



## Preservation of the postextraction alveolar ridge: a clinical and histologic study

### ABSTRACT

When the treatment planning foresees the placement of an implant following a tooth extraction, it is necessary to preserve the dimension of the post-extraction alveolus. In literature different ridge preservation procedures have been proposed and it has been confirmed that filling and covering the post-extraction alveolus preserve the bone volume in a more predictably way compared to the natural healing. However, some controversy exists regarding the quality of the tissue augmented in the extraction site.

The aim of this investigation was to assess the possibility of preserving the buccal and lingual plates of a post-extraction socket from resorption using a bone filler. Consequently, this study investigated the role of a bone substitute material in preserving the ridge after the extraction of posterior teeth. In order to do this, after the tooth extraction, 10 single sockets in the posterior area were filled with a xenograft material (OsteoBiol® Gen-Os®, Tecnos®, Giaveno, Italy). The granules were then covered with a collagen membrane (OsteoBiol® Evolution, Tecnos®) and the soft tissues were sutured over the membrane without obtaining primary closure.

The histologic analysis performed 4 months after extraction on the specimens harvested from the area previously augmented with bone filler evidenced that about 85% of the initial ridge dimensions was preserved, allowing for a correct implant placement. From a histologic point of view, new bone formation was detected in all sites.

### CONCLUSIONS

The results obtained in this investigation confirm that the resorption of the crestal width can be significantly reduced thanks to the use of a filling material and that the augmentation of the alveolus after tooth extraction seems to increase the probability of maintaining the original crestal form, allowing ideal implant placement with optimal bone and gingival tissues. In the Author's opinion, *"the results promote the use of a bone substitute to fill the post-extraction site of posterior teeth to avoid alveolar bone loss"*.

### ALVEOLAR REGENERATION

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