Our Research is Your Success...

Published in:

August 2012

Journal of ORAL AND MAXILLOFACIAL SURGERY

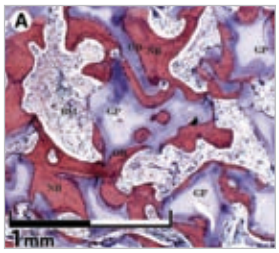
Histomorphometric Analysis of Maxillary Sinus Augmentation Using an Alloplast Bone Substitute" *

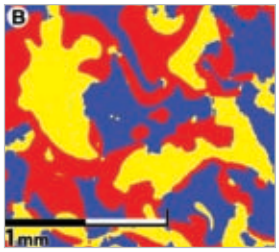
Roni Kolerman, DMD; Gal Goshen, DMD, MSc, MBA; Nissan Joseph, DMD; Avital Kozlovsky, DMD; Saphal Shetty, DMD and Haim Tal, DMD, PhD

* Roni Kolerman, DMD, Gal Goshen, DMD, MSc, MBA, Nissan Joseph, DMD, Avital Kozlovsky, DMD, Saphal Shetty, DMD, Haim Tal, DMD, PhD. Histomorphometric Analysis of Maxillary Sinus Augmentation Using an Alloplast Bone Substitute. J Oral Maxillofac Surg 70:1835-1843, 2012

[1]Roni Kolerman
[2]Gal Goshen
[3]Nissan Joseph
[4]Avital Kozlovsky
[5]Saphal Shetty
[6]Haim Tal

"Histomorphometric Analysis of Maxillary Sinus Augmentation Using an Alloplast Bone Substitute"





A, A biopsy taken 9 months after grafting with 4Bone SBS. Graft particles (GP) are surrounded by vital newly formed bone (NB) and bone marrow (BM). Lining osteoblasts (OB) are clearly observed at the interface (hematoxylin and eosin stain; original magnification, 40).

B, Image processing of the biopsy in identifies new bone (red), graft particles (blue), and connective tissue (yellow).

Authors' affiliations

[1]Instructor, Department of Periodontology. The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel.

[2]Computerized Morphometry Laboratory, Hadassah-Hebrew University Medical Center, Jerusalem, Israel.

[3]Senior Lecturer, Department of Oral Rehabilitation. The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University ,Tel Aviv, Israel.

[4]Associate Professor, Department of Periodontology. The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University ,Tel Aviv, Israel.

[5]Private Practice, Implant Dentistry, Bangalore, India.

[6]Professor and Head, Department of Periodontology. The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University ,Tel Aviv, Israel.

SUMMARY.

Purpose

To evaluate the regenerative potential of a fully synthesized homogenous hydroxyapatite: β-tricalcium phosphate 60:40 alloplast material in sinus lift procedures.

Materials and methods

Hydroxyapatite:-tricalcium phosphate was used for sinus floor augmentation. After 9 months, 12 biopsies were taken from 12 patients. Routine histologic processing was performed and specimens were analyzed using a light microscope and a digital camera.

Results

Histologic evaluation showed 26.4% newly formed bone, 27.3% residual graft material, and 46.3% bone marrow. The osteoconductive index was 33.5%.

Conclusion

Within the limits of the present study, it is suggested that 4Bone SBS is a biocompatible and osteoconductive graft permitting new bone formation similar to DBBM and allograft materials when used for sinus augmentation procedures.