recently I have written some short blogs on the AAST website on some interesting eye related obstructive sleep apnea (OSA) related conditions. It sparked my interest to take a... (pardon the pun) ‘longer look’ at some of the things an ophthalmologist might discover during an eye test that can signal the need for sleep screening. With sleep apnea going undiagnosed to such a large degree, the ability for our allies in other health fields to become familiar with, and educate the patient about, sleep issues and the dangers of untreated sleep apnea is a great benefit for patients who need to be tested and treated.

A few of the visual conditions that should be noted and addressed by an ophthalmologist represent an opportunity for sleep professionals and sleep educators to bolster awareness of sleep apnea within the community of ophthalmologists and optometrists. The eye related conditions that could be discussed include a number of conditions commonly seen during an eye examination.

Floppy Eyelid Syndrome: Dr. Deepak Grover of the Cincinnati Eye Institute says that this condition is the number one reason that he refers patients for a sleep study. The eyelids of patients with FES are loose and rubbery and are easily everted in sleep. The eyelid can easily turn either inward or outward and patients with this condition usually complain about other symptoms such as irritation, dryness, grittiness, redness, or discharge, and can be stressed by pressure from a pillow or other bedding. They also can experience keratitis, or conjunctivitis. According to an online article in Optometry Times, fewer than 5 percent of those that have OSA have FES, but approximately 100 percent of those with FES have OSA!

NAION: Nonarteritic anterior ischemic optic neuropathy is another strong reason to refer for sleep testing. Dr. Grover indicates that up to 80 percent of patients with NAION have been found to be positive for OSA. Basically, this condition is due to a loss of blood flow to the optic nerve that results in vision loss in one eye. The condition is painless and although the eyesight cannot be restored in that eye, treating the patient’s sleep apnea may prevent this condition from occurring in the other eye. The incidence of the involvement of the second eye is said to be about 15 to 18 percent of the cases of NAION.

Glaucoma: Glaucoma causes damage to the optic nerve from fluid buildup that causes pressure in the eye. According to new research, from Taipei Medical University, patients with glaucoma are almost 13 percent more likely to have OSA. Those that were diagnosed with OSA were 1.67 times more likely to have open-angle glaucoma in the five years after their diagnosis as compared to those without OSA.

Retinal Vein Occlusion (RVO): This is one of the most common causes of vision loss in the world. While not as common as diabetic retinopathy, it is a fairly common condition and the links to OSA indicate that OSA is more prevalent in patients with RVO. The eye damage causes a severe dysfunction of the autoregulation of three major blood vessels. It is thought that the mechanism for this damage is the frequent incidents of OSA related hypoxia. In one fairly recent Oxford study, a high prevalence of apnea was found in patients with diabetic clinically significant macular edema (CSME). As we see with other hypoxia manifestations, the assault to the retina from decreased oxygen can increase the damage that is already occurring in cases of diabetic retinopathy and hypertensive retinopathy. This hypertensive condition may actually be due to the associated blood pressure spikes that occur during each apneic event.

Papilledema: This condition is linked to idiopathic intracranial hypertension. It occurs most frequently in young woman and is also known as optic disc swelling. An increase in CO₂ concentration as is seen in OSA patients may result in dilation of the blood vessels and an increase in pressure which leads to the aforementioned optic disc swelling. Evaluation and treatment of sleep apnea can improve a patient’s vision and papilledema within a matter of weeks!

Many of these problems can be spotted by an ophthalmologist during a dilated retinal exam. If they are aware of the effects of sleep apnea, they may be in position to save a person’s sight. We have a part in making sure our community of allied health partners are aware of these types of disease connections. We must educate others to look for, and be on guard for, sleep disorders among their patients. Recognizing them will many times solve a multitude of the patient’s medical issues. If the patient is sent for sleep testing and is treated appropriately, the eye doctor may have also saved their life. Or, at the least, improved the quality of their days and nights. And that would be a pleasant sight for all of us in the fields of sleep medicine and ophthalmology.
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