

Systemic Immune Responses in Pregnancy and Periodontitis: Relationship to Pregnancy Outcomes in the Obstetrics and Periodontal Therapy (OPT) Study

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Abstract

Background: Our previous studies reported on the obstetric, periodontal, and microbiologic outcomes of women participating in the Obstetrics and Periodontal Therapy (OPT) Study. This article describes the systemic antibody responses to selected periodontal bacteria in the same patients.

Methods: Serum samples, obtained from pregnant women at baseline (13 to 16 weeks; 6 days of gestation) and 29 to 32 weeks, were analyzed by enzyme-linked immunosorbent assay for serum immunoglobulin G (IgG) antibody to *Aggregatibacter actinomycetemcomitans* (previously *Actinobacillus actinomycetemcomitans*), *Campylobacter rectus*, *Fusobacterium nucleatum*, *Porphyromonas gingivalis*, *Prevotella intermedia*, *Tannerella forsythia* (previously *T. forsythensis*), and *Treponema denticola*.

Results: At baseline, women who delivered live preterm infants had significantly lower total serum levels of IgG antibody to the panel of periodontal pathogens ($P = 0.0018$), to *P. gingivalis* ($P = 0.0013$), and to *F. nucleatum* ($P = 0.0200$) than women who delivered at term. These differences were not significant at 29 to 32 weeks. Changes in IgG levels between baseline and 29 to 32 weeks were not associated with preterm birth when adjusted for treatment group, clinical center, race, or age. In addition, delivery of low birth weight infants was not associated with levels of antibody at baseline or with antibody changes during pregnancy.

Conclusions: Live preterm birth is associated with decreased levels of IgG antibody to periodontal pathogens in women with periodontitis when assessed during the second trimester. Changes in IgG antibody during pregnancy are not associated with birth outcomes.

Citing Literature





RESOURCES



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