

ABSTRACT

LEVEL OF NEUTROPHIL, INTERLEUKIN-1 β AND IMMUNOGLOBULIN-G ON AGGRESSIVE PERIODONTITIS PATIENTS PRE AND POST THERAPY WITH CLINDAMYCIN

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Background: It is well recognized that aggressive periodontitis might occur as a result of complex interplay between bacteria and host defense. Host susceptibility play in important role. Antimicrobial agents that could enhance host defense were required. Clindamycin might influence host defense.

Aim: The purpose of this study was to determine the influence of clindamycin on level of neutrophil, IL-1 β and IgG patients with aggressive periodontitis, and its mechanism.

Materials and methods: This study used the pre-test post-test control group design. Eighteen aggressive periodontitis patients divided into 2 groups at random. Group 1 (treatment): 9 aggressive periodontitis patients were given with clindamycin of 150mg orally, 4 times daily, for 7 days. Group 2 (control): 9 aggressive periodontitis patients were given with tetracycline of 250mg orally, 4 times daily for 12 days, and than metronidazole of 200mg orally, 3 times daily for 10 days. Blood sample were collected from vena cubiti mediana. Level of neutrophil, IL-1 β and IgG were measured at base line, day 8, 23 and 29. Data were analyzed statistically by using t-test ($\alpha=0,05$).

Results: All variables were different significantly between pre-test and post-test of both treatment and control group. Neutrophil level was beyond normal range before treatment (7.333×10^3 /uL). After treatment, neutrophil level decreased into normal range ($1.5 - 7.0 \times 10^3$ /uL). Level of neutrophil and IL-1 β were significant difference between pre-test and post-test ($p<0.05$). Level of neutrophil and IL-1 β decreased after therapy, both in treatment and control group. Nevertheless, comparison of decline in those level between treatment and control group were not different significantly ($p>0.05$). Examination for IgG level showed there was significant difference between pre-test and post-test ($p<0.05$). On the contrary to level of neutrophil and IL-1 β , level of IgG significantly increased after therapy, both in treatment and control group. The increase of IgG level in treatment group was not different significantly from control group ($p>0.05$).

Conclusions: Clindamycin can improve host defense by normalize neutrophil level, decrease IL-1 β level and increase IgG level. Clindamycin has immunomodulatory properties. Clindamycin can be used as drug of choice in aggressive periodontitis.

Key words: neutrophil, interleukin-1 β , immunoglobulin-G, aggressive periodontitis, clindamycin