



Obstructive Sleep Apnea Awareness

Case Vignette: OSA and Floppy Eyelid Syndrome

Presenting Complaints

A 50-year-old man, went to the urgent care with complaints of redness, burning eyes and nonspecific irritative ocular symptoms arising on waking up. He had contacted his primary care doctor's office, but was unable to get a same-day appointment.

Past History

His past medical history included hypertension, hypercholesterolemia, a 10-year history of snoring, sleep fragmentation and daytime sleepiness. In the last three years, his symptoms had worsened with the appearance of nocturia; waking up 2 to 3 times every night to urinate, gasping for air during night and headache in the morning.

In addition, his Electronic Medical Records (EMR) had documentation of xerophthalmia in the presence of burning and pain, puffy eyes, amblyopia and convergent strabismus upon awakening about six months before this visit. The symptoms, the patient said, had regressed with the use of proper eye drops, but did not resolve despite multiple ophthalmological examinations.

Physical Exam

- Cardiac system: sinus rhythm, 97 beats per minute, blood pressure – 130/90 mmHg
- BMI- 32.7 Kg m²
- No lymphadenopathy or thyromegaly
- Other vital signs were normal
- Upper eye lids could be easily everted and pulled up. There was an intense conjunctival hyperemia and palpebral laxity. (Figure 1)



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Figure 1. Evidence of FES in the unsuspected OSA patient

Pedrotti E, et. al. Prevalence and risk factors of eye diseases in adult patients with obstructive sleep apnoea: results from the SLE.E.P.Y cohort study. BMJ Open. 2017 Oct 22;7(10):e016142.

The physician on duty suspected the association with obstructive sleep apnea (OSA) and decided to investigate further.

Testing

An ESS was performed.

The ESS subjectively assesses excessive daytime sleepiness by asking patients to rate their chance of dozing off from 0 (would never doze) to 3 (high chance of dozing) for 8 commonly encountered scenarios, with a total maximal score of 24.



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Would never doze	Slight chance of dozing	Moderate chance of dozing	High chance of dozing	
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting and reading
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Watching TV
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting inactive in a public place (e.g. cinema or in a meeting)
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Being in a car for an hour as a passenger (without a break)
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Lying down to rest in the afternoon (when possible)
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sitting and chatting to someone
<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Sitting quietly after lunch (not having had alcohol)
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	In a car when you stop in traffic for a few minutes
Calculate Score				
Your Score				
14				

Figure 1. Results of ESS questionnaire

The ESS score generated was 14/24 (Figure 2). ESS scores of 11-24 represent increasing levels of ‘excessive daytime sleepiness’. [[About the ESS](#)]

The patient was admitted as an outpatient in the sleep-dedicated ambulatory in the Respiratory Rehabilitation Services department for further evaluation. Blood gas-analysis, performed in sitting position, showed pH 7.42, PaO₂ of 80 mmHg and PaCO₂ of 41mmHg.

An overnight respiratory portable polygraphy was provided to the patient and, the day after, the recordings were scored manually. The study confirmed severe obstructive sleep apnea with an AHI of 90.3/hr. Nocturnal oximetry showed a severe impairment in saturation data: max.SaO₂ of 86% and min.SaO₂ of 75%.



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Discussion of Treatment Plan

The patient was admitted to hospital and began the CPAP titration using an auto-titrating positive airway pressure (autoCPAP) device.

Outcome of Case

After only four nights, the ocular problems completely disappeared and a fixed CPAP value of 11 cmH₂O was set for a couple of nights. The treatment efficacy was confirmed by a further overnight respiratory assessment showing a significant reduction in AHI to 6.8/hour (-75% vs. baseline index), and a central apnea index of 2.9/hour. Nocturnal oximetry data significantly improved: max.SaO₂ 94.2% and min.SaO₂ 88%. Daytime sleepiness, asthenia, and ESS (from 14/24 to 2/24) were also greatly reduced.

After four months, an ambulatory follow-up visit confirmed the correct adherence of CPAP therapy and that absence of eyes symptoms had been maintained over time.

Teaching Points

There is evidence in the literature that suggests that the eye may help us identify individuals who suffer from undiagnosed OSA. Floppy eyelid syndrome (FES), first described in 1981 by Culbertson and Ostler, is an under-diagnosed disorder of unknown pathogenesis that is characterized by lax upper eyelids that readily evert on elevation, a soft and foldable tarsus, and a chronic papillary reaction (conjunctivitis) of the upper palpebral conjunctiva.

This report illustrates that OSA might be an independent risk factor for FES and eyelid hyperelasticity. Integrative management of obstructive sleep apnea enhanced the quality of life through correct CPAP utilization.

Sensibilization on ocular findings in unsuspected patients should be already started by the general practitioner. Being on the frontline of health care, eye care practitioners are likely to be the first health care professionals to see the general public. For this reason, it is essential for eye care professionals to recognize patients with symptoms of sleep apnea and refer them to a sleep specialist. Similarly, sleep medicine specialists who treat SAS should refer their patients for appropriate ophthalmic evaluation.



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Adapted from: Porta R, Comini L, Barbano L, Bianchi L, Vitacca M. [A case of obstructive sleep apnea syndrome associated with floppy eyelid syndrome: positive effect of CPAP therapy.](#) *Monaldi Arch Chest Dis.* 2017 May 18;87(1):766. doi: 10.4081/monaldi.2017.766. PMID: 28635199.

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Additional Reading

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