Platelet Rich Fibrin (PRF) in Periodontal Regeneration

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The goals of periodontal therapy include not only the arrest of periodontal disease progression, but also the regeneration of structures lost to disease. Regeneration is defined as reproduction or reconstruction of a lost or injured part in such a way that the architecture and function of the lost or injured tissues are completely restored. Periodontal regeneration includes regeneration of the tooth's supporting tissues, including alveolar bone, periodontal ligament and cementum over a previously diseased root surface.

Growth factors comprise a heterogenous family of natural, biologically active polypeptide molecules with special importance in wound healing, immunoregulation and bone regeneration. Platelet-rich fibrin (PRF) is a rich source of growth factors used in tissue engineering to increase the levels of growth factors by releasing them from intracellular stores. PRF is prepared by centrifugation of blood using a simple and inexpensive protocol. Unlike other platelet concentrates, this technique does not require any anticoagulants or bovine thrombin or any other gelling agent. PRF releases growth factors over a period of 7 days.

The PRF clot combines many healing and immunity promoters present in the initial blood harvest. It can be used directly as a clot or after compression as a strong membrane. Potential clinical indications of PRF are numerous, including periodontal, oral and maxillofacial and plastic surgery.

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