

THE SUCCESS OF ORAL REHABILITATION BY USING INTERLEUKINES TO MONITOR PERI-IMPLANTITIS

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Introduction: Interaction between bacterial species, host cells and biological active factors, such as cytokines are currently considered as the basis in peri-implantitis. Interleukin-1 (IL-1) and interleukin-6 (IL-6) are pro-inflammatory cytokines present in crevicular fluid around dental implants (PICF), that can play an important role in periodontal tissue destruction.

Aim: The purpose of the present study was to compare the levels of IL-1 and IL-6 in PICF and to assess if there is a correlation between these two interleukins and the orodental clinical status in peri-implantitis.

Methods: The study group was composed of 14 subjects (eight males-57.2% and six females-42.8% aged 30-45). Healthy implant (five subjects) was considered if the implant had no bleeding on probing (BOP=0), probing depth ≤ 3 mm, normal gingival index (GI=0); peri-implantitis (nine subjects) was considered when we identified bleeding on probing (BOP=1), probing depth ≥ 4 and gingival index (GI ≥ 1). Clinical exam was performed in the Department of Oral Rehabilitation, Faculty of Dental Medicine from Constanta; PICF samples were collected and the quantitative determination of IL-1 and IL-6 was made by using ELISA (Salimetrics, USA).

Results: In our study we found that IL-1 and IL-6 levels were significantly increased in peri-implantitis versus healthy implant; the results showed that there are significant differences between IL-1 ($p < 0.001$) and IL-6 ($p = 0.010$) mean values in the two groups of patients. There is also a high positive correlation between probing depth and IL-1 ($p = 0.0008$; $r = 0.904$), IL-6 ($p = 0.02$; $r = 0.717$) levels in peri-implantitis patients. Considering that only after extensive demineralization the radiographs may be relevant to diagnosis and based on our results, we appreciate that IL-1 and IL-6 can be used for peri-implant tissues evaluation. The succes of the oral rehabilitation as a final goal depends on the possibility of peri-implantitis evaluation using IL-1 and IL-6.

Conclusions: Interleukin-1 and interleukin-6 can be used as biomarkers for preventing, early diagnosis and correct monitoring of the peri-implantitis patients.

 Note:

BIOGRAPHY

F C Badea is a graduated, Faculty of Dental Medicine, Ovidius University from Constantza, Romania, 2012. In the same year he started the residency in Dental Prosthetics wich he graduated in 2015. Between 2013-2017 he started and finished the PhD studies. In 2013 he also become Assist.Prof., at the Faculty of Dental Medicine, Ovidius University from Constantza, Romania. He was passionate about research and it materialised with articles published in different speciality literature and also presentation awards at different national and international congresses (APDC second prize, Hong Kong).

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