Periodontal Disease Tx No Help for Preterm Birth

BY ROBERT FINN

Treating periodontal disease in pregnant women does not decrease the chances of preterm birth, according to a study of 756 women.

Previous studies have found that pregnant women with periodontal disease have an increased likelihood of giving birth prematurely, but this was the first study to use a randomized controlled trial to test the idea that treating periodontal disease may improve pregnancy outcomes.

VITALS

Major Finding: There was no significant difference between pregnant women who received treatment for periodontal disease and those who did not in terms of spontaneous preterm birth, gestational age at birth, or major neonatal adverse outcomes.

Data Source: Randomized, controlled trial of 756 pregnant women with periodontal disease.

Disclosures: None reported.

Periodontal disease is very common, affecting more than 30% of individuals in some populations. The investigators, led by Dr. George A. Macones of Washington University in St. Louis found that 50% of the 3,563 pregnant women they screened had either gingivitis or periodontitis (Am. J. Obstet. Gynecol. 2010;202:147.e1-8).

Women were included in the study if they had periodontal disease and were 6-20 weeks pregnant. They were excluded if they had already received periodontal treatment during their pregnancy, if they had used antibiotics or antibiotic mouthwash within 2 weeks, if they had a multiple pregnancy, or if they had known mitral valve prolapse.

The 376 women in the active treatment group received thorough periodontal treatment, in which trained dental hygienists removed stains, plaque, and calculus above and below the gum line, leaving the root surfaces smooth and clean. The 380 women in the control group received only a superficial cleaning and stain removal above the gum line.

The primary outcome was spontaneous preterm birth, which the investigators defined as births occurring before 35 weeks' gestation. Secondary outcomes included the type of preterm birth (either spontaneous or indicated), delivery before 37 weeks' gestation, gestational age at delivery, birth weight, and major neonatal adverse outcomes, such as death, sepsis, and chronic lung disease.

There were no significant differences between active treatment and control groups on any of these measures. Investigators did, however, find one significant difference within the planned subgroup analyses: Among women with a history of previous preterm birth, those in the active treatment arm had a greater risk of preterm birth than those in the control treatment arm. The investigators suggested that this one statistically significant result among many results that were not significant may have arisen by chance.

In an editorial, Dr. Kim A. Boggess of the University of North Carolina at Chapel Hill offered another possibility. Dr. Boggess suggested that scaling and root planing may have disseminated oral pathogens or their toxins to the rest of the body, accounting for the apparently increased risk of active treatment in this one subgroup of women (Am. J. Obstet. Gynecol. 2010;202:101-2). ■

Fetal Growth Restriction Tied To Smoking, Low Folic Acid

BY MARY ANN MOON

Pregnant women who smoke, don't take folic acid supplements, or have higher than average blood pressure or hematocrit levels are at greater risk than others for fetal growth restriction during the first trimester.

In turn, such growth restriction is associated with a greater risk of poor outcomes such as preterm birth, small size for gestational age (SGA) at birth, and a compensatory accelerated rate of postnatal growth that persists until age 2 years, said Dr. Dennis O. Mook-Kanamori and his associates at Erasmus Medical Center, Rotterdam, the Netherlands.

VITALS

Major Finding: Fetuses in the lowest 20% of crown-to-rump length had a 7% risk of preterm birth, an 11% risk of small size for gestational age, and an 8% risk of low birth weight. These rates were 4%, 4%, and 3.5%, respectively, among fetuses without growth restriction.

Data Source: A population-based prospective study of 1,631 pregnant women.

Disclosures: Dr. Mook-Kanamori reported no relevant conflicts of interest. Dr. Smith reported being a member of GlaxoSmith-Kline's preterm labor advisory boards.

These findings from a population-based prospective study involving 1,631 pregnant women suggest that growth patterns as early as the first trimester have a far-reaching influence, perhaps affecting disease risk in adulthood as well as in childhood, the investigators said.

They assessed fetal crown-to-rump length via ultrasound during the first trimester among women participating in a larger study in the Netherlands.

Higher than average diastolic blood pressure and hematocrit levels, smoking, and nonuse of folic acid supplements significantly correlated with shorter crown-to-rump length. There was even a dose-response relation between the number of cigarettes smoked and the degree of growth restriction.

