The use of bovine porous bone mineral in combination with collagen membrane or autologous fibrinogen/fibronectin system for ridge preservation following tooth extraction.

Authors: Vasilic N., Henderson R., Jorgenson T., Sutherland E., Carson R.

Publication Date: 2003

Abstract:

Preservation of the alveolar ridge following tooth extraction is desirable since it facilitates placement of endosseous implants and may improve the adverse esthetics often associated with fixed partial dentures. The purpose of this study was to compare the clinical effectiveness of bovine porous bone mineral (BPBM) used as a graft material combined with either guided tissue regeneration (GTR) or with the autologous fibrinogen/fibronectin system (AFFS) in preserving alveolar ridges following tooth extraction. Twenty-six patients who required extraction of two or more anterior or bicuspid teeth participated in a split-mouth design study. Following tooth extraction and elevation of a buccal full thickness flap, sockets were filled with bovine porous bone mineral which was then covered with either a collagen membrane or mixed and covered with an AFFS system. An acrylic stent served as a reference point for measurements. Primary flap closure was achieved in all surgical sites, and reentry surgery was performed at 6 months. Reentry surgery showed that BPBM/GTR sites presented with [1] significantly more internal socket bone fill (6.04 +/- 0.21 mm vs. 4.98 +/- 0.26 mm), [2] less, although not statistically significant, resorption of alveolar bone height (0.23 +/- 0.28 mm vs. 0.3 +/- 0.21 mm), and [3] significantly less horizontal resorption of the alveolar bony ridge as compared to BPBM/AFFS (1.06 +/- 0.28 mm vs. 2.60 +/- 0.25 mm). This study suggests that treatment of extraction sockets with a combination of bovine porous bone mineral and guided tissue regeneration is of slightly more benefit in preserving alveolar ridge dimensions following tooth extraction than treatment with a combination of bovine porous bone mineral and the autologous

fibrinogen/fibronectin system.