

Dental Implant Thread Design and the Consequences on Long-Term Marginal Bone Loss.

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Author information

Abstract

AIM:

The aim of this study was to present the implant macrostructure effect on marginal bone loss using 3 dental implant thread designs with differences in thread pitch, lead, and helix angle. All implants used were sourced from the same company and had the same microstructured surface.

MATERIALS AND METHODS:

This is a nonrandomized, retrospective, double-blind study. Data were collected by an independent Tel Aviv University group from a general practitioner's private practice patient records. In total, 1361 implants met the inclusion criteria representing the 3 types of implants macrostructure.

RESULTS:

Overall survival rate was 96.3% with 50 implants failing (3.7%) out of a total of 1361 implants. Survival rates for the 3 groups were: group A 96.6%, group B 95.9%, and in group C 100%. Average bone loss for groups A, B, and C were 2.02 (± 1.70) mm, 2.10 (± 1.73) mm, and 1.90 (± 1.40) mm, respectively. Pairwise comparisons revealed that less bone loss occurred in group A compared with group B ($P = 0.036$).

CONCLUSION:

Favorable long-term bone loss results were found in implants with a larger pitch, deeper apical threads, and a narrower implant core. One-piece V-thread design implants demonstrated 100% survival rate.

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