

Title

Adjunctive effects of systemic amoxicillin and metronidazole with scaling and root planing: A randomized, placebo controlled clinical trial

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Abstract

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AIMS: The objective of this study was to investigate the effect of the systemic administration of metronidazole and amoxicillin as an adjunct to initial periodontal therapy in patients with moderate to severe chronic periodontitis. **METHODS AND MATERIALS:** This randomized, double blind, placebo controlled parallel study involved 50 adult patients with untreated periodontitis who were randomly assigned to receive either a full-mouth scaling and root planing along with systemic metronidazole and amoxicillin (T group) or scaling and root planing with a placebo (P group). Clinical measurements including probing depth (PD), clinical attachment levels (CAL), Plaque Index (PI), and Bleeding Index (BI) were recorded at baseline and six to eight weeks after therapy. The deepest pocket was selected and samples for microbiological testing were taken. Patients received coded study medications of either 500 mg amoxicillin in combination with 250 mg metronidazole or an identical placebo every eight hours for seven days following scaling and root planing. **RESULTS:** There was a significant change in PD ($P=0.0001$), CAL ($P=0.00001$), PI ($P<0.05$), and BI ($P<0.05$) in the T group compared to the placebo group after therapy. Parallel to the clinical changes, treatment significantly reduced the number of *Actinobacillus actinomycetemcomitans* (Aa), *Porphyromonas gingivalis* (Pg), and *P. intermedia* (Pi) compared with baseline in the T group ($P=0.003$, 0.021 and 0.0001 , respectively). However, in the P group only the Pi colony count was reduced significantly ($P=0.0001$). After therapy, there was a significant difference between the T and P groups in the number of patients negative for Aa, Pg and Pi ($P_v = 0.033$). **CONCLUSIONS:** The significant differences between treatment and placebo groups are in line with other studies and support the considerable adjunctive benefits of the combination of amoxicillin and metronidazole in the treatment of

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