to serious levels. Thus, while not meeting criteria of Sleep Apnea, serious concern regarding the clinical data was eminent. A diagnosis of occult sleep apnea was diagnosed, and the patient was referred to the respiratory therapy service within the sleep clinic for CPAP treatment. At one week and one month follow up, the patient was compliant with the CPAPA use. Additionally, the patient participated in three sessions of Cognitive Behavioral Therapy for Insomnia with a focus on sleep restriction and sleep hygiene topics. In this manner, the "hidden hypoxia" or occult sleep apnea was addressed. With hypersomnia and insufficient sleep diagnoses ruled out based on the Sleep Psychologist data, the patient was effectively treated for poor sleep issues related to the occult obstructive sleep apnea.

Table 1 Polysomnography (PSG) and Multiple Sleep Latency Test (MSLT)

PSG Variable		Expected Range
Lights Out	9:45 PM	
Lights On	6:00 AM	
Total Recording time	465 minutes	410-450 minutes
Total Sleep Time	397 minutes	408-450 minutes
Sleep Efficiency	85%	85% to 100%
Sleep Latency Onset	2 minutes	8 to 10 minutes
REM Latency onseT	81 minutes	75 to 115 minutes
WASO	14 minutes	0 to 10 minutes
Apnea Hypopnea Index	4/hour	0 to 4
Stage N1 Sleep	11 minutes (2.2%)	2 to 7 minutes
Stage N2 Sleep	263.75 (52.98%)	40 to 55%
Stage N3 Sleep	120 minutes (24.10%)	15 to 28 %
Stage REM	103 minutes (20.69%)	22 to 29%

Table 2 Sleep psychologist evaluation result

✓ Interview Presenting Complaints: Does not feel rested, sleep partner report of loud snoring; Sleep Hygiene infractions: late night eating, excess screen use.
✓ Pittsburgh Sleep Quality Index Score: 4/21 Somewhat poor sleep
✓ Epworth Sleepiness Scale Score: 2/24 8/3% Less than slight daytime sleepiness
✓ Results from Sleep Log (one week):Variable sleep pattern, sleep efficiencies 78 to 98%
✓ STOPBANG questionnaire: positive for four of eight items: Snoring, Tiredness, Hypertension, Male gender. Indicates Intermediate risk.
✓ Post three sessions of CBTi: Sleep efficiencies based on one week sleep log: 84-89%; elimination of night eating; sleep schedule adherence, compliance with screen use curfew.

Implications

First, a diagnosis based on comprehensive information provides the Pulomology Practitioner with information to consider for common and, in this case, less common diagnoses thus providing for the respiratory and general health of the patient. And contributions from many sources of assessment also provide assurance of consideration of alternative diagnoses that might not have been considered.

Acknowledgments

None.

Conflicts of interest

The author declare that there are no conflicts of interest.

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