JCP digest
Issue number 111 (2023:03)
September 2023

BSP British Society of Periodontology and Implant Dentistry

EFP European Federation of Periodontology

Summarised from *Journal of Clinical Periodontology*, Volume 50, issue 3 (March 2023), 295-306

Editor: Andreas Stavropoulos, chair, EFP scientific affairs committee

Rapporteurs:
Evangelia Zampa, Katianna Petsiou, Maria Sykara, Dimitra Trikka, Soteria Tsantila, Myrto Daponte, Markella Gounari, Haris Kaddas, Eirini Papmanoli, and Konstantinos Samanides, with Spyridon Vassilopoulos and Phoebus N. Madianos

Affiliation:
Postgraduate programme in periodontology at the National Kapodistrian University of Athens, Greece

study

Efficacy of periodontal therapy in rheumatoid arthritis

Authors:
Paola de Pablo, Stefan Serban, Isabel Lopez-Oliva, Joanna Rooney, Kirsty Hill, Karim Raza, Andrew Filer, Iain Chapple, Thomas Dietrich

Background

Rheumatoid arthritis (RA) is a chronic, inflammatory disease that leads to joint destruction, functional impairment, and disability. Patients with RA have an increased risk of cardiovascular diseases.

Periodontitis is also an inflammatory disease, and is considered to not only worsen but also possibly initiate inflammation in RA.

A few clinical studies have shown that periodontal therapy — by reducing periodontal inflammation and the associated microbial load — also reduces systemic inflammation in patients with RA.

However, there are no data available from randomised clinical trials (RCTs) on whether periodontal treatment would constitute an appropriate non-pharmacological therapy for RA patients — which could be added to existing disease-modifying anti-rheumatic drug (DMARD) therapy — or whether it improves overall RA disease activity.

Aim

To evaluate the feasibility of conducting a randomised trial assessing the impact of intensive periodontal therapy in reducing RA disease activity in patients with RA and periodontitis, patients' willingness to participate, and compliance with follow-up visits. Furthermore, a preliminary evaluation was made of the effect of periodontal therapy on RA activity.

Materials & methods

- This study consisted of two randomised groups that received different forms of periodontal therapy: immediate intensive treatment (intervention group) and delayed treatment (control group).
- Patients were adults with RA who had been taking DMARDs steadily for at least three months and with a disease activity score (DAS28) ≥3.2 — or >5.1, if they had not wanted to take biologics — and who met the criteria for generalised periodontitis, stages II–IV.
- The exclusion criteria were: other inflammatory rheumatic diseases, having received periodontal treatment within the 12 months before baseline or any surgical procedure within three months before baseline, having taken glucocorticoids within four weeks before baseline, or having any other significant concomitant disease.
- Study participants were randomised to either the intervention group, consisting of immediate non-surgical periodontal therapy, or the control group, in which periodontal therapy was performed after the completion of the study.
- Clinical markers of disease activity in RA, including ultrasound grey scale (USGS) and power Doppler scores, were collected at baseline and at three and six months of follow-up. In addition, non-fasting blood samples were measured at every study visit, along with the levels of inflammation biomarkers erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). Oral samples were also collected.
- The periodontal-inflammation surface area was calculated using clinical attachment level (CAL), pocket depth, bleeding on probing, and cumulative probing depth.
- The primary aim was the assessment of the feasibility of the protocol as described, while the secondary objective was to collect data on the efficacy and safety of periodontal therapy to reduce periodontal parameters and disease activity.

Figure 1: Cumulative probing-depth differences between groups

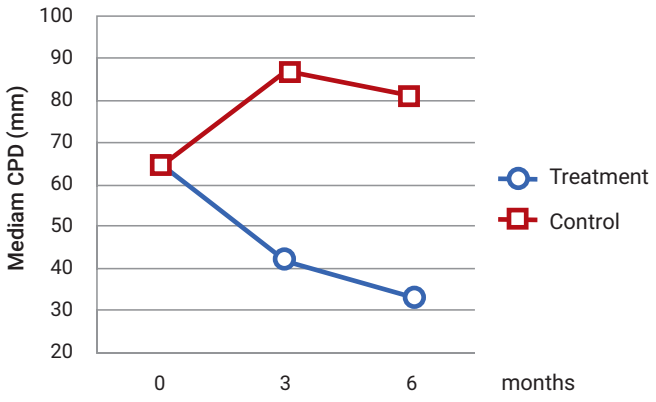
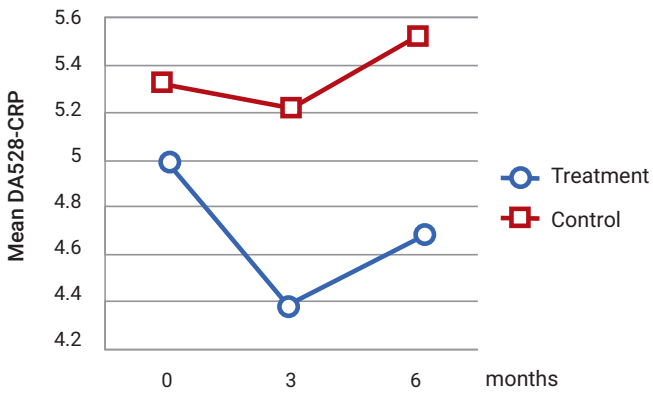


Figure 2: Comparison of DAS28-CRP between groups



Results

- Of the 649 patients with RA initially approached, 31% attended the screening visit and 9.2% met the eligibility criteria.
- Erratic compliance with the timeline of the follow-up visits was observed. The final drop-out rate was 18% and there were more losses in the intervention group (23%) than in the control group (13%) at the six-month visit.
- Study participants frequently cancelled or rebooked appointments throughout the trial, making it difficult to adhere to a strict timeline for follow-up visits.
- There were no major differences in the baseline periodontal status and RA disease activity between the groups.
- A trend for greater improvement in periodontal clinical parameters — other than CAL — and in RA disease activity measures was noticed in the intervention group compared to the delayed-treatment group, although no statistical evaluation was performed.

Limitations

- Inclusion criteria for both periodontal and RA status need to be more concise and more representative of disease activity.
- Lack of statistical analysis of the significance of differences between the two groups (control, intervention) at baseline.
- Blinding of the examiners in the intervention group was not possible.
- A minimum level of intervention for the control group could have been considered.
- Immunological and microbiological parameters could have been considered.
- The design of a prospective randomised trial with substantial duration (between six and 12 months) is very difficult, mainly because of a significant drop-out rate during the follow-up (18%).
- Greater losses during follow-up visits with the intervention group.

Conclusions & impact

- Patient compliance in people suffering from RA and periodontitis is difficult to achieve within the context of a clinical trial.
- Future studies should focus on finding solutions to maintain patient motivation.
- A common facility for both periodontal and RA monitoring could potentially reduce the number of medical appointments and, as a result, the drop-out rates.
- Elimination of inflammation is demanding in patients who suffer from both diseases.
- Periodontal treatment endpoints are, in some cases, difficult to achieve.
- The improvement in RA outcomes underlines the value of carrying out such a trial soon.
- Periodontal treatment may improve RA disease activity measures.

JCP Digest 111 is a summary of 'Outcomes of periodontal therapy in rheumatoid arthritis: The OPERA feasibility randomized trial.' *J Clin Periodontol.* 2023: 50(3):295-306. DOI: 10.1111/jcpe13756

https://www.onlinelibrary.wiley.com/doi/10.1111/jcpe.13756

Access through EFP members' page log-in: http://efp.org/members/jcp.php