

UARS: A Kind of Sleep-Disordered Breathing

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EXPERT ANALYSIS FROM A CONFERENCE
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SEATTLE — Even without apnea, snoring, or other obvious signs of sleeping problems, sleep can be disturbed enough in children to cause attention-deficit/hyperactivity disorder–like symptoms during the day, said Dr. Maida Chen of the pediatric sleep center at Seattle Children's Hospital.

Sleep specialists have carved out a diagnostic niche called upper airways resistance syndrome (UARS) for children (and adults) who don't have overt sleep apnea and may not even snore but still can't get a good night's sleep.

The term captures the middle ground between obstructive sleep apnea and primary snoring, Dr. Chen said at the meeting. Sleep experts coined the term about 20 years ago when they realized they were missing a group of patients.

"A normal apnea-hypopnea index [during sleep studies] did not always correlate with doing okay during the day," she said. "But people are not as aware of UARS since it is not as well quantified by research findings" as obstructive sleep apnea is.

Sleep apnea, snoring, and UARS are all different manifestations of what Dr. Chen referred to as sleep-disordered breathing. Sleep medicine isn't "just obstructive sleep apnea anymore," she noted.

Different forms of sleep-disordered breathing share in common a narrowing of the upper airways during sleep that can be caused by enlarged adenoids and tonsils, airway inflammation, obesity, and other problems. Whatever its cause, fragmented sleep in children, as in adults, can cause daytime dysfunction.

It's important during any office visit to assess how children are functioning during the day and sleeping at night. "Less-than-optimal academic performance or behavior" is why most children are referred to the sleep clinic at Children's Hospital, Dr. Chen said.

Hyperactivity and inattention are early signs of sleep trouble in younger children. Fatigue is typically a later finding, although it can be the primary symptom of sleep apnea in older, obese kids.

Obstructive sleep apnea has been associated with hypertension, impaired growth, and other significant problems.

Abnormal overnight pulse oximetry has high predictive value for sleep apnea, but normal readings do not rule out sleep-disordered breathing, Dr. Chen said. There's less information on the effects of snoring and UARS, because they have not been studied as intensely as sleep apnea.

UARS is defined by sleep fragmentation without episodes of apnea either with or without mild gas exchange abnormalities. Most UARS kids snore, but not all do; they may just breathe loudly or through their mouths. Nasal airflow tends to be abnormal, as well.

But the syndrome is still being defined. "We need more research," Dr. Chen said. "Snoring is abnormal in every

circumstance," and signals upper airway resistance at some level, he said. Snoring falls within the spectrum of sleep-disordered breathing if it is present more than 3 nights a week for more than a month.

An overnight polysomnogram is the preferred method for diagnosing sleep issues, Dr. Chen said. Brain waves, airflow, breathing effort measures, number of apneic episodes per hour, and movement are among the things monitored.

Treatment depends on cause. In most children, adenotonsillectomy resolves obstructive sleep apnea and, presumably, UARS and snoring in children, she said. Treating underlying airway inflammation can help, too.

Sleeping inclined or on the side can help in mild cases. A tennis ball can even be taped to the back of a child's pajama top to keep the child from sleeping on his or her back, which makes symptoms worse.

Positive airway pressure is another option. It is most commonly used—along with inclined sleeping—in obese children and children with underlying medical conditions, and when adenotonsillectomy fails to fix nighttime breathing issues.

Sometimes children will grow out of the problem; as they grow, so do their upper airways. ■

Disclosures: None were reported.

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