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Digital Subtraction Technique for Evaluation of Peri-Implant Bone Change in Digital Dental Imaging

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Abstract: The purpose of this study was to investigate digital subtraction technique in digital dental imaging for implant performance, used to quantitatively evaluate bone change around dental implants. For longitudinal assessment of peri-implant bone change, we applied subtraction technique to digital peri-apical radiographs using a digital dental imaging system in two cases at the upper canine and premolar regions. In both cases, we found two peaks of bone change at the crestal region; we also quantitatively demonstrated a marked change over the first one-month period and approximately three-month period spanning the fourth month to the end of the sixth month following implantation. Digital peri-apical radiography accommodating the digital subtraction program should be re-acknowledged as a reliable modality for assessing amount of bone change at local implantation sites.

Key words: Digital subtraction, Digital dental imaging, Bone change, Dental implant



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