

 W.B. SAUNDERS	Periodicals Home	Visit AAOMS	Search	User Pref	Help
JOMS Home	Table of Contents	All Issues	Order	About this Journal	<< Issue >> Issue



August 2003, Supplement 1 • Volume 61 • Number 8

Abstract

Poster 5

Comparison of allograft materials with and without platelet-rich plasma (PRP)

Tara Aghaloo, DDS, MD

[\[MEDLINE LOOKUP\]](#)

P. Moy [\[MEDLINE LOOKUP\]](#)

E. Reymiller [\[MEDLINE LOOKUP\]](#)

- [Previous article](#) in Issue
- View [print version](#) (PDF)
- [Drug links](#) from Mosby's DrugConsult
- [Genetic information](#) from OMIM

Abstract

[TOP](#)

The increase in the use of platelet-rich plasma (PRP) has offered a new and potentially useful adjunct to allograft materials in oral and maxillofacial bone reconstructive surgery. The purpose of this study was to compare bone healing in rabbit cranial defects utilizing control, autogenous bone, Bio-Oss (BO), freeze-dried mineralized bone (FMB), and freeze-dried demineralized bone (FDDB).

Materials and Methods: Thirty New Zealand white rabbits were included in this randomized, blind, prospective pilot study. Eight-millimeter diameter defects were created in each rabbit cranium and immediately grafted with the above materials. Five rabbits were evaluated at 1, 2, and 4 months. The defects were evaluated by digital subtraction radiography, histology, and histomorphometric analysis.

Results: Alone, grafting materials BO, FMB, and FDDB showed similar histomorphometric bone area at 1 and 2 months, with no increase over control sites. By 4 months, the BO and FDDB grafted sites showed less bone area when compared to control. Autogenous bone alone showed a significant increase in bone area when compared to control and other grafting materials at 1, 2, and 4 months. BO plus PRP showed an increased bone area over FMB plus PRP and FDDB plus PRP at 1 and 2 months, but this was not statistically significant. By 4 months, the grafting materials with PRP added showed similar bone area when compared to each other. Autogenous bone + PRP was significantly increased over FMB plus PRP and FDDB plus PRP at 1, 2, and 4 months, but was only significantly higher than BO plus PRP at 4 months. Early bone healing when BO was combined with PRP was comparable to autogenous bone alone at 1 and 2 months.

Conclusion: Autogenous bone appears to be the ideal grafting material in this rabbit cranial model. BO in combination with PRP appears to be a promising grafting material in this rabbit cranial model, showing improved bone area when compared to FMB or FDDB plus PRP.

References

Shanaman R, Filstein MR, Danesh-Meyer MJ: Localized ridge augmentation using GBR and platelet-rich plasma: Case reports. *Int J Periodontol Restorative Dent* 21:345, 2001

Kassolis JD, et al: Alveolar ridge and sinus augmentation utilizing platelet-rich plasma in combination with freeze-dried bone allograft: Case series. *J Periodontol* 71:1654, 2000

Funding Source: Departmental.

Publishing and Reprint Information

TOP

- *UCLA Medical Center, 10833 LeConte Avenue, Room AO-156, Los Angeles, CA 90095 USA*
- *Copyright © 2003 by Elsevier Science (USA)*
- *doi:10.1016/S0278-2391(03)00607-4*