INPLASY

Use of Platelet-Rich Fibrin for the treatment of periodontal furcation defects: A systematic review and meta-analysis

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ADMINISTRATIVE INFORMATION

Support - There is no support for this study.

Review Stage at time of this submission - Formal screening of search results against eligibility criteria.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY2023100045

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 October 2023 and was last updated on 11 October 2023.

INTRODUCTION

Review question / Objective For this SR, we considered three focused questions for the effectiveness of PRF in the treatment of grade II furcation defects: 1. Therapeutic Modalities with/without PRF (FQ-1). 2. Therapeutic Modalities in Comparison to PRF (FQ-2). 3. Therapeutic Modalities of PRF with addition of Biomaterials/Biomolecules (FQ-3).

Condition being studied Periodontal disease (grade II furcation defects).

METHODS

Participant or population Systemically healthy humans with periodontal furcation defects.

Intervention Surgical treatment of bone defects through the use of platelet rich-fibrin (PRF) alone or in combination with other biomaterials with a follow-up period of at least 6 months.

Comparator PRF vs open flap debridement (OFD) alone or in combination with other biomaterials.

Study designs to be included Randomized clinical trials.

Eligibility criteria RCTs with at least 6 months of follow-up evaluating the regenerative surgical treatment of furcation lesions using PRF alone or in combination with other biomaterials.

Information sources PubMed/MEDLINE, the Cochrane Central Register of Controlled Trials, Scopus, Embase, and Lilacs were used to search for articles that were published before October

2023 without other restrictions regarding date or language. A search of the gray literature using the Literature Report and OpenGrey databases was also conducted.

Main outcome(s) Primary: changes in pocket depth and clinical attachment level. Secondary: radiographic bone fill.

Quality assessment / Risk of bias analysis Two reviewing authors will be analyze the risk of bias. The RoB 2 (a revised Cochrane risk-of-bias tool for randomized trials) will be used to analyze the risk of bias in RCTs.

Strategy of data synthesis The continuous variables (PD, CAL, and BF) of the included studies will be categorize in groups and subgroups and analyzed in a meta-analysis through software Review Manager (version 5.2.8, Copenhagen, Denmark, 2014).
The effects will be estimated as a mean difference (MD) with 95% of confidence interval (CI). The generic variation approach will be adopted. Heterogeneity wil be assessed using the Chi2 tests, with low heterogeneity considered for values ≤ 25%, moderate heterogeneity considered for values > 25% but ≤ 50%, and high heterogeneity considered for values > 50% 59. For the analyses, the random effect model will be chosen due to the variation in available evidence (e.g., populations, follow-up times, and settings). The statistical significance level of the meta-analysis effect will be set at $P < 0.05$.

Subgroup analysis Not applicable.

Sensitivity analysis Not applicable.

Language restriction No language restriction will be applied.

Country(ies) involved Brazil, EUA, and Swiss.

Keywords Furcation defect; leukocyte and platelet rich fibrin; L-PRF; Advanced-PRF, horizontal centrifugation.

Contributions of each author
Author 1 - Vittorio Moraschini - Concept/Design, Data analysis/interpretation, and Critical revision and approval of article.
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