PLATELET RICH PLASMA AND ORAL MAXILLOFACIAL SURGERY. POWER OF SYNERGY?

ABSTRACT

INTRODUCTION: The development of bioactive surgical additives to regulate the inflammation and increase speed of wound healing process, is one of the great challenges in clinical research. In this sense, platelet rich plasma [PRP], appears as a natural and satisfactory alternative with favorable results and low risks. The benefit of PRP has been supported by in vitro and animal studies which suggest a positive influence on the migration and proliferation of a number of cell types. The full array of potential bioactive growth factors and chemokines released upon platelet activation is becoming well defined. These include transforming growth factor (TGF-ß1 and -ß2), platelet-derived growth factor (PDGF-AA, -AB and - BB), vascular endothelial growth factor (VEGF A and C), insulin growth factor (IGF-1) and epidermal growth factor (EGF), etc., that promote local angiogenesis, stem cell homing, cell migration, proliferation and differentiation coupled with the deposition of proteins such as collagen which play a key role in enabling the restoration of normal tissue structure and function. AIM OF THE STUDY: is to evaluate modern approach to PRP production, to review field of application, and to evaluate its application in Oral Surgery. We also reviewed current concept of application of PRP in Plastic & Maxillofacial Surgery. MATERIAL&METHOD: starting from current concepts in platelet biology hemostasis and wound healing, we reviewed last literature regarding PRP technology, application and rationale of treatment. Than we applied technique to oral surgery field like Sinus Lift with lateral approach and immediate implant positioning, Bone guided regeneration and periodontology. Results encourage us to continue our study and to define protocols rather than inclusion criteria to make PRP technology safer, simpler and useful.

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