

“EVALUATION AND COMPARISON OF ROOT PROXIMITY OF MAXILLARY AND MANDIBULAR INTER RADICULAR SITES FOR MINI IMPLANT PLACEMENT USING ORTHOPANTOMOGRAM (OPG) AND CONE BEAM COMPUTED TOMOGRAPH (CBCT) AND COMPARISON OF CORTICAL BONE THICKNESS AMONG DIFFERENT FACIAL TYPES USING CONE BEAM COMPUTED TOMOGRAPHY.”

ABSTRACT

The purpose of this study is to evaluate and compare the root proximity of maxillary and mandibular inter radicular sites using orthopantomogram (OPG) and cone beam computed tomograph (CBCT) and comparison of cortical bone thickness among different facial types using cone beam computed tomography (CBCT) for the primary stability of mini implants. The cone beam computed tomographic images for 120 subjects and orthopantomographic images of 70 subjects were taken and the interdental sites from distal of canine to mesial of second molar are examined for root proximity and cortical bone thickness. The root proximity was measured at four levels from cemento-enamel junction in 70 CBCT and OPG images and the cortical bone thickness for 45 normodivergent, 45 hyperdivergent and 30 hypodivergent subjects were measured in CBCT images at ten levels from cemento-enamel junction. The results showed that there was a statistically significant difference between the values obtained from CBCT and OPG, the root proximity was least 6mm above the cemento-enamel junction in maxilla and mandible in the range of 1.09-3.62mm, 1.45-4.17 mm respectively. The average value of cortical bone thickness in hypodivergent maxilla -1.44mm, normodivergent maxilla -1.35mm and hyperdivergent maxilla 1.29mm whereas in mandible 2.31mm, 2.07mm and 2.01mm respectively. The study concluded that CBCT is more accurate and reliable and at 5mm from CEJ in the region

between the first molar and second premolar in maxilla and in the area between first molar to first premolar in mandible the root proximity is least and the cortical bone thickness is adequate for mini implant placement. The vertical facial pattern should also be evaluated for the success of mini implants.

Key words : Orthopantomogram, Cone Beam Computed Tomography, Root proximity, Cortical bone thickness.