



J Periodontol. 2005 Mar;76(3):426-36.

Clinical response of azithromycin as an adjunct to non-surgical periodontal therapy in smokers.

Mascarenhas P, Gapski R, Al-Shammari K, Hill R, Soehren S, Fenno JC, Giannobile WV, Wang HL.

Department of Periodontics/Prevention/Geriatrics, School of Dentistry, University of Michigan, Ann Arbor, MI 48109-1078, USA.

**BACKGROUND:** Antibiotic therapy can be used in very specific periodontal treatment situations such as in refractory cases of periodontal disease found to be more prevalent in smokers. This study was designed to determine the efficacy of azithromycin (AZM) when combined with scaling and root planing (SRP) for the treatment of moderate to severe chronic periodontitis in smokers. **METHODS:** Thirty-one subjects were enrolled into a 6-month randomized, single-masked trial to evaluate clinical, microbial (using benzoyl- DL-arginine naphthylamine [BANA] assay), and gingival crevicular fluid (GCF) pyridinoline cross-linked carboxyterminal telopeptide of type I collagen (ICTP) levels in response to SRP alone or SRP + AZM. At baseline, patients who smoked  $\geq 1$  pack per day of cigarettes who presented with at least five sites with probing depths (PD) of  $\geq 5$  mm with bleeding on probing (BOP) were randomized into the test or control groups. At baseline and 3 and 6 months, clinical measurements (probing depth [PD], clinical attachment loss [CAL], and bleeding on probing [BOP]) were performed. GCF bone marker assessment (Ctelopeptide [ICTP] as well as BANA test analyses) were performed at baseline, 14 days, and 3 and 6 months. **RESULTS:** The results demonstrated that both groups displayed clinical improvements in PD and CAL that were sustained for 6 months. Using a subject-based analysis, patients treated with SRP + AZM showed enhanced reductions in PD and gains in CAL at moderate (4 to 6 mm) and deep sites ( $>6$  mm) ( $P < 0.05$ ). Furthermore, SRP + AZM resulted in greater reductions in BANA levels compared to SRP alone ( $P < 0.05$ ) while rebounds in BANA levels were noted in control group at the 6-month evaluation. No statistically significant differences between groups on mean BOP and ICTP levels during the course of the study were noted. **CONCLUSIONS:** The utilization of AZM in combination with SRP improves the efficacy of non-surgical periodontal therapy in reducing probing depth and improving attachment levels in smokers with moderate to advanced attachment loss.