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Periodontal Status in Mothers with or without Spontaneous Preterm Births

F.N.F. LEE1*, W.C. LEUNG2, W.K. LEUNG1, T.T.H. LAO3, L.J. JIN1, and G.K.C. CHIU1
1Faculty of Dentistry, The University of Hong Kong; 2Department of Obstetrics and Gynaecology, Kwong Wah Hospital, Tung Wah Group of Hospitals, Hospital Authority; 3Department of Obstetrics and Gynaecology, Li Ka Shing Faculty of Medicine, The University of Hong Kong, Hong Kong SAR, China

Background
- Preterm birth is one of the most common adverse pregnancy outcomes in many developed countries. It accounts for approximately 70% of all neonatal death and one-half of the long term inborn disabilities of the individual affected (Hack & Fanaroff 1999).
- Preterm birth is multifactorial in nature, but around 50% of cases of premature labour have unknown causes (Halliday 1992).
- Studies showed subclinical or distant infections like periodontal infection may account for preterm birth (Halliday et al., 1993). Offenbacher et al. (2001) demonstrated increasing prevalence of moderate to severe periodontal disease with reducing gestational age, hence periodontal disease is regarded as a significant risk factor for preterm birth.
- However, limited studies have been preformed on the association between preterm birth and periodontal disease in Chinese populations.

Aim
This retrospective case-control study compared periodontal status of Chinese mothers with spontaneous preterm births not attributable to any known risk factor with that of mothers with normal pregnancy outcomes.

Material and Methods
Selection of subjects
- Women clear from medical complications attending the Department of Obstetrics and Gynecology at a university teaching hospital having a record of singleton spontaneous pre-term delivery (≥24 weeks and <37 weeks gestation) not explainable by any known risk factor, within a 12-months period prior to the project commencement, were invited to participate as test group.
- Women with ≥37 weeks delivery matched for age (±1 year) and parity over the same time period were invited to participate as controls.

Clinical parameters
- Probing attachment level (PAL)
- Probing pocket depth (PPD)
- Bleeding on probing (BOP%)
- Plaque (Pl%)

Statistical analysis
Data collected was analyzed using statistical software package SPSS 12.0. Differences between groups were analyzed by t-test and the significance level chosen was α=0.05.

Results
- 34 control and 34 test subjects with mean age of 33.4 years participated.
- Test group subjects also presented with greater percentage of sites with attachment loss ≥5mm (6.8±8.4% vs 2.1±3.9%, p = 0.005, t-test).
- Test group subjects also presented with higher PAL (mean 2.2±0.6mm vs 2.0±0.3 mm, p = 0.046, t-test).

Conclusions
- The surveyed women (controls and test) who had given birth within a past 12-month period displayed inadequate plaque control and moderate gingival inflammation.
- However the control group displayed low PAL (Genco et al., 1999) and the test group displayed moderate PAL (Genco et al., 1999).
- The surveyed Chinese women who had experienced singleton spontaneous preterm birth for unknown reasons were found to have experienced greater probing periodontal attachment loss than age- and parity-matched women with normal pregnancy outcomes.

References