

Immediate versus delayed loading of dental implants placed in fresh extraction sockets in the maxillary esthetic zone: a clinical comparative study.

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Abstract

PURPOSE: The aim of this study was to report a clinical comparative assessment of crestal bone level change around single implants in fresh extraction sockets in the esthetic zone of the maxilla either immediately loaded or loaded after a delay.

MATERIALS AND METHODS: Forty patients were included in a prospective, randomized study. All patients required 1 tooth extraction (ie, 1 tooth with a hopeless prognosis) and were randomized into either the test group or the control group. Implants were positioned immediately after tooth extraction and were loaded immediately in the test group (20 implants) and after 3 months in the control group (20 implants). The implant site was prepared, with at least 4 mm of sound apical bone below the implant apex, and the coronal margin of the implant was placed at the buccal level of the bone crest. All implants were 13 mm long; 30 implants had a diameter of 5 mm, and 10 had a diameter of 3.75 mm. Radiographic examinations were made at baseline, at 6 months, and at 24 months. To compare the mean values between test and control group, a paired t test was performed (considered statistically significant at $P < .05$).

RESULTS: After a 24-month follow-up period, a cumulative survival rate of 100% was reported for all implants. The control group resulted in a mean mesial bone loss of 1.16 ± 0.32 mm and a mean distal bone loss of 1.17 ± 0.41 (mean bone loss, 1.16 ± 0.51 mm). The test group resulted in a mesial bone loss of 0.93 ± 0.51 mm and a distal bone loss of 1.1 ± 0.27 mm (mean bone loss, 1.02 ± 0.53 mm). No statistically significant difference between control and test groups ($P > .05$) was found.

CONCLUSION: The success rate and radiographic results of immediate restorations of dental implants placed in fresh extraction sockets were comparable to those obtained in delayed loading group.

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