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## Imaging quality of implant around bone using volumetric tomography (VT)

Objective: The purpose of this study was to assess the VT on the alveolar bone aspects around the implant *in vitro*.

Material & Method: Orthopantomograph OP-200D machine (Instrumentarium Dental Co., Tuusula, Finland) was used for this study. Since the VT system is an add-on to existing panoramic units, VT used maximum of 11 radiographs taken at 11 different projection angles to calculate multiple slices based on these radiographs.

Study 1: Twelve (12) human dried mandibles were used and a fixture was inserted in each mandible. Mandible was fixed to OP-200D by a bite plate using an impression material to facilitate the radiographic examination. Exposure conditions were set at 66kV/5.0 mA for incisor and at 77kV/6.3 mA for molar region.

Study 2: A formalin fixed iliac bone was used and three fixtures were inserted. Then the bone was fixed to OP-200D and exposure condition was 77kV/4.0 mA. Five observers were asked to evaluate the image quality of alveolar crest at specific four locations using four: Excellent, three: Good, two: Fair and one: unacceptable. VT images were shown in a monitor with software -Cliniview 7.0. ANOVA test was used for statistical analysis.

Result & Discussion: As a single implant placement of dried mandibles, specimen cases scored appropriate result for around implant bone aspects. Concerning of formalin fixed iliac bone, specimen's score was somewhat lower for middle placed implant compared with placed on both side. There was no statistical difference as all study. However, it is suggested that aspect of middle placed implants is susceptible to metal artifact from around metal structures.

## Biography

Shohei Ikeda has been associated with Showa university from Japan. He has published many articles to his credit and attended many international conferences.

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