

Platelet-rich fibrin for bone tissue regeneration

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Editorial

In modern Dentistry, bone loss repair can involve either isolated or associated scaffolds, cells and growth factors [1]. Platelet-rich fibrin (PRF) that has a high concentration of angiogenic and osteogenic growth factors represents a promising therapeutic modality. The absence of ethical, moral or legal conflicts due to the origin of the material, the non-immunogenicity of the autologous therapy, the high plasticity of the fibrin membrane for different host sites, the low morbidity attributed to the minimum blood collection and time processing in the grafting surgery, the practicality of all phases of obtaining PRF are performed in-office and the low value of the procedure compared to the costs of the industrial production of biomaterials or laboratory stage of cellular expansion can make the treatment with PRF very attractive. Clinical studies corroborate that the use of PRF in Dentistry has increased dramatically in the last 5 years, reaching two-thirds of all thematic scientific production or 155 papers in the last 15 years since the beginning of the technique [2].

Despite the great versatility of clinical applications, some questions remain open regarding the eligibility of the technique and the quantity and quality of bone after grafting. Although PRF is generally indicated for patients with good systemic and oral health, preliminary studies of patients with medication-related osteonecrosis of jaw have shown maintenance of alveolar bone integrity. Thinner host sites with preserved bone walls in Periodontics and Endodontics are more suitable for the technique than severe and horizontal bone loss in Oral

and Maxillofacial Surgeries, where PRF alone is not advocated. The evaluation of conjugated treatments of PRF and biomaterials should consider whether the good results were obtained by the autologous material by itself or by the associated xenogenic/alloplastic materials. Furthermore, clinical histomorphometric studies are rare, although they are fundamental for estimating the percentage of new bone formed prior to implant therapy, and which do not always PRF shows superior results in comparison to the alone site or other graft modalities [3,4]. Given the still very recent panorama and some controversies regarding its effectiveness, the choice of PRF as a therapeutic modality for bone tissue regeneration in Dentistry should be made sparingly and based on evidence according to the clinical application desired to ensure a good cost-benefit ratio in-office and patient satisfaction.

References

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