

## بررسی کلینیکی جایگذاری ایمپلنت فوری همراه با غشاء بیولوژیک بلافاصله پس از کشیدن دندان

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**Title:** Clinical evaluation of immediate implantation with biologic membrane after tooth extraction

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**Introduction:**

The replacement of missing teeth with late dental implants has become an acceptable and standard treatment modality. However, there have been only a few studies evaluating the immediate dental implants. The aims of this study were:

- 1) To evaluate the possibility of inserting dental implants into extraction sockets immediately after extraction.
- 2) To assess osseointegration after immediate implant insertion clinically.
- 3) To evaluate the changes in depth and width of defects surrounding implants as well as change in distance from cover screw to alveolar crest after insertion of fixtures following immediate implantation and assess the efficacy of this method in preserving height and width of the alveolar ridge.

**Materials & Methods:**

In this clinical trial which had a before-after design, five implants were inserted in 3 patients immediately following extraction of the teeth number 44, 47, 11, 14 and 23. HA coated Dyna implant systems were used in this study. At the initial stage as well as the second stage of surgery the following parameters were measured at 6 sites around each implant: width and depth of remaining defect around the neck of fixtures and the distance from the covers crew to crest. The role of baseline defect parameters on the final configuration of defects were analyzed statistically, by paired t-test and multiple regression.

**Results:**

Defect depth and defect width showed improvements of 3.4mm (90%) and 1.8mm (94.5%) respectively which were statistically significant. Improvement in the width and depth of defects had negative correlation with baseline defect width and depth. Furthermore, the distance from alveolar crest to the cover screw at baseline had a significant influence on the reduction of the defect width at the re-entry visit. Primary stability at the insertion visit had a significant and positive effect on the remaining defect depth at the re-entry, although its effect on the defect width was positive but insignificant. Sites with primary stability showed a 10 times smaller distance from cover screw to the crest, which was statistically significant.

**Conclusion:**

Insertion of immediate implants into extraction sockets using Dyna HA coated implants are clinically possible, with a predictable and successful outcome. In addition, primary stability of implants in such sites, although is not essential for clinical osseointegration, it may facilitate the bone fill in the defects around immediately inserted implants.

**Key words:**

Immediate implant, hydroxy apatite coat, biologic membrane.

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