Maternal weight and height showed no relation to the development of fetal growth restriction.

Fetuses in the lowest 20% of crown-to-rump length had a 7% risk of preterm birth, an 11% risk of SGA, and an 8% risk of low birth weight (LBW). In contrast, these rates were 4%, 4%, and 3.5%, respectively, among fetuses that did not show growth restriction.

This indicates a two- to threefold increase in risk for these complications, Dr. Mook-Kanamori and his colleagues said (JAMA 2010;303:527-34).

First-trimester fetal crown-to-rump length also correlated with head circumference, femur length, and weight not only throughout pregnancy and at birth, but also at 1-year and 14-month assessments. This correlation had disappeared by the time the study subjects were evaluated at age 2 years.

"Increased postnatal growth rate is a well-established risk factor for metabolic and cardiovascular disease in later life," the researchers noted.

In an editorial, Dr. Gordon C.S. Smith of the University of Cambridge (England) said these findings suggest that "complications of late pregnancy may, at least for some women, already be determined in the first 3 months post conception, even before a woman has sought prenatal care" (JAMA 2010;303:561-2). ■

Increased Foley Catheter Inflation May Aid Labor Induction

BY PATRICE WENDLING

CHICAGO — Inflating a transcervical Foley balloon catheter to 60 mL is more effective at inducing labor than standard inflation to 30 mL, based on data from the prospective LIFT trial.

The likelihood of delivery within 12 hours was significantly increased from 14% with 30-mL inflation to 26% with 60-mL inflation, Dr. Shani Delaney and associates reported at the annual meeting of the Society for Maternal-Fetal Medicine.

"The number needed to treat of nine women provides an achievable intervention without increasing cesarean delivery rates and [while still] maintaining both maternal and neonatal safety," she said.

The Labor Induction With a Foley Balloon Trial (LIFT) failed to meet its primary end point of delivery within 24 hours, with 64% of controls and 66% of the 60-mL group achieving this outcome. The percentage of women giving birth within 24 hours was higher than anticipated in both the control and study groups; thus there was not enough statistical power to detect such a small difference between the groups, said Dr. Delaney.

VITALS

Major Finding: The likelihood of delivery within 12 hours was significantly increased from 14% with 30-mL Foley catheter inflation to 26% with 60-mL inflation.

Data Source: The prospective LIFT study of 192 women.

Disclosures: Dr. Delaney reported no study sponsorship or conflicts of interest. Coauthor Dr. Aaron Caughey was funded as a Robert Wood Johnson Physician Faculty Scholar.

As expected, larger balloon inflation to 60 mL produced significantly increased cervical dilation after expulsion compared with 30-mL inflation (4 cm vs. 3 cm).

An 18 French Foley catheter with a 30-mL balloon tip was inflated to 30 mL in 94 evaluable patients and to 60 mL in 98 patients. Intravenous oxytocin was started within 30 minutes of balloon placement. Only age was significantly higher at 31.4 years in the control group vs. 29.4 years in the 60-mL group.

The study design was influenced by previous trials, which have reported inflation rates of 30-80 mL, Dr. Delaney said.

The American College of Obstetricians and Gynecologists issued a new practice bulletin for labor induction in August 2009 stating that the "Foley catheter is a reasonable and effective alternative for cervical ripening and inducing labor," but ACOG did not specify inflation sizes.

There was no difference in maternal or neonatal morbidities between treatment groups, said Dr. Delaney of the department of obstetrics and gynecology at the University of Washington in Seattle.

Maternal outcomes that were similar in the control and 60-mL groups included maximum oxytocin dose (19.1 vs. 19.2 mU/min), median delivery time (20 hours vs. 18.8 hours), spontaneous vaginal delivery (66% vs. 63%), cesarean delivery (21% vs. 23%), chorioamnionitis (15% vs. 19%), meconium (21% vs. 20%), cervical laceration (2% vs. 1%), and placental abruption (1% vs. 2%).

Among infants, 5-minute Apgar scores less than 7 were reported in 5% of the 30-mL group and 4% of the 60-mL group. Umbilical artery blood pH was identical in both groups at 7.27, while umbilical artery base excess was –3.38 in the 30-mL group and –2.95 in the 60-mL group. ■