The safety zone for mini-implant maxillary anchorage in Mongoloids

Type: Article

Abstract:

Aim: This study aimed to establish a safety zone for the placement of mini-implants in the buccal surface between the second maxillary premolar (PM2) and first maxillary molar (M1) of Mongoloids. Methods: Thirty-two digital orthopantomograms of Mongoloids were selected and the interdental distance between the second premolar and first molar at 2, 5, 8 and 11 mm from the cemento-enamel junction (CEJ) was measured. The distance between the PM2 and M1 root apices and from the apices to the maxillary sinus was also determined. Results: The average width (mm) at 2 mm was 2.58 +/- 0.53; 5 mm was 3.47 +/- 0.61; 8 mm was 4.00 +/- 0.74, 11 mm was 4.36 +/- 0.71 and the distance between the apices was 7.49 +/- 0.79. Only half of the samples were measured at