Pediatric and Developmental Pathology – Sleep disordered breathing (SDB) can indicate reduction in airflow, habitual snoring, and obstructive sleep apnea. During pregnancy, SDB has been linked to complications such as gestational diabetes. Effects of SDB on the placenta are at the center of current research.

A study in the journal *Pediatric and Developmental Pathology* questioned whether SDB in pregnant women was associated with histopathological evidence of placental hypoxia. Placentas of women with obstructive sleep apnea and habitual snoring and those of nonsnorer controls were examined.

Physiological changes during pregnancy can predispose pregnant women to experience SDB. A higher prevalence of snoring has been reported among pregnant women compared to nonpregnant controls. This can have a negative effect on both maternal and fetal health.

Previous work by this research team has linked SDB to placenta-mediated complications, such as gestational diabetes, gestational hypertensive disorders, and altered placental secretory function. As the bridge between mother and baby, the placenta provides oxygen and nutrients to the fetus and removes waste products. The placenta is vital to the developing baby's well-being.

Findings of this study show that fetal normoblastemia is significantly more prevalent in SDB placentas: only 6.4 percent in nonsnorer controls compared with 34.6 percent of snorers and 56.5 percent of those with obstructive sleep apnea. Examination of the placentas also found expression of the tissue hypoxia marker carbonic anhydrase IX in 81.5 percent of snorers and 91.3 percent of women with obstructive sleep apnea compared with 57.5 percent of controls.

The current research now links SDB during pregnancy to fetoplacental hypoxia. "According to the Barker hypothesis, the signals we receive from our mothers while we are in utero have an important impact on our future health," said Füsun Gündoğan, an author of the study. "The immediate and lifelong health consequences of chronic hypoxic placental injury in association with SDB remain to be determined."

Full text of "Evidence of Placental Hypoxia in Maternal Sleep Disordered Breathing, is available at http://www.pedpath.org/doi/full/10.2350/15-06-1647-OA.1 .

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About *Pediatric and Developmental Pathology*

Pediatric and Developmental Pathology is the premier journal dealing with the pathology of disease from conception through adolescence. It covers the spectrum of disorders developing in utero (including embryology, placentology, and teratology), gestational and perinatal diseases, and all diseases of childhood. For more information about the journal or society, see http://www.pedpath.org
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