

Clinical and histological evaluation of calcium sulfate bone graft barrier (capset) in the management of angular bone defects in adult periodontitis

Abstract

This study was conducted to provide a clinical and histological evaluation of calcium sulfate (CAS) "bone graft barrier" associated with naturally bovine derived hydroxyapatite (BHA) compared to bovine hydroxyapatite (BHA) alone in management of angular defects in adult periodontitis. A total of 16 defects were chosen from 10 patients for this study. All patients were subjected to thorough clinical examination in selected sites including plaque index, papillary bleeding index probing depth and probing attachment level. All these clinical parameters were taken prior to surgery and at 3 and 6 months postsurgically. The angular defects were divided into two groups; the first group comprised 8 angular defects, which were treated with full thickness mucoperiosteal flap and filled with naturally derived bovine hydroxyapatite, which was covered with calcium sulfate. The second group comprised 8 angular defects. Which were treated with flap surgery and filled with BHA only. An experimental study on 5 dogs was also included in this study. 10 surgically included angular defects were created in the 5 dogs. Two defects in premolar region in each dog. One defect were filled with ca S+BHA, while the other was filled with BHA only. The dogs were scarified at 3 months and tissue sections were prepared and stained for histological examination. It had been found that, clinically, both surgical treatment modalities were effective in management of angular defects in adult periodontitis. The adjunctive use of bovine hydroxyapatite and calcium sulfate is valuable mode of treatment of angular defects in adult periodontitis as it offered a more favorable clinical result and also demonstrated histologically better regenerative potential than hydroxyapatite only.