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Bone Preservation in Dehiscence
Type Defects Using Composite
Biphasic Calcium Sulfate Plus Biphasic
Hydroxyapatite/ β -Tricalcium Phosphate
Graft: A Histomorphometric Case
Series in Canine Mandible”*

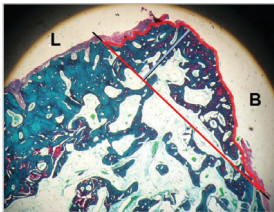
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* Eli E. Machtei, DMD; Doron Rozitsky, MSD, DMD; Hadar Zigdon-Giladi, DMD, PhD and Liran Levin, DMD. Bone Preservation in Dehiscence-Type Defects Using Composite Biphasic Calcium Sulfate Plus Biphasic Hydroxyapatite/ β -Tricalcium Phosphate Graft: A Histomorphometric Case Series. *Implant Dent* 2013;22:590–595.



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“Bone Preservation in Dehiscence-Type Defects Using Composite Biphasic Calcium Sulfate Plus Biphasic Hydroxyapatite/ β -Tricalcium Phosphate Graft: A Histomorphometric Case Series in Canine Mandible”



To perform the histomorphometric measurements, a line was drawn from the lingual crest to the apical border of the dehiscence on the labial wall (red). The height of the newly formed bone was measured vertically from there (blue bar). The area of newly formed bone is bordered by the red lines.

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SUMMARY.

Objectives

To examine bone formation in dehiscence defects using biphasic hydroxyapatite/ β -tricalcium phosphate plus biphasic calcium sulfate (BCP/BCS).

Material

After extractions, 24 mandibular buccal dehiscence defects (3x3 mm) were treated with BCP/BCS (E), membrane (MC), or control (NC). Histology and histomorphometric analysis were performed.

Results

After 6 weeks, bone formation was noticeable in most sites. In subsequent phases, the woven bone was gradually remodeled into lamellar bone and marrow. Vertical new bone height in the E and MC groups (1.06 and 0.85 mm) was substantially greater than that in the NC group (-0.28 mm). For all groups, there was an overall increase in the height of the newly formed bone through the observation. At week 12, the vertical bone height was 1.95, 2.07 and 0.29 mm, respectively. The mean new bone area in the E and MC groups was much greater than that in the NC group (2.85, 2.80 and -0.20 mm², respectively). Percent new bone in all 3 groups was similar (36.25%, 34.84% and 28.34%, respectively).

Conclusion

This study demonstrates the efficacy of BCP/BCS graft for bone augmentation in dehiscence-type extraction socket defect.