INPLASY PROTOCOL

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Support: **Guarulhos University.**

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Conflicts of interest:
The authors report no conflicts of interest related to this study.

Is the use of platelet rich fibrin effective in the healing, pain and control of post-operative bleeding of palatine area after harvesting free gingival graft? A systematic review of randomized clinical studies

Meza-Mauricio, J[1]; Furquim, CP[2]; Geldres, A[3]; Mendoza-Azpur, G[4]; Retamal-Valdes, B[5]; Faveri, M[6].

Review question / Objective: **Could platelet rich fibrin membrane application improve the healing, pain and control of postoperative bleeding of palatine area after harvesting free gingival graft?**
Condition being studied: **To evaluate the efficacy of platelet rich fibrin (PRF) membrane in the healing, pain and control of post-operative bleeding of palatine area after harvesting free gingival graft (FGG).**
Information sources: **The grey literature in the System for Information on Grey Literature in Europe (http://www.opengrey.eu) and The New York Academy of Medicine Grey Literature Report (http://www.greylit.org) were screened electronically, as recommended by the high standards for systematic reviews (AMSTAR guideline). Furthermore, a manual search of relevant primary sources related to the topic was made in Journal of Dental Research, Journal of Clinical Periodontology, Journal of Periodontology, Journal of Periodontal Research and Clinical Oral Investigations. Finally, the references of included studies were explored to capture any potential additional records, as suggested by Greenhalgh and Peacock.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 13 January 2021 and was last updated on 13 January 2021 (registration number INPLASY202110037).

INTRODUCTION

Review question / Objective: **Could platelet rich fibrin membrane application improve the healing, pain and control of postoperative bleeding of palatine area after harvesting free gingival graft?**

Rationale: The adoption of PRF membrane for the protection of the palatal donor site following free gingival graft harvesting procedures could provide better comfort to the patient.

Condition being studied: To evaluate the efficacy of platelet rich fibrin (PRF) membrane in the healing, pain and control of post-operative bleeding of palatine area after harvesting free gingival graft (FGG).

METHODS

Search strategy: The MEDLINE (Pubmed), Embase, Scopus and Web of Science databases were searched up to August 2020 by two independent reviewers (J.M.M. and C.P.F.). The search was restricted to studies published in English language journals and those conducted on human subjects. The search terms included "platelet rich fibrin", "leucocyte platelet rich fibrin", "advanced platelet rich fibrin", "injectable platelet rich fibrin", "free gingival graft", "palatal graft", "connective tissue graft", "palatal wound", "palatal healing", "palatal pain", " wound heal", "wound healing", " pain" , "visual analogic scale", "patient reported outcome".

Participant or population: Patients who underwent to harvesting free gingival graft.

Intervention: Surgical treatment using platelet rich fibrin on wound palate.

Comparator: Surgical treatment using other substitutes biomaterials.

Study designs to be included: Randomized clinical trials.

Eligibility criteria: Randomized clinical trials.

Information sources: The grey literature in the System for Information on Grey Literature in Europe (http://www.opengrey.eu) and The New York Academy of Medicine Grey Literature Report (http://www.greylit.org) were screened electronically, as recommended by the high standards for systematic reviews (AMSTAR guideline). Furthermore, a manual search of relevant primary sources related to the topic was made in Journal of Dental Research, Journal of Clinical Periodontology, Journal of Periodontology, Journal of Periodontal Research and Clinical Oral Investigations. Finally, the references of included studies were explored to capture any potential additional records, as suggested by Greenhalgh and Peacock.

Main outcome(s): Wound healing score: measurements for each group could be performed by visual evaluation comparing the wound with the contralateral counterpart using a visual analog scale (VAS), clinical color photographs, epithelium chemical reaction with hydrogen peroxide bubbling, and the presence of fibrin or necrosis on the palatal wound, represented in numbers and/or percentages.

Additional outcome(s): Postoperative pain: measurements of VAS for each group could be organized by mean (or median) and standard deviations represented in numbers and/or percentages. Control of post-operative bleeding: the patients reported as prolonged hemorrhaging from the palate during the postsurgical period.

Quality assessment / Risk of bias analysis: Two reviewers (J.M.M and C.P.F) assessed the risk of bias in the studies selected, using the Cochrane risk-of-bias tool, RoB 2 (version 2, available at: https://www.riskofbias.info/welcome/rob-2-0-tool/current-version-of-rob-2). The authors of this systematic review decided to assess the result related to "assignment to intervention (the intention to treat effect)" and five domains were examined: (i) bias arising from the randomization and allocation concealment process, (ii) bias due to deviations from intended interventions that involved masking of participants and our team of researchers, (iii) bias due to missing outcome data, (iv) bias in measurement of the outcome, and (v) bias in selection of the result reported. Based on the responses to signaling questions and algorithms of this tool, we

judged each domain to be “low risk of bias”, “some concerns relating to the risk of bias” or “high risk of bias”. Studies were categorized as being at low risk of bias (all domains were at low risk of bias), high risk of bias (one or more domains were at high risk of bias), some concerns (if one or more domains had some concerns). Disagreements were resolved by discussion, consulting a third advisor (B.R).

Strategy of data synthesis: The synthesis of the results was described as narrative analysis. First, a description per study was made and also a summary of the assessed outcome. Meta-analysis was not justified due to clinical, methodological, and statistical heterogeneity.

Subgroup analysis: Subgroup analysis was not performed.

Sensibility analysis: Sensibility analysis was not performed.

Language: English studies.

Country(ies) involved: Brazil and Peru.

Keywords: Systematic review; Platelet-rich fibrin, Free gingival graft; Pain, Wound healing.

Contributions of each author:

Author 1 - Jonathan Meza Mauricio - Performed the search in the date base, data collection, selection of included papers, evaluated the risk of bias of the included studies and drafted the manuscript.
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