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Treatment of periodontitis enhances the treatment of rheumatoid arthritis: a randomized clinical trial

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Many studies highlighted the bidirectional relationship between periodontitis and rheumatoid arthritis (RA). In particular, there are some reports indicating that periodontal treatment fosters an amelioration of clinical and biochemical parameters of RA; nonetheless, evidence with this regards is still conflicting.

The aim of the present study was to assess the effect of periodontal treatment on the clinical and biochemical parameters, and the Oral Health Related Quality of Life (OHRQoL) in patients with RA who were diagnosed with periodontitis.

30 patients affected by RA and periodontitis were randomly allocated to receive either periodontal treatment or "delayed" (performed after 90 days from baseline evaluation, i.e. control untreated group). Periodontal treatment consisted of full-mouth non-surgical scaling and root planning, and oral hygiene instructions. Periodontal parameters and a rheumatological examination, consisting also of Disease Activity Score 28 (DAS28), were performed at baseline and 3 months after treatment (Day 90). Serum samples for the assessment of markers of inflammation and endothelial function were drawn at baseline and Day 90.

Periodontal treatment led to significantly improved periodontal parameters in the immediate group ($p < 0.05$). No between-group differences were found in the DAS28 score at Day 90; the number of subjects in remission from the disease significantly increased in the immediate treatment group ($p = 0.04$). Significant increases in Erythrocyte Sedimentation Rate and C-Reactive Protein were found from baseline to Day 90 in the no-treatment group (delayed). A significantly higher IL-6 concentration was found at Day 90 in the delayed vs immediate group. Moreover, periodontal treatment led to a significant improvement in the OHRQoL ($p < 0.05$).

Although no linear improvement in DAS28 was demonstrated following periodontal treatment, there was an increased number of subjects with RA in remission. The presence of untreated periodontitis led to increased systemic inflammation. The execution of periodontal treatment significantly increased the OHRQoL in RA subjects. Further studies are needed to better elucidate these preliminary findings.

Key-words: rheumatoid arthritis; periodontitis; periodontal treatment