

Treatment of Periodontitis and CRP Serum Level in Chinese Adults

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Emerging evidence has linked Periodontitis with Cardiovascular Disease (CVD). Studies have shown that elevated levels of C-Reactive Protein (CRP) appear to be a useful predictor for future cardiovascular events in a variety of populations. **Objective:** This preliminary study aimed to assess whether periodontitis is associated with elevated levels of CRP in otherwise healthy Chinese adults, and whether periodontal treatment could reduce serum levels of CRP. **Methods:** 30 Chinese adults age of 35-65 years with moderate to severe periodontitis, and 23 periodontally healthy controls, all systemically healthy, were recruited. All underwent a clinical periodontal examination and 10ml blood sample was taken to evaluate serum CRP levels at baseline. All patients received one-stage full-mouth debridement and were re-examination and sampled at one month post-treatment. **Results:** Preliminary results show a significantly higher proportion ($p < 0.05$) of test subjects (23.3%) with serum level of $CRP \geq 3mg/l$ compared to control subjects (8.7%). In those 7 patients with baseline serum level of $CRP \geq 3mg/l$, significant improvements were noted in clinical parameters one month after treatment: reduction of BOP ($73.3 \pm 20.5\%$ to $20.4 \pm 13.8\%$, $p < 0.001$), PI ($76.4 \pm 16.8\%$ to $12.8 \pm 9.7\%$, $p < 0.001$), and sites with $PPD \geq 5mm$ ($24.0 \pm 14.7\%$ to $5.9 \pm 6.2\%$, $p < 0.01$), increased sites with recession $\geq 3mm$ ($28.3 \pm 31.0\%$ to $34.2 \pm 32.0\%$, $p < 0.05$); together with significant decreases in serum levels of CRP ($5.9 \pm 2.9mg/l$ to $1.0 \pm 0.0mg/l$, $p < 0.01$), neutrophil count ($5.0 \pm 0.84 \times 10^9/l$ to $3.6 \pm 0.25 \times 10^9/l$, $p < 0.01$), monocyte count ($0.49 \pm 0.09 \times 10^9/l$ to $0.37 \pm 0.08 \times 10^9/l$, $p < 0.05$), and neutrophil% ($64.1 \pm 6.5\%$ to $58.6 \pm 3.9\%$, $p < 0.05$). **Conclusions:** An association was found between periodontal disease and elevated CRP levels. For the periodontitis patients with high CRP levels, periodontal treatment decreases both the serum levels of CRP and inflammatory cells. Hence, periodontal disease may represent a modifiable risk factor for CVD. This work was supported by The University of Hong Kong (CRCG 2006-08), and in part by a CERG grant (HKU7518/05M to LJJ).

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