

The Comparison between Demineralized Bone Matrix and Absorbable Gelatin Sponge on preservation of the extraction socket bone level

Mousavi Z¹, Jafari SM², Sarkarat F^{#3}, Talaeipour AR⁴

¹ Dentist

²Assistant Professor, Oral and Maxillofacial Surgery Dept, Islamic Azad University, Dental Branch, Tehran, Iran

³-Associate Professor, Oral and Maxillofacial Surgery Dept, and Member of Cranio Maxillofacial Research Center, Islamic Azad University, Dental Branch, Tehran, Iran

⁴- Professor, Oral and Maxillofacial Radiology Dept, and Member of Cranio Maxillofacial Research Center, Islamic Azad University, Dental Branch, Tehran, Iran

Abstract

Background and Aim: Alveolar ridge resorption following tooth extraction could be minimized via socket preservation techniques by using grafting materials. The aim of this study was to compare the effect of Demineralized Bone Matrix and Absorbable Gelatin Sponge on preservation of the extraction socket bone level.

Materials and Methods: This double blind clinical trial study was accomplished on 20 cases (10 patients). The patients with the indication of two similar teeth extraction in a jaw who declared their written and conscious agreement for the research were included in this study. First, after similar teeth extraction in a jaw, Demineralized Bone Matrix material was embedded randomly into one extraction socket and Absorbable Gelatin Sponge on the other one. Then, the height of alveolar socket was measured by means of taking parallel periapical radiography and making a guiding stent. Four months later, another parallel periapical radiography was taken in the same manner as the previous one by using the fabricated guiding stent as guidance. Then the height of alveolar socket was measured. Differences inside and between the groups were analyzed statistically by using the “paired t-test” and “t-test” analyses respectively.

Result: In both groups, reduction on the amount of alveolar ridge height observed. Bone level reduction in the Absorbable Gelatin Sponge and Demineralized Bone Matrix group was 3.03 ± 2.07 mm and 0.76 ± 0.47 mm, respectively, with statistically significant difference between them ($P < 0.01$).

Conclusion: Bone level changes in Absorbable Gelatin Sponge group was 3 times more than Demineralized Bone Matrix group, which means that Demineralized Bone Matrix is more capable of preserving the bone height of the extraction socket than the Absorbable Gelatin Sponge.

Keywords: *Allograft, Alveolar Ridge, Alveolar bone atrophies, alveolar ridge augmentation, Tooth extraction*