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Progressing periodontal disease during pregnancy causes greater risk of preterm delivery

NEW YORK—About 12 percent of babies born in the United States are preterm (less than 37 weeks), placing them at increased risk for developing health problems, including congenital defects, asthma, cerebral palsy and impaired sight and hearing. But a healthy mouth, a leading dental researcher suggests, may reduce the number of premature babies born and the resulting infant complications.

“Our findings indicate that periodontal disease progression during pregnancy contributes to preterm deliveries, and especially very preterm deliveries (less than 32 weeks) which places the baby at high risk for neonatal problems and disability,” says Steven Offenbacher, DDS, PhD, distinguished professor, Department of Periodontics, University of North Carolina School of Dentistry, Chapel Hill. “Multicentered trials, sponsored by the National Institute of Dental and Craniofacial Research, are currently underway to examine whether intervention by maternal gum treatment during pregnancy will reduce the risk for prematurity and possibly prevent periodontal disease-related pregnancy complications.”

Dr. Offenbacher, who also directs the UNC Center for Oral and Systemic Diseases, spoke at the American Medical Association and American Dental Association media briefing, Oral & Systemic Health: Exploring the Connection, today in New York City.

Premature low birth weight is an adverse pregnancy outcome, where the infant is born less than 37 weeks into gestation. Research shows preterm birth can occur as a result of inflammation and infection in the mother's body, which can interfere with placental and fetal development and also trigger uterine contractions and cervical dilation leading to prematurity.

“Periodontal diseases are common gum infections caused by the bacteria that accumulate around the teeth, leading to local inflammation and bone loss,” explains Dr. Offenbacher. “Like other infections in a mother's body, the bacteria set off an inflammatory reaction. However, we have data to suggest that the oral bacteria can also serve as a systemic challenge to the mother's body that may ultimately result in abnormal pregnancy outcomes.”

Recently, Dr. Offenbacher and his colleagues monitored the dental health of 1,020 pregnant women to see if maternal periodontal disease was predictive of both preterm or even worse, very preterm births. Over the course of their pregnancy and again after birth, these women were given comprehensive periodontal examinations, including measures of gum disease as typically performed in a dental office.

“At the first exam, about 15 weeks into gestation on average, 58 percent of the women had mild gum problems, and 14 percent had moderate to severe disease,” said Dr. Offenbacher. “Surprisingly, 28.6 percent of the women with moderate-severe periodontal disease had a preterm birth, as compared to only 11.2 among periodontally healthy women.

“Furthermore, women who had progressing periodontal infection over the course of their pregnancy,” he added, “were nearly 2.5 times more likely to have a very preterm birth compared with women whose infection did not change. Periodontal progression was a significant risk factor for very preterm deliveries, even after controlling for many traditional risk factors such as race, smoking, other infections and social domain factors.”

Results from ongoing intervention studies may eventually prove that a dental examination and evaluation for possible periodontal treatment may be an important part of a woman’s prenatal and pregnancy care. “Good oral hygiene and regular dental office visits can help in the treatment and prevention of periodontal diseases,” said Dr. Offenbacher. “These results are exciting because periodontal disease represents a new risk factor that we may be able to control. If periodontal care is included in the prenatal care of both women planning to get pregnant and those who are already pregnant, we know we can safely treat and improve oral health. Studies are now underway to determine whether treating gum disease can also reduce the number of preterm low birth weight deliveries each year and avoid the associated complications.”

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Editor’s Note: Dr. Offenbacher has received grant support from the National Institute of Dental and Craniofacial Research, Orapharma, Johnson & Johnson and Proctor & Gamble. He has received honoraria from and/or served on speaker’s bureaus for Colgate-Palmolive Company, Johnson & Johnson and Philips. He has been a consultant for the Colgate-Palmolive Company, Orapharma, Johnson & Johnson and Proctor & Gamble. Dr. Offenbacher received an honorarium from the American Medical Association to speak at today’s conference.