Coexisting Rhinitis Is Common in Sleep Apnea

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KEYSTONE, COLO. — All patients with obstructive sleep apnea should be evaluated and treated for rhinitis, an extremely common coexisting condition, Dr. Robert Ballard said at a meeting sponsored by the National Jewish Medical and Research Center.

Several recent studies indicate that intranasal corticosteroids, perhaps in combination with an oral leukotriene modifier, result in marked improvement in sleep-disordered breathing in children. Indeed, in many cases the youths are essentially cured of their sleep apnea. Adults seem less responsive but do experience worthwhile partial improvement, according to Dr. Ballard, director of the sleep disorders program at the Denver center.

Epidemiologic studies indicate the vast majority of patients with obstructive sleep apnea (OSA) have symptoms characteristic of rhinitis: nasal dryness, congestion, postnasal drip, runny nose. That has been Dr. Ballard's clinical experience as well.

"As a pulmonologist, I routinely look in the noses of my patients in the sleep disorders clinic. They all have inflamed noses," he said.

As a result, nearly all National Jewish Medical and Research Center patients on nasal continuous positive airway pressure (CPAP) therapy for OSA are on intranasal steroids. It lessens OSA severity, renders the CPAP more tolerable, and improves compliance.

The therapeutic rationale for identifying and treating rhinitis in patients with OSA lies in the notion that the nasal disorder may contribute to the pathophysiology of the sleep disorder. The idea here is that the nasopharynx functions as a Starling resistor. Increased nasal airflow resistance due to rhinitis leads to exaggerated intrapharyngeal pressure during inspiration, which may in turn result in oropharyngeal collapse, much like when one sucks too hard on a straw, Dr. Ballard explained.

There are a couple of published studies demonstrating marked benefit from intranasal steroids in children with OSA, one of which was placebo controlled.

Even more recently, investigators at the University of Louisville (Ky.) reported on 22 children aged 2-10 years with residual mild sleep-disordered breathing at overnight polysomnography 10-14 weeks following tonsillectomy and adenoidectomy performed as treatment for their OSA.

The children were placed on the oral leukotriene modifier montelukast plus intranasal budenoside for 12 weeks, at which point they underwent overnight polysomnography again. Fourteen other children with residual sleep-disordered breathing after tonsillectomy and adenoidectomy whose physicians elected not to resort to medication served as controls.

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The mean baseline postsurgical apnea hypopnea index (AHI) in children in the montelukast/budenoside group was 3.9 events per hour. Although that wouldn't even qualify as mild OSA in adults, in children it does, Dr. Ballard explained.

After 12 weeks of montelukast and intranasal budenoside, their AHI had dropped to 0.3 per hour, considered normal. In contrast, there was no significant change in AHI among controls. Moreover, the treatment group's nadir arterial oxygen saturation climbed from a mean of 87.3% to 92.5%, a significant improvement, with again no change in the control group (Pediatrics 2006;117:e61-6).

Dr. Ballard noted that a recent study by investigators at University College Dublin demonstrated significant albeit less robust improvement with intranasal steroid therapy in adults with OSA and coexisting rhinitis than in the pediatric studies, which is consistent with his clinical experience.

Thirteen adults with OSA and rhinitis were randomized to 4 weeks of twice-daily intranasal fluticasone or placebo, then crossed over to the other study arm. Their mean AHI was 23.3 per hour after fluticasone, classified as moderate OSA, and 30.3 after placebo, which falls into the low end of the severe category (Thorax 2004;59:50-5). ■

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