

PREVALENCE OF FLOPPY EYELID AND KERATOCONUS IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME

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Introduction

Sleep apnea syndrome (SAS) is a known disease involving intermittent hypoxia (IH), recurrent symptoms of deoxygenation while sleeping, long daytime sleepiness, and significant loss of quality of life. In-laboratory polysomnography is marked as the gold standard for diagnosis of clinically suspected sleep-related breathing disorders in adults. A home sleep test is an alternative diagnostic method for patients with no major comorbid conditions. Obstructive sleep apnea is characterized by episodic sleep state– dependent collapse of the upper airway, resulting in periodic reductions or cessations in ventilation, with consequent hypoxia, hypercapnia, or arousals from sleep. Obstructive sleep apnea (OSA) is very common but unfortunately frequently undiagnosed. Motor vehicle accidents due to drowsy driving are a particular concern. Evaluation and treatment should focus on symptomatic patients, both to alleviate symptoms and to potentially decrease cardiovascular risk. Among the symptoms include loud snoring, nocturnal awakening, and daytime sleepiness. Keratoconus is one of corneal ectatic disorders characterized by a progressive thinning into a conical shape leading to a progressive loss of vision.

Aim of the work

The aim of this work was to study the prevalence of floppy eyelid and keratoconus in patient with obstructive sleep apnea syndrome.

Subjects and Methods

This study was carried out on the OSA patients referred from the ENT department of the Alexandria Main University Hospital during a period from June 2022 to January 2023. Inclusion criteria: Referred patient with confirmed diagnosis of sleep apnea syndrome by polysomnography. Exclusion criteria: Patients younger than 18 years, Patients with previous diagnosis with keratoconus or any ocular disease that can interfere with the diagnosis of keratoconus, Patients with prior eyelid surgery. The study was conducted in accordance with ethical guidelines of the 1975 Declaration of Helsinki and informed consent was obtained from each patient.

All patients were subjected to the following, Detailed history taking including: Gender and Age., Family history of keratoconus. Complete ophthalmic examination including: Best corrected visual acuity. By using Snellen chart and convert metric (6 meters) to Decimal. Lid examination to check if they have floppy eyelid syndrome or not. Eyelid laxity measurements were performed on both groups, including vertical lid pull test as described by McNab.

Results

Table (1): Relation between floppy eyelid syndrome and corneal signs of keratoconus.

| Floppy eyelid syndrome | Corneal signs of keratoconus | | | | Total |
|------------------------|------------------------------|-------|-----|-------|-------|
| | No | | Yes | | |
| | No. | % | No. | % | |
| No | 42 | 100.0 | 0 | 0.0 | 42 |
| Yes | 0 | 0.0 | 8 | 100.0 | 8 |
| Total | 42 | | 8 | | |
| X ² | 50.00 | | | | |
| P value | 0.0001* | | | | |

Table (2): Relation between papillary conjunctivitis and corneal signs of keratoconus.

| Papillary conjunctivitis | Corneal signs of keratoconus | | | | Total |
|--------------------------|------------------------------|-------|-----|------|-------|
| | No | | Yes | | |
| | No. | % | No. | % | |
| No | 42 | 100.0 | 3 | 37.5 | 45 |
| Yes | 0 | 0.0 | 5 | 62.5 | 5 |
| Total | 42 | | 8 | | |
| X ² | 29.16 | | | | |
| P value | 0.001* | | | | |

Conclusion

In conclusion, keratoconus is associated with an increased risk of obstructive sleep apnea. Because underdiagnosed obstructive sleep apnea is associated with higher cardiovascular risk and premature mortality, eye care providers should consider the referral of patients with keratoconus to sleep specialists, particularly for those at higher risk of obstructive sleep apnea.