

題名: Clinical Consideration of Dental Implant in Posterior Mandible

作者: 呂炫?

Hsein-Kun Lu.

貢獻者: 牙醫學系

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摘要: PURPOSE: Cortical bone is a determinant of implant esthetics and may contribute to the biomechanical integrity of the implant-supported prosthesis. Historically, approximately 1.0 to 1.5 mm of bone loss has occurred immediately following second-stage surgery and implant loading. Recent consideration of implant design suggests that surface topography may affect crestal bone responses at the implant interface. The aim of this retrospective study of 102 implants in 48 subjects supporting posterior fixed partial dentures was to radiographically define the behavior of crestal bone at TiO₂ grit-blasted implants following surgical placement and subsequent loading in the posterior maxilla and mandible. MATERIALS AND METHODS: The crestal bone position relative to the implant reference point (junction of the crestal bevel with the TiO₂ grit-blasted surface) was evaluated at implant placement, at abutment placement, and 6 to 36 months following restoration, with an average recall period of 2.3 years. The implant position and dimension were recorded. A single investigator using 7x magnification assessed all radiographs. RESULTS: Crestal bone loss from the time of implant placement up to 36 months following restoration ranged from 0.0 to 2.1 mm. Of the 102 implants, 14 implants showed greater than 1.0 mm of crestal bone loss. They were not clustered at any particular tooth position. Eighty of the implants showed less than 0.5 mm of radiographically measured bone loss. Mean crestal bone loss was 0.36 mm (+/- 0.6 mm). Averages of 0.57 and 0.24 mm loss were shown for 3.5- and 4.0-mm-diameter implants, respectively (P < .051). Bone gain was seen

at several 4.0-mm-diameter implants. DISCUSSION: This retrospective evaluation indicates that the radiographically measured bone loss may be expected to be less than 1 mm following placement and loading of TiO₂ grit-blasted implants. The close approximation of bone with the implant/abutment interface suggests the attenuation of any microgap-induced bone loss. Additional reasons for crestal bone maintenance may include factors attributed to implant surface roughness and loading along a tapered implant/abutment interface. CONCLUSIONS: Several clinical advantages for maintaining crestal bone at implants supporting posterior prostheses can be identified.