



# Periodontal Status in Mothers with or without Spontaneous Preterm Births

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## Background

- Preterm birth is among 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 (Hillier *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 performed 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 ( $\geq 24$  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  $\geq 37$  weeks delivery matched for age ( $\pm 1$  year) and parity over the same time period were invited to participate as controls.

### Clinical parameters

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

were measured using manual probes at six sites (mesio-buccal, mid-buccal, disto-buccal, mesio-lingual, mid-lingual, disto-lingual) per each standing tooth by a blinded examiner.

### 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  $\alpha = 0.05$ .

## Results

- 34 control and 34 test subjects with mean age of 33.4 years participated.
- There is no statistical significant difference between groups in PI%, BI% and full-mouth mean PPD (Table 1).

Table 1 Full-mouth periodontal parameters ( $\pm$ SD)

	Control	Test
PI%	69.0 (22.2)	60.5 (21.1)
BI%	58.9 (16.9)	68.0 (22.6)
Mean PPD (mm)	1.9 (0.4)	2.1 (0.6)

- Test group subjects presented with greater percentage of sites with attachment loss  $\geq 5$ mm ( $6.8 \pm 8.4\%$  vs  $2.1 \pm 3.9\%$ ,  $p = 0.005$ , t-test).
- Test group subjects also presented with higher PAL (mean  $2.2 \pm 0.6$ mm vs  $2.0 \pm 0.5$ mm,  $p = 0.046$ , t-test) (Figure 1).

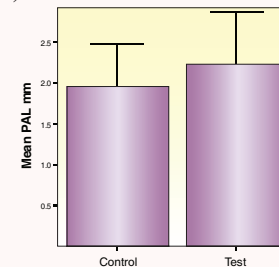


Figure 1 Full-mouth mean ( $\pm$ SD) PAL of subjects

## 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

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