

Oral Bacteria May Affect Pregnancy Outcome

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

The oral pathogen *Actinomyces naeslundii* appears to be associated with shorter gestation resulting in preterm low birth weight, while oral *Lactobacillus casei* is associated with longer gestation and higher birth weight.

Increased levels of *A. naeslundii* could account for as much as 4%-6% of preterm low-birth-weight babies, although more research is necessary to confirm causality, said Ananda P. Dasanayake, D.D.S., of the New York University College of Dentistry, and his colleagues (J. Periodontol. 2005;76:171-7).

The epidemiologic study offers one more tantalizing glimpse at the interrelationship between oral health and systemic disease, and points up the importance of dental care during pregnancy.

"It is advisable to tell patients to seek dental care during pregnancy," Dr. Dasanayake said in an interview. "If they have chronic periodontal disease, that can be treated—usually mechanically, by scaling and root

planing, but sometimes with combination therapy that includes antibiotics."

Dr. Dasanayake and his colleagues compared the presence of oral bacteria during the third trimester and at delivery with pregnancy outcomes in 297 primigravidas. The women's mean age was 20 years; 93% were African American. About 85% had at least a high school education. Samples of saliva were obtained by expectoration after chewing on sterile paraffin wax.

Samples were tested for *A. naeslundii*, *L. casei*, *Streptococcus mutans*, *Streptococcus sobrinus*, *Streptococcus sanguinus*, and *Lactobacillus acidophilus*.

Most of the women (67%) had normal vaginal deliveries. The average infant birth weight was 3,200 g and average gestational age was 39 weeks. There were 26 low-birth-weight deliveries and 28 preterm deliveries. In a multivariate analysis, the

only bacteria significantly associated with pregnancy outcomes were *A. naeslundii* and *L. casei*.

Increasing numbers of *A. naeslundii* were significantly associated with preterm low birth weight. For every one-unit increase in *A. naeslundii* levels, there was a 60-g decrease in birth weight and a 0.17-week decrease in gestational age.

L. casei was associated with increasing gestational age. Each unit increase in *L. casei* was associated with a 0.13-week increase in gestational age.

The connection between oral bacteria and preterm birth is biologically plausible, Dr. Dasanayake said. Infections trigger inflammation and increase cytokines, which in turn can increase prostaglandins and lead to cervical dilation and uterine contraction. Conversely, oral *L. casei*—which is associated with the incidence of dental caries—can have a protective effect by col-

onizing the vagina (migrating via elimination), where it suppresses the growth of pathogenic bacteria and inhibits bacterial vaginosis.

Because of the epidemiologic nature of the study, he said, it was not possible to separate the actual effect of either bacterial level from other contributing factors, such as drug and alcohol use or smoking. However, two ongoing randomized controlled trials, one in South America and one in the United States, may give more specific information.

"In these studies, pregnant women are randomized into two groups—one group has their periodontal disease treated during pregnancy and one group has it treated after pregnancy," Dr. Dasanayake said.

He added that several studies, including one of his own, have failed to find any association between oral bacteria and pregnancy outcome. His study was performed in Sri Lanka with women who did not use tobacco, alcohol, or drugs because of cultural taboos and very low socioeconomic status. No association was seen in this group of women. ■

Increased *A. naeslundii* levels could account for as much as 4%-6% of preterm low-birth-weight babies; more research is needed to confirm causality.

Preeclampsia Counseling: Don't Limit Advice to Childbearing Years

BY CARL SHERMAN
Contributing Writer

NEW YORK — Women who develop preeclampsia should be counseled about the risk in subsequent gestations and strategies to contain these risks, according to Baha M. Sibai, M.D.

In addition, more general implications about health in later life should be discussed with the patient, said Dr. Sibai, professor and chairman of obstetrics and gynecology at the University of Cincinnati. He made his report at an obstetrics symposium sponsored by Columbia University and New York Presbyterian Hospital.

About 20%-30% of women who have had an episode of preeclampsia will develop it in a subsequent pregnancy, which makes this history at least as significant a risk factor for future preeclampsia as chronic hypertension, renal disease, and pregestational diabetes.

The earlier in the first gestation preeclampsia developed, the higher the risk of recurrence in the next: The condition returned in more than half of women who had their first episode before week 27, compared with a 40% recurrence when the index episode was between week 27 and 30, and 20% at week 37 or after.

