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## Two Composite Bone Graft Substitutes for Maxillary Sinus Floor Augmentation: Histological, Histomorphometric and Radiographic Analyses”

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## “Two Composite Bone Graft Substitutes for Maxillary Sinus Floor Augmentation: Histological, Histomorphometric and Radiographic Analyses”

### SUMMARY.

#### Objectives

To histologically, histomorphometrically, and radiographically compare clinical performance of 2 composite bone graft substitutes for maxillary sinus floor augmentation (MSFA).

#### Material and methods

Partially or totally edentulous patients requiring MSFA underwent grafting procedures using a 2:1 mixture of biphasic calcium sulfate (CS) (BONDBONE, MIS Implants Technologies) and deproteinized bovine bone (group CB) or biphasic CS and alloplast (4BONE BCH, MIS Implants Technologies) (group CA). Grafts were allowed to heal for 5 months before placing the implants. During implant surgery, bone samples were collected from grafted areas for histology and histomorphometry. Graft height was analyzed using cone beam computed tomography.

#### Results

Sixteen patients completed the study. Mean percentages of new bone were  $34.40\% \pm 18.91\%$  and  $36.71\% \pm 15.32\%$  for the CA and CB groups, respectively; percentages of residual graft particles were  $6.98\% \pm 5.09\%$  and  $5.52\% \pm 4.12\%$ , respectively. The only significant finding was a greater graft height loss in the CA group ( $24.44\% \pm 6.52\%$  vs  $14.60\% \pm 4.58\%$ ). (see Fig.1)

#### Conclusions

Both graft substitutes were integrated in bone, confirming their biocompatibility and effectiveness for MSFA. The CB group showed less bone height loss than the CA group.

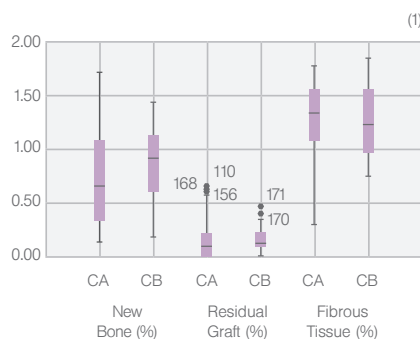


Fig 1. The mean percentages of new bone in the CA and CB groups were  $34.40\% \pm 18.91\%$  and  $36.71\% \pm 15.32\%$ , respectively ( $p > 0.05$ ). The percentage of residual graft particles was  $6.98\% \pm 5.09\%$  in the CA group and  $5.52\% \pm 4.12\%$  in the CB group ( $p > 0.05$ ). In addition, the percentage of fibrous or bone marrow tissue was  $58.61\% \pm 17.67\%$  in the CA group and  $57.76\% \pm 14.72\%$  in the CB group ( $p > 0.05$ ).

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