

Efficacy of growth factors for the treatment of peri-implant diseases: a systematic review and meta-analysis

Por: [Khouly, I](#) (Khouly, Ismael)^[1,2]; [Pardinas-Lopez, S](#) (Pardinas-Lopez, Simon)^[1,3,4]; [Ruff, RR](#) (Ruff, Ryan Richard)^[5,6]; [Strauss, FJ](#) (Strauss, Franz-Josef)^[7,8,9]

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Abstract

Objectives The aim of this study was to conduct a systematic review and meta-analysis on the efficacy of growth factors (GF) on clinical outcomes after treatment (surgical/non-surgical) of peri-implant diseases (peri-implant mucositis and peri-implantitis). **Materials and methods** A protocol was developed to answer the following focused question: Is there any difference for the use of GF for treatment of peri-implant diseases versus comparative GF treatment or without GF? Electronic database and manual searches were independently conducted to identify randomized controlled trials (RCTs). Publications were selected based on eligibility criteria and then assessed for risk-of-bias using the Cochrane Handbook. The primary outcome was probing depth (PD) and bleeding on probing (BOP) reduction along with changes in vertical defect depth (VDD). Changes in clinical attachment level, gingival recession, and plaque index, among others, were studied as secondary outcomes. Based on primary outcomes, random-effects meta-analysis was conducted. **Results** A total of five RCTs were included. GF enhance the reduction of PD (standardized mean difference (SMD) = - 1.28; 95% confidence interval (CI) - 1.75, - 0.79; $p < 0.0001$) and BOP (SMD = - 1.23; 95% CI - 1.70, - 0.76; $p < 0.0001$) in the management of peri-implant mucositis. For the treatment of peri-implantitis, the use of GF yielded to significantly greater improvement in VDD (SMD = 0.68; 95% CI 0.22, 1.14; $p = 0.004$); however, there were no significant differences in terms of PD (SMD = 0.08; 95% CI - 1.08, 1.26; $p = 0.887$) and BOP (SMD = 0.211; 95% CI - 0.20, 0.63; $p = 0.317$). The overall risk of bias of the included studies was low to unclear. **Conclusion** The results of the present systematic review suggest that the addition of GF might enhance the outcomes in the treatment of peri-implant mucositis. However, there is a lack of evidence for supporting additional benefit of GF managing peri-implantitis.

Palabras clave

Palabras clave de autor: [Growth factors](#); [Peri-implant diseases](#); [Peri-implantitis](#); [Peri-implant mucositis](#)

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Información del autor

Dirección para petición de copias: Khouly, I (corresponding author)

+ NYU, Bluestone Ctr Clin Res, Coll Dent, 421 First Ave,BCCR 2W, New York, NY 10010 USA.

Dirección para petición de copias: Khouly, I (corresponding author)

+ NYU, Coll Dent, Dept Oral & Maxillofacial Surg, New York, NY 10010 USA.

Direcciones:

+ [1] NYU, Bluestone Ctr Clin Res, Coll Dent, 421 First Ave,BCCR 2W, New York, NY 10010 USA

+ [2] NYU, Coll Dent, Dept Oral & Maxillofacial Surg, New York, NY 10010 USA

[3] Ctr Adv Sci Res CICA, Cell Therapy & Regenerat Med Grp, La Coruna, Spain

+ [4] Univ Coruna UDC, Biomed Res Inst A Coruna INIBIC, Strateg Grp, Galician Hlth Serv SERGAS, Univ Hosp Complex A Coruna CHUAC, La Coruna, Spain

+ [5] NYU, Dept Epidemiol & Hlth Promot, Coll Dent, New York, NY USA

+ [6] NYU, Coll Global Publ Hlth, New York, NY USA

+ [7] Med Univ Vienna, Sch Dent, Dept Oral Biol, Vienna, Austria

+ [8] Univ Chile, Sch Dent, Dept Conservat Dent, Santiago, Chile

+ [9] Univ Zurich, Ctr Dent Med, Clin Reconstruct Dent, Zurich, Switzerland

Direcciones de correo electrónico:dr.ismaelkhouly@gmail.com

Editorial

SPRINGER HEIDELBERG, TIERGARTENSTRASSE 17, D-69121 HEIDELBERG, GERMANY

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