

Periodontal disease and pregnancy outcomes: exposure, risk and intervention

B. Clothier

Graduate Student

M. Stringer

Associate Professor and Clinician Educator

School of Nursing, University of Pennsylvania, Philadelphia, PA, USA

Marjorie K. Jeffcoat*

Professor and Morton Amsterdam Dean

University of Pennsylvania, School of Dental Medicine, 240 S. 40th, Philadelphia PA 19104, USA

Despite the many advances in medicine, the rate of preterm birth has not significantly decreased in the United States over the past several decades. In fact, the rate rose in 2003 to more than 12% of all births in the United States. This equates to over half a million premature births in the United States alone. Consequently, the identification of risk factors for preterm birth which are amenable to intervention would have far-reaching and long-lasting effects. There is emerging evidence of a relationship between periodontal health and adverse pregnancy outcomes, particularly preterm birth/preterm low-birth-weight infants. Therefore this chapter explores the putative association between periodontal disease and infant prematurity, as well as the results of intervention studies which treated periodontal disease in order to reduce the incidence of prematurity. Of 31 published studies, 22 show a positive association between premature birth and periodontal disease. Ongoing studies are addressing the efficacy of periodontal treatment for decreasing the incidence of infant prematurity.

Key words: periodontal disease; periodontitis; prematurity; preterm birth; low birth weight; clinical trial.

There is emerging evidence of a relationship between periodontal health and adverse pregnancy outcomes, particularly preterm birth/preterm low-birth-weight infants. Preterm birth is defined as delivering at less than 37 completed weeks of gestation, whereas

* Corresponding author.

E-mail address: jeffcoat@dental.upenn.edu (M.K. Jeffcoat).

preterm low-birth-weight infants are born less than 37 weeks and weigh less than 2500 g.¹ Preterm birth is a health-care problem, because it is associated with increased neonatal morbidity and mortality.¹⁻³ As such, the efforts to decrease the rate of preterm birth and the associated morbidity and mortality remain research priorities.^{1,4}

Despite the many advances in medicine, the rate of preterm birth has not decreased significantly in the United States over the past several decades. In fact, the rate rose in 2003 to more than 12% of all births in the United States.⁵ This equates to over half a million premature births in the United States alone.⁵ Consequently, the identification of risk factors for preterm birth which are amenable to intervention would have far-reaching and long-lasting effects. This chapter therefore explores the risk factors for one such putative risk factor: periodontal disease. First, periodontal disease and current treatment will be overviewed. Second, the existing literature on the relationship between periodontal disease and preterm birth, results from intervention studies, and the biologic plausibility for the purported relationship will be presented. Lastly, we will draw conclusions based on the current state of the science and outline some of the questions yet to be answered.

PERIODONTAL DISEASE

Periodontal diseases are initiated by bacterial infection but are modified by host response factors. These factors are discussed below. Periodontal diseases may be divided into two broad categories. Gingivitis is an inflammation of the gingival tissues without the loss of supporting soft tissue or bone, while periodontitis is characterized by loss of bone and soft tissue attachment (Figure 1). Gingival health during pregnancy is compromised by hormonal changes. This condition, called pregnancy gingivitis, predisposes women to gingivitis, the mildest form of periodontal disease.⁶ Periodontitis has been further subdivided into specific diseases based primarily on the clinical syndromes and rapidity of bone and attachment loss. Whereas earlier classification systems in the United States were based on age, the new system is based on rapidity of disease progression. A world-wide classification is yet to be achieved. Table 1 summarizes the forms of periodontitis according to the most recent categories defined by the American Academy of Periodontology.⁷ These classifications of periodontal diseases are continually evolving in the light of our increasing knowledge of the pathogenesis of the disease process.⁷

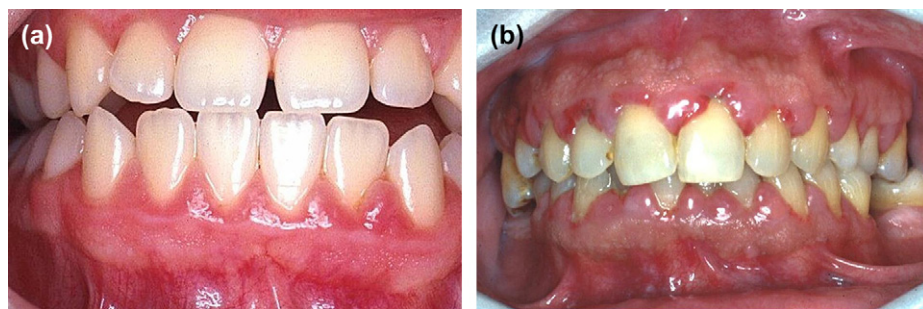


Figure 1. (a) Clinical photograph of gingivitis. Note the erythematous, edematous gingiva. (b) Clinical photograph of periodontitis. Note the subgingival calculus, erythema and edema.

Download English Version:

<https://daneshyari.com/en/article/3907996>

Download Persian Version:

<https://daneshyari.com/article/3907996>

[Daneshyari.com](https://daneshyari.com)