Description of Pawon-man's Maxillary and Mandibular Cortical Bone Thickness and Density with 3D Cone Beam Computed Tomography Imaging

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Pawon-man is prehistoric humans that were found from archaeological excavations in Pawon Cave, Bandung. Pawon-man lived approximately between 5600 and 9500 years ago, in the era where humans lived by hunting and gathering food (mesolithic). This is strongly assumed that the prehistoric life affected the structure of the Pawon-man's Jaw. The aim of this study is to investigate the Pawon-man's maxillary and mandibular cortical bone thickness and density with 3D Cone Beam Computed Tomography imaging. The research method is descriptive which consist of 3 maxillas and 3 mandibles of Pawon-man samples. This research conducted by Ez Implant software using 3 dimensional aspect (axial, coronal and sagittal). All aspects were recorded, collected and presented in tabular form. The Pawon-man's maxilla showed average of cortical corpus bone thickness was 1.53 mm with the average of density 971,98 HU, meanwhile the average of cortical alveolar crest bone thickness was 0.69 mm with the average of density 750,87 HU. Whereas Pawon-man's mandible, average of cortical corpus bone thickness was 3.43 mm with the average of density 1042,26 HU, meanwhile the average of cortical alveolar crest bone thickness was 0.89 mm with the average of density 995,45 HU. The result of the interdental region measurement showed the highest cortical bone thickness of maxilla lied in the F region (interdental region Molar 1 and Molar 2) with the average thickness was 1.29 mm and average density 887,80 HU, whereas in mandible lied in the E region (interdental region Premolar 2 and Molar 1) with the average thickness was 2.61 mm and average density 999,22 HU. The Pawon-man's mandible has more cortical bone thickness and density than Pawon-man's maxilla with highest cortical bone thickness lied in the posterior region and the cortical bone thickness of Pawon-man's jaw higher than modern human's.

Keywords: 3D Cone Beam Computed Tomography, Cortical bone, Maxilla, Mandible, Pawon-man