

短期內腸骨骨塊應用於骨脊增進術之體積穩定性

Short-term volume stability of iliac bone blocks for ridge augmentation

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The objective of this prospective study is to evaluate by cone beam computed tomography (CBCT) the short-term volume shrinkage rate of autogenous corticocancellous bone blocks harvested from anterior ilium for alveolar ridge augmentation before endosseous implant placement. 30 autogenous iliac bone blocks were grafted on atrophic maxillary and mandibular edentulous ridges in 13 consecutive cases (Age: 19~61; F:M = 6:7) in the year of 2012. There were 12 veneer bone blocks for transverse ridge augmentation and 18 J-blocks for simultaneous increase of vertical and transverse dimensions of the recipient sites. Special care was taken to achieve tension free water-tight primary wound closure which ended up with no postoperative graft failure in this group. CBCT scans (AZ 3000, Asahi Roentgen, Japan) for each patient taken at 2 weeks and 6 months after grafting procedures respectively were analyzed using computer software (Mimics 14.0, Materialise, Leuven, Belgium) enabled the construction of a three-dimensional model of each maxilla to calculate the volume stability of the bone blocks. The average volume shrinkage rate of these bone blocks was 17.3%, ranging from 6.17% ~ 26.4%. No statistically significant differences were found between veneer blocks and J-blocks. Based on the above data, autogenous iliac bone blocks showed good volume maintenance at the time while we were placing endosseous implants. Keywords: ridge augmentation; iliac veneer bone block; iliac J-bone block; volume shrinkage.