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Entire papilla preservation technique in the regenerative treatment of deep intrabony defects: 1-year results

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ABSTRACT

This clinical study reports a modified surgical technique to improve flap stability and prevent biomaterial exposure, thereby favouring optimal wound healing in regenerative periodontal treatment. The aim was to evaluate the clinical applicability and one-year outcomes of this novel surgical procedure in the regenerative treatment of isolated deep intrabony defects. This novel surgical approach is called "entire papilla preservation (EPP)" technique and the overall idea behind this concept is to preserve the whole integrity of the defect-associated papilla providing a tunnel-like undermining incision.

Twelve patients presenting with at least one isolated deep intrabony defect were enrolled in this cohort study and received regenerative periodontal treatment with EPP technique. Following the elevation of a buccal flap, an inter-dental tunnel was prepared undermining the defect-associated papilla. Granulation tissue was removed, root surfaces were carefully debrided and a mixture of collagenated cortico cancellous porcin-derived bone granules (OsteoBiol® *Gen-Os*®,Tecnoss®, Giaveno, Italy) was placed into the intrabony defect. Wound closure of the surgical area was performed by means of a microsurgical suturing technique with 7-0 monofilament polypropylene sutures. All patients involved in the study completed the 1-year study protocol, and there was no missing data in any patient. The primary outcome variables were CAL gain, residual PD and REC change. Primary wound healing of the vertical releasing incision, excellent continuity of inter-dental papilla and 100% wound closure were observed in all cases during the early and late phases of wound healing period. Differences in CAL between baseline and 1-year were both clinically and statistically highly significant ($p < .001$). Differences in PD between baseline and 1-year were clinically and statistically significant ($p < .001$). There was a mean increase of 0.16 ± 0.38 mm in REC at 1-year control compared with the baseline value ($p = .166$).

CONCLUSIONS

The entire papilla preservation technique seems to provide an adequate mechanical access to debride isolated interproximal intrabony defects without lingual involvement and may limit the risk of wound failure particularly in the early healing phase. Moreover, it helps preventing exposure of regenerative biomaterials, possibly enhancing stabilization of blood clot in deep intrabony defects.

The entire papilla preservation technique may be considered as a promising new approach to reduce the risk of early wound failure in regenerative procedures.

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