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Histomorphometric Studies of the Healing Process in Artificial Bone Defects in Rabbit Long Bones

Jermen Indjova[1*], *Khodor Fakih*[1], *Dimitar Sivrev*[2]

[1] *Department of Oral and Maxillo-Facial Surgery, Faculty of Dental Medicine, Medical University, Sofia, Bulgaria*
[2] *Department of Anatomy, Faculty of Medicine, Trakia University, St. Zagora, Bulgaria*

* Corresponding author: e-mail: indjovaj@yahoo.com

Histomorphometry was used for evaluation and quantitative measurement of the types of new bone formation in artificial defects created in long bones of rabbits. The aim of the study is monitoring the amounts of new woven and lamellar bone formed in artificial bone defects treated with various combinations of Bio Oss and Emdogain under guided bone regeneration. Forty bone defects were created in the hindlimbs of 10 rabbits. The amount of woven and lamellar bone increased between post treatment months 3 and 4 both after independent and combined application of both xenografts. The amount of lamellar bone was the greatest in natural healing with coagulum and after treatment with combination of Bio Oss+Emdogain. Bio Oss+Emdogain combination could be used to preserve the volume of alveolar bone and at the same time to create an environment for placing intraosseous dental implants when the available healing time was over 4 months.

Key words: experimental model, histomorphometry, Bio Oss, Emdogain