

## **More Severe Periodontal Disease Poses Additional Threat to Pregnant Diabetics**

CHICAGO – November 21, 2001 – Pregnant diabetics have more gingival inflammation and deeper pockets between their teeth and gums, which are symptoms of periodontal disease, than non-diabetic pregnant women, according to a new study in the *Journal of Periodontology*. These findings are significant because periodontal disease is a bacterial infection that may make diabetes more difficult to control. Previous studies have shown that periodontal disease may increase women's risk of delivering a preterm, low birth weight baby

### **Abstract**

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### **Periodontal Disease in Pregnancy Complicated by Type 1 Diabetes Mellitus**

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**Background:** Systemic disease and hormonal changes have been implicated as complicating factors for periodontal disease. Diabetes has been identified as a risk factor for periodontal disease, and diabetics can experience periodontal destruction at an earlier age than non-diabetic individuals. Increased hormone levels during pregnancy can contribute to increased gingival inflammation. The purpose of this study was to examine the association of type 1 diabetes mellitus (DM) on the periodontal status of pregnant women.

**Methods:** Thirty-three (13 diabetic and 20 non-diabetic) subjects, 20 to 39 weeks gestation, participated in this study. The mean age of the diabetics and non-diabetics was  $28.5 \pm 7.1$ (SD) and  $27.0 \pm 7.3$  years, respectively. The following parameters were assessed at Ramfjord's reference teeth: plaque index (PI), gingival inflammation (GI), probing depth (PD), gingival margin (GM) location, and clinical attachment level (CAL).

**Results:** Diabetic subjects had significantly ( $P < 0.001$ ) higher PI ( $1.48 \pm 0.69$ ) and GI ( $1.77 \pm 0.44$ ) scores than non-diabetics (PI =  $0.63 \pm 0.38$ ; GI =  $0.93 \pm 0.48$ ). Mean PD for diabetics ( $2.95 \pm 0.69$  mm) was significantly different ( $P < 0.024$ ) from that of non-diabetics ( $2.44 \pm 0.32$  mm). Although mean GM location was coronal to the cemento-enamel junction (CEJ) in both groups, gingival margins were at a more apical position ( $P < 0.001$ ) in the diabetics ( $-0.20 \pm 1.24$  mm) compared to non-diabetics ( $-1.76 \pm 0.53$  mm). Mean CAL values also varied significantly ( $P < 0.001$ ) between diabetics ( $2.60 \pm 1.54$  mm) and non-diabetics ( $0.68 \pm 0.65$  mm). Significant differences were seen for GI ( $P < 0.001$ ), PD ( $P = 0.005$ ), GM location ( $P < 0.001$ ), and CAL ( $P < 0.001$ ) when assessing the effect of diabetes and controlling for plaque. When assessing the effect of plaque and controlling for diabetes, the only significant difference was GI ( $P = 0.001$ ).

**Conclusions:** The results of this study demonstrate that periodontal inflammation and destruction are increased in pregnant diabetics as compared to non-diabetic pregnant patients. These findings may have implications for diabetic control and, hence, maternal and fetal outcomes in pregnant diabetic patients. *J Periodontol* 2001;72:1485-1490.