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Letter to the Editor

Case report on combining PRF with alloplastic bone substitute in Endo-Perio lesion

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▸ See the article "Clinical effectiveness of combining platelet rich fibrin with alloplastic bone substitute for the management of combined endodontic periodontal lesion" in volume 39 on page 51.

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To the Editor,

It was interesting to read about the case report by Goyal [1] on "Clinical effectiveness of combining platelet rich fibrin with alloplastic bone substitute for the management of combined endodontic periodontal lesion (2014;39:51-55)." The author has very interestingly and aptly described the endo-perio case and its management.

However, there is some discrepancy regarding the preparation of platelet rich fibrin (PRF). PRF belongs to the second generation of platelet concentrates geared to simplified preparation without biochemical blood handling. PRF was first developed in France by Choukroun *et al.* [2] for specific use in oral and maxillofacial surgery. This technique requires neither anticoagulant nor bovine thrombin (nor any other gelling agent). The PRF protocol includes the withdrawal of blood samples without anticoagulant in 10-mL tubes which are immediately centrifuged at 3,000 rpm for 10 minutes [3].

The method described by the author is of preparation of platelet rich plasma (PRP) wherein venous blood is taken with anticoagulant to avoid platelet activation and degranulation. The first centrifugation ("soft spin") allows the blood separation in 3 distinct layers. At the bottom of the tube, the red blood corpuscles constitute 55% of the total volume. At the top of the tube, the acellular plasma layer is mainly made up of circulating plasmatic molecules (in particular, fibrinogen) and low in platelets. It is designated platelet poor plasma (PPP) and constitutes 40% of the total volume. Between the 2, an intermediate layer is where platelet concentrations are largely increased. It constitutes only 5% of total volume and presents a characteristic buffy aspect that led to it being called "buffy coat." It will comprise the major part of the future PRP. Using a sterile syringe, PPP, PRP, and some red blood corpuscles are aspirated. Then the material is transferred to another tube, without anticoagulant. This second tube will then undergo another centrifugation, purported to be longer and faster than the first ("hard spin"). This makes it possible to concentrate platelets at the bottom of the tube and subsequently to obtain once again 3 distinct layers. Some residual red blood corpuscles are trapped at the bottom of the tube, acellular plasma and between the 2, a buffy layer, or PRP. With a syringe, the clinician can discard the major part of the PPP, leaving just enough serum to place the concentrated platelets in suspension. The unit is then gently shaken to obtain a ready-to-use PRP [3,4].

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The author started the paragraph with the preparation of PRF, however, described the protocol for PRP, continued by saying that "coagulated preparation of 0.3 mL of PRF was obtained by its combination with 0.1 g of calcium chloride" and then finish by saying that "then graft material was mixed with the coagulated PRP preparation."

We would be highly grateful if the author can clarify our doubts.

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