Sleep Apnea Linked to Hypertension in Pregnancy

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SAN FRANCISCO — Pregnant women who have obstructive sleep apnea have a 2.3-fold increased risk of gestational diabetes and a 4.2-fold increased risk of pregnancy-induced hypertension, compared with women without the sleep disorder, according to a poster presentation at the International Conference of the American Thoracic Society.

Previous research has suggested that obstructive sleep apnea (OSA) may induce systemic hypertension and diabetes mellitus in the general population, but the connection was much less clear in pregnant women, investigator Dr. Michael S. Nolledo of the Robert Wood Johnson Medical School, Princeton, N.J., said in a press briefing.

"A lot of times for patients who are pregnant and for ob.gyns., sleep-disordered breathing is not on the radar screen," he said. When a woman who is pregnant goes to see her obstetrician, the physician asks a zillion things but almost never inquires about risk factors for sleep apnea.

Dr. Nolledo suggested that physicians dealing with women with gestational diabetes or pregnancy-induced hypertension (PIH) should inquire about sleep-disordered breathing, especially because OSA is so simple to treat with continuous positive airway pressure (CPAP).

"It may be a condition that you need treatment for just for the time you're carrying your baby," Dr. Nolledo commented. "Once you deliver, the sleep apnea may resolve."

Dr. Nolledo acknowledged, however, that his study contains no direct evidence that treating sleep apnea will improve PIH or gestational diabetes.

The study relied on data from the 2003 National Inpatient Sample, sponsored by the Agency for Healthcare Research and Quality.

This large database includes all inpatient records from a sample of about 20% of U.S. community short-stay hospitals and provides weights to calculate national estimates.

Using this database, the investigators calculated that there were 3,979,840 deliveries in the United States in 2003, of which 167,227 were complicated by gestational diabetes and 300,902 were complicated by PIH.

The overall rate of sleep apnea for these women was 1.14/10,000—but that rate was 4.01/10,000 among women with gestational diabetes and 5.52/10,000 among women with PIH.

When controlled for age and race, women with sleep apnea were 3.5 times more likely to develop gestational diabetes; when controlled for obesity, the odds ratio was still 2.3.

Similarly, the odds ratio for PIH in women with sleep apnea was 6.6 when controlling for age and race, and 4.2 after also controlling for obesity.

In an interview, Dr. Nolledo acknowledged that the overall rate of OSA recorded in the database—just over 1/10,000, or 0.01%—is much lower than the 2%-4% rate of OSA estimated for the general population.

He attributed this in part to the fact that physicians often don't think to ask their pregnant patients about sleep-disordered breathing.

An alternative explanation for the results is that physicians may ask about sleep-disordered breathing more frequently when faced with patients with gestational diabetes or PIH, he said, and that this alone can account for the apparent increases in risk. ■

Reference: 1. Connor BA, Blatter MM, Beran J, Zou B, Trofa AF. Rapid and sustained immune response against hepatitis A and B achieved with combined vaccine using an accelerated administration schedule. *J Travel Med.* 2007;14:9-15.