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β-tricalcium phosphate and basic fibroblast growth factor combination enhances periodontal regeneration in intrabony defects in dogs

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Abstract:

The combined effect of β -tricalcium phosphate and basic fibroblast growth factor was observed in the regeneration of periodontal tissue in dogs. For this purpose, either β -TCP and FGF-2 (β -TCP/FGF-2 group) or FGF-2 alone (FGF-2 group) was applied in intrabony defects. The control group received β -TCP alone. The tissues were histologically examined at 2, 4, or 8 weeks following treatment. The control group was characterized by incomplete, newly formed bone around β -TCP particles. The β -TCP/FGF-2 group showed a statistically significant increase in both new bone and cementum formation compared to the FGF-2-alone group (76.3% *vs*. 65.3%, p<0.01; 81.0% *vs*. 68.3%, p<0.01, respectively).

These findings suggested that β -TCP may be a suitable scaffold for FGF-2 and that the combination of β -TCP and FGF-2 can enhance bone and cementum formation.

Key words:

Basic fibroblast growth factor (FGF-2), β -tricalcium phosphate (β -TCP), Dog

[PDF (2625K)] [References]

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