

ENAMEL MATRIX DERIVATIVE ALONE OR IN COMBINATION WITH BONE SUBSTITUTES FOR THE TREATMENT OF PARTIALLY CONTAINED INTRABONY DEFECTS: A COMPARATIVE STUDY

Alberti A.*, Corbella S., Taschieri S., Zotti B., Francetti L.

Università degli Studi di Milano, Department of Biomedical, Surgical and Dental Sciences, IRCCS Istituto Ortopedico Galeazzi ~ Milano ~ Italy

Introduction:

Periodontal intrabony defects are the result of a bone resorption process in axial direction that is secondary to the presence of periodontal disease. Their classification includes one-, two- and three-walled defects, though they often have a complex anatomical configuration.

Regenerative treatment of intrabony defects has proved to be effective even though the effect of some biomaterials in partially contained defects needs to be further explored.

Aims:

The present comparative study evaluated the regenerative treatment of partially contained intrabony defects with enamel matrix derivative (EMD) with or without adjunctive bone substitute material (deproteinized bovine bone mineral (DBBM)).

Methods:

A total of 29 defects were treated: 9 contained defects were treated with EMD and served as positive control, 10 partially contained defects were treated with EMD alone and 10 with EMD+DBBM. The papilla preservation surgical technique was used in all cases. Clinical (PD, REC, CAL) and radiographic outcomes (radiographic depth and width of the bone defect) were evaluated and analyzed at baseline and six months after surgery.

Results:

Six months after surgeries, in the group where partially contained defects were treated with EMD alone (n = 10) PD was 3.3 ± 1.8 mm, REC was 2.6 ± 2.3 mm, and CAL was 5.9 ± 2.6 mm. In the group where EMD + DBBM (n=10) was used PD was 3.2 ± 1.5 mm, REC was 2.9 ± 2.1 mm, and CAL was 6.0 ± 2.3 mm. These parameters were significantly different from baseline ($P < 0.05$). Radiographic parameters confirmed a visible filling of the defects. No differences between groups were found, even when compared to positive control group.

Conclusions:

The results didn't show evidence in favor of regenerative treatment of partially contained defects through EMD + DBBM. Moreover, the use of an appropriate surgical technique of papilla preservation could reduce the importance of the defect morphology in determining the clinical outcomes, even using EMD alone in partially contained defects.