



# Crestal Bone Changes Around Early vs. Conventionally Loaded Implants with a Multiphosphonate Coated Surface: A Randomized Pilot Clinical Trial

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## Abstract

**Objectives:** To compare the marginal bone level around C1 implants with a thin multi-phosphonate coated surface after either an early or conventional loading protocol.

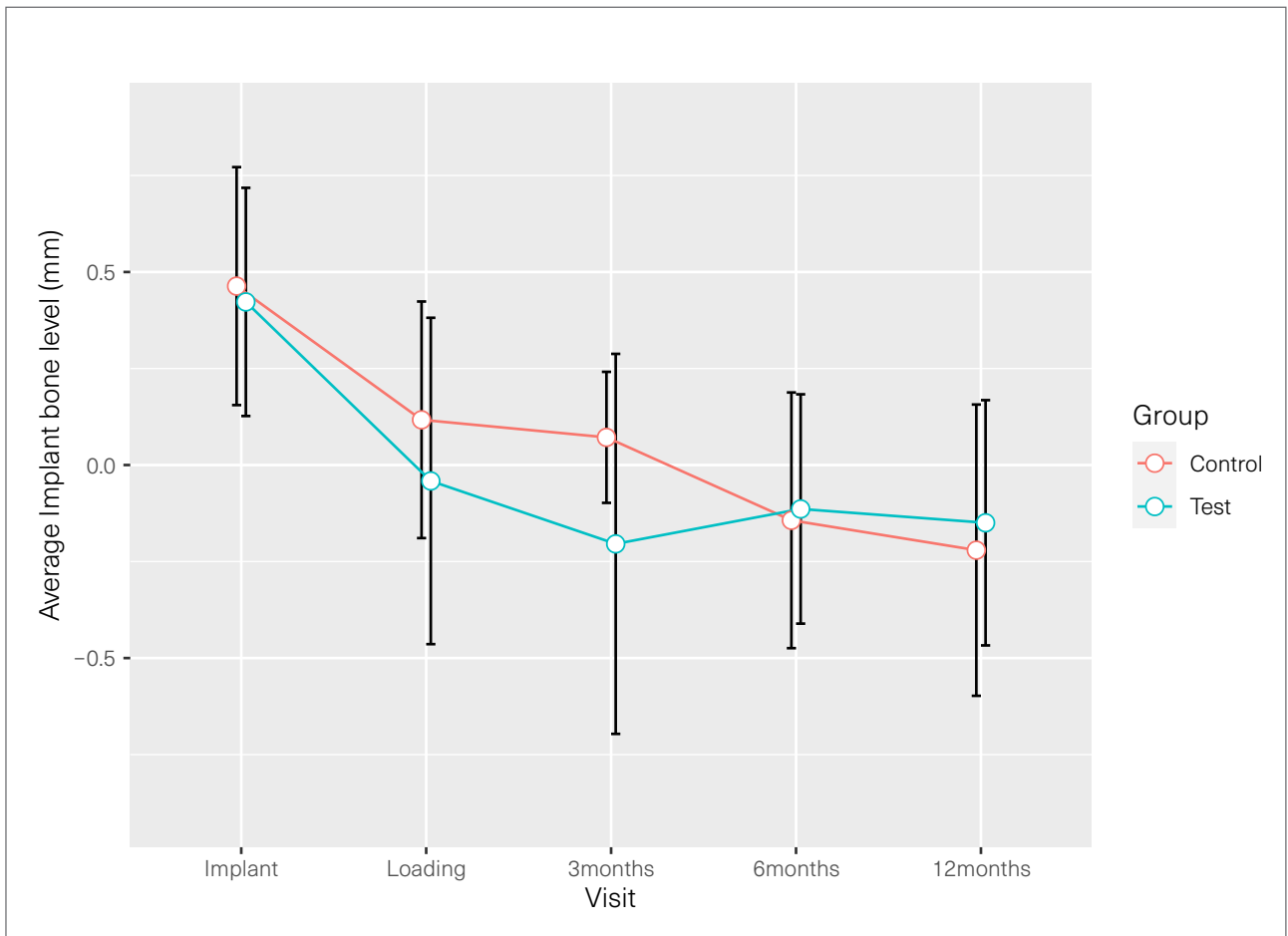
**Material and methods:** A randomized pilot clinical trial was conducted. Dental impressions were obtained after either 4 weeks (test) or 8 weeks (control) and single crowns screwed-in 2 weeks later. Several variables were evaluated including radiographical marginal bone level (MBL), patient's level variables and those related to the restoration and surrounding tissues. These data were obtained at several time points up to a 1-year follow-up.

**Results:** Thirty-four patients were included in the study, 18 assigned to the test group. No differences at implant placement were detected for tissue thickness, keratinized mucosa nor any other clinical or radiological variable. At the time of impressions, tissue was thinner in the test

group (2.30 (0.46) vs. 2.78 (0.66) mm, test vs. control, respectively;  $p=0.012$ ) so shorter abutments were used in this group. Regardless, no significant changes in marginal bone level were detected neither within group along time nor between groups. The average MBL at the 1-year follow-up was -0.15 (0.32) vs. -0.22 (0.37) ( $p=0.443$ ) (test vs. control, respectively). None of the clinical or radiological variables evaluated had a determinant influence on the MBL at any visit nor group.

**Conclusions:** The use of C1 implants with a multi-phosphonate coated surface for early loading offers successful radiographical outcomes 1 year after loading. MBL over time was not affected by taking the impressions 4 or 8 weeks after implant placement and loading them 2 weeks later.





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