A severe episode of preeclampsia or eclampsia also

is associated with a worse outcome in subsequent pregnancies, with an increased risk of intrauterine growth retardation, perinatal loss, and abruptio placentae. Here, too, the earlier the episode occurred in the first gestation, the greater the risk to the second, Dr. Sibai said. Preventive measures can contain the risk of preeclampsia and poor outcome in subsequent pregnancies. These include attention to weight, blood pressure, and blood sugar. "Aggressive control of hypertension before and early in pregnancy can reduce the risk of preeclampsia from 50% to [a range of] 10%-15%," Dr. Sibai said.

In women with diabetes, good control of blood sugar from early in the pregnancy will markedly reduce the rate of preeclampsia, he said.

In vitro fertilization should involve the transfer of no more than two embryos, as a risk-containment measure.

A number of other strategies have been suggested to reduce the incidence of preeclampsia. Prophylactic aspirin has had particular attention, but a large multicenter trial found no difference in outcome among women at highest risk.

A metaanalysis of studies using calcium supplementation likewise found no benefit, he said.

Women who have had preeclampsia should also be counseled about its implications for health problems later in life, such as chronic hypertension, diabetes, and ischemic heart disease. "Preeclampsia is a manifestation of underlying silent disease that will develop into a clinical condition that develops later; it doesn't cause [later health problems]," Dr. Sibai said.

The incidence of chronic hypertension in women who have had a severe episode of preeclampsia, at an average follow-up of 7 years, ranges from 7% when the preeclampsia developed after 37 weeks, to 25% when it had developed before 27 weeks.

The risk of later renal and cardiovascular disease is particularly heightened after an episode of preeclampsia that developed before 30 weeks, that was severe, or that recurred, Dr. Sibai said.

In fact, preeclampsia during one singleton gestation doubles the risk of ischemic heart disease and raises it nearly threefold when preeclampsia is severe. Gestational hypertension without proteinuria is associated with a 1.6 relative risk of ischemic heart disease.

"The risk factors for preeclampsia and coronary artery disease overlap considerably," Dr. Sibai observed. ■

Comparable Neonatal Outcomes Reported for Uninsured Women

BY MARY ANN MOON
Contributing Writer

WASHINGTON — Neonatal outcomes were the same for uninsured mothers as for those who had health insurance in a study of nearly 8,000 births in Tennessee, Mark F. Sewell, M.D., reported at the annual meeting of the Central Association of Obstetricians and Gynecologists.

Uninsured women were more likely to deliver prematurely, but that did not adversely affect the outcomes of their infants, whose overall morbidity and mortality were comparable with those for the infants of insured mothers, said Dr. Sewell of MetroHealth Medical Center, Cleveland.

Dr. Sewell conducted a secondary analysis of the medical charts of pregnant women who had participated in a prospective study in Tennessee.

The study involved 7,932 singleton deliveries at six hospitals in Shelby County between 1997 and 1998.

A total of 7,503 of these women had some form of public, private, or military health insurance, and 429 (5%) had no insurance. This rate is slightly higher than the national average of 3%, he noted.

Uninsured women were more likely to be Hispanic than white, African American, or of other ethnic backgrounds. They were less likely to receive prenatal care, and those who did obtain prenatal

care did so on average 1 month later in their pregnancies than insured women.

Uninsured mothers were more likely to have preterm delivery than were insured mothers (21% vs. 15%). Nevertheless, there were no differences between the two groups in perinatal or neonatal outcomes as measured by the rates of low birth weight, low Apgar scores, morbidity, and mortality.

The preterm infants of uninsured mothers had higher birth weights than the preterm infants of insured mothers.

It is possible that undiagnosed diabetes among these predominantly Hispanic mothers may account for this difference, Dr. Sewell said.

In the discussion period following his presentation, L. Wayne Hess, M.D., chairman of ob.gyn. at Lehigh Valley Hospital, Allentown, Pa., said that Dr. Sewell's study "showed just what you would expect."

"Most physicians are dedicated and give the same quality of care regardless of the patient's ability to pay," said Dr. Hess, who is also professor of ob.gyn. at Pennsylvania State University, Hershey.

Dr. Sewell noted that in 2003, 3% of pregnant women in the United States had no health insurance.

There are an estimated 120,000 births every year in this country to uninsured mothers, he commented. ■