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Effect of Soft Tissue Thickness on Crestal Bone Loss of Early Loaded Implants with Platform Switching: 1- and 5-year Data

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Abstract

Objectives: Aim of this retrospective study was to evaluate the effect of vertical soft tissue thickness (STT) on crestal bone loss (CBL) of early loaded C1 implants after 1 and 5 years.

Material and methods: 44 tapered C1 implants with platform switching and conical connection with insertion torque of at least 20 Ncm were placed in the posterior mandible and maxilla to rehabilitate edentulous sites. STT at implant sites was divided in 2 groups, thin G1 (n=21, mean STT=2.0±0.3 mm) and thick G2 (n=23, mean STT=3.0±0.8 mm).

The implants were loaded after 6 to 8 weeks. Survival and success rates and CBL were measured after 1 and 5 years.

Results: The survival and success rates at 1 and 5 years was 100% and 97.8%, respectively. At the 1-year follow-up, the CBL of the thin and thick gingival groups was 0.96±0.49 and 0.55±0.41 mm, respectively; the difference was statistically significant (p=0.004). At 5 years, the CBL of the thin and thick gingiva groups increased to 1.12±0.84 and 0.65±0.69 mm, respectively; the difference however was not statistically significant (p=0.052).

Conclusions: At 1-year, the CBL was more pronounced at sites with a thin gingiva; at 5 years the difference between the groups was levelled. Within the limitations of this study, early loading of C1 implants with platform switched and conical connection was safe.



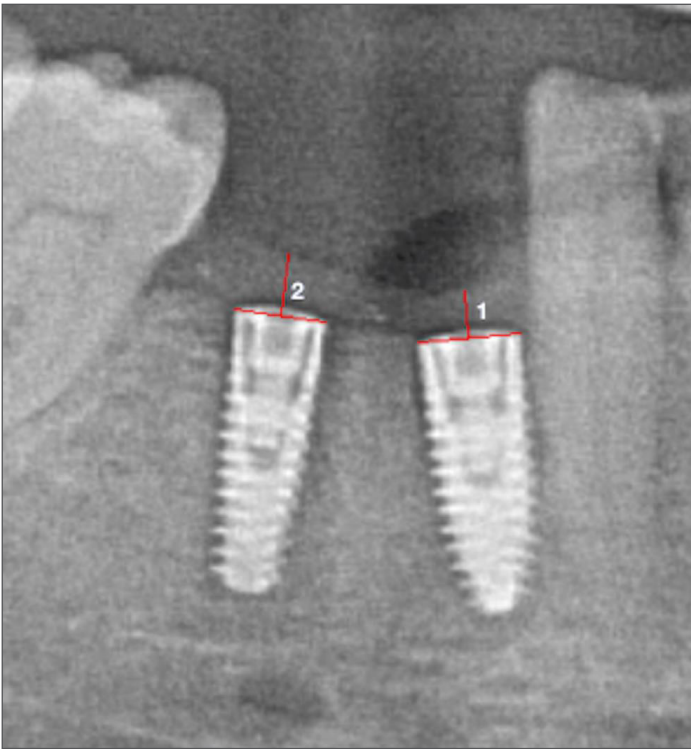


Fig. 1. Measurements of the STT on a panoramic radiograph (thin gingiva) L1: 2.01 mm; L2: 2.38 mm

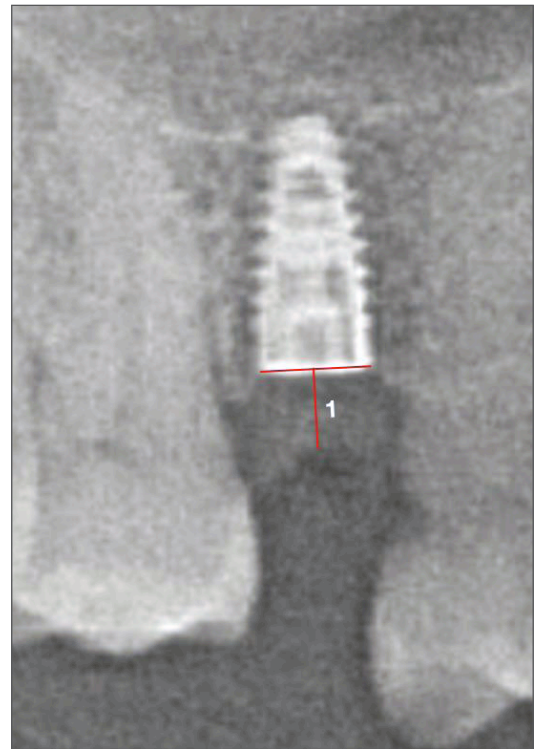


Fig. 2. Measurement of the STT on a panoramic radiograph (thick gingiva) L1: 3.02 mm

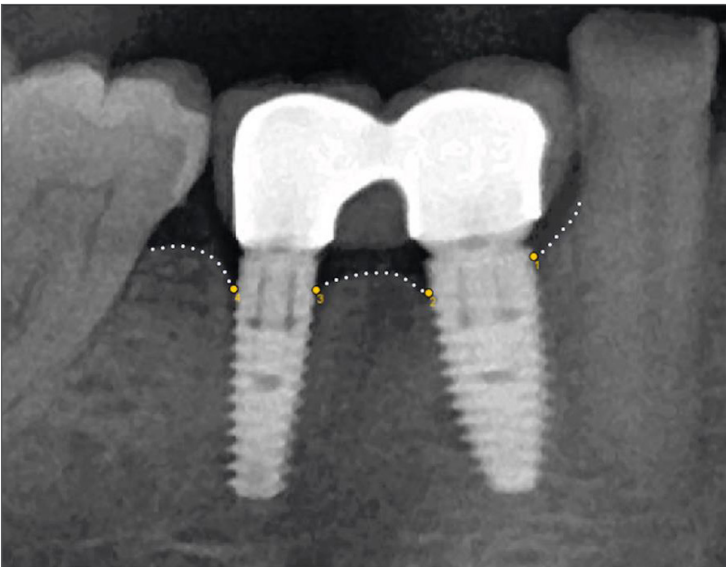


Fig. 3. Crestal bone loss at the 5-year control (thin gingiva) P1: 0.40 mm P2: 1.26 mm P3: 1.24 mm P4: 1.56 mm

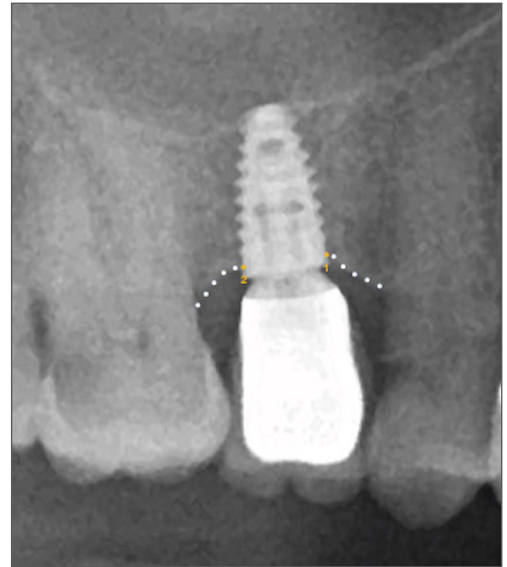


Fig. 4. Crestal bone loss at the 5-year control (thick gingiva) P1: 0.40 mm P2: 0.37 mm

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