

**THE REGENERATIVE POTENTIAL OF PLATELET-RICH
PLASMA :
A. CLINICAL EVALUATION IN TREATMENT OF
MANDIBULAR CLASS II FURCATION DEFECTS IN CHRONIC
PERIODONTITIS PATIENTS
B. HISTOLOGICAL STUDY IN TREATMENT OF OSSEOUS
DEFECTS IN DOGS**

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ABSTRACT

The purpose of this study was to evaluate clinically and histologically the effectiveness of PRP/Fisiograft® and Fisiograft® implant material in the treatment of mandibular class II furcation defects and surgically-induced osseous defects in dogs . In 10 patients with moderate to severe chronic periodontitis, 20 matched bilateral mandibular class II furcation lesions constituted the study sample. All patients received initial therapy, then when qualified for surgery, defects were randomly assigned as either receiving combination therapy or Fisiograft® alone. At baseline, 6 and 9 months postsurgically, clinical and radiographic parameters evaluated included probing depth (PD), vertical and horizontal clinical attachment level (CAL-V and CAL-H respectively), radiographic bone level (RBL), and optical density (OD). Post surgical results showed a significant improvement in all studied variables at 6 and 9 months, when compared to baseline in terms of pocket depth reduction (PDR), gain in vertical and horizontal attachment levels (AG-V, AG-H respectively), improvement in radiographic bone level and optical density in both groups. Significant differences were found only in

combination group between 6 and 9 months results in terms of PDR, AG-H and change in OD. Moreover, combination group revealed statistically significant better results than Fisiograft® group for all variables throughout the study period. To determine the nature of periodontal healing, fourteen critical-sized matched bilateral osseous defects were surgically induced at the interproximal area of mandibular 3rd and 4th premolars in 7 dogs. Combination therapy was placed in seven defects randomly assigned, whereas the contralateral defects were implanted with Fisiograft® only. Six weeks later, the animals were sacrificed and the mandibles were processed for histologic evaluation. The combination group demonstrated ample evidence of periodontal regeneration in comparison to Fisiograft® group that showed a less favourable regenerative outcome.

INTRODUCTION

Furcation defects are associated with an increased risk of progressive loss of connective tissue attachment, alveolar bone resorption and tooth mortality .

Furcation defects have presented a major challenge to therapists because of their unique anatomical characteristics and their variable

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