1142 Platelet Rich Plasma Gel in the Treatment of Periodontal Defects

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Wound healing in periodontal defects following open flap debridement (OFD) is dependent on clot stability between the avascular root surface and the flaps. Recently Platelet Rich Plasma (PRP) has been developed which is produced from a patient's own blood and if applied in a surgical wound stabilizes the clot and releases several growth factors. PRP has been used in periodontal surgery with bone graft materials but there have been no reports on PRP alone in the treatment of periodontal defects. **Objectives**: To evaluate the clinical effects of OFD in combination with application of PRP gel in the treatment of intra-bony defects. **Methods**: 12 subjects with chronic periodontitis contributed 24 pairs of well-matched defects. Prior to surgery, 30 ml of the patient's own blood was obtained by venipuncture and separated into PRP gel and platelet poor plasma (PPP) gel by differential centrifugation. The paired defects were randomly assigned to OFD with papilla preservation technique in combination with application of PPP and PRP gels (test) or similar OFD without gel application (control). Primary outcome measures were changes in probing pocket depth (PPD) and clinical attachment level (CAL) at 6 months. **Results**: Both treatment approaches led to significant PPD reduction at 6 months with 2.17°"1.1mm (p<0.001) in test and 1.59°"1.4mm (p<0.001) in control sites. Greater but non-significant CAL gain was found in test (0.8°"1.4mm) than in control sites (0.47°"1.5mm). Nine of twelve (75%) subjects showed greater CAL gain in test than in control sites at 3 months but this difference was less appreciable at 6 months. **Conclusions**: OFD and OFD combined with application of PRP and PPP are effective in achieving PPD reduction and CAL gain in periodontal defects. Adjunctive use of PRP and PPP gels may increase the likelihood of initial greater gain of attachment compared to OFD alone.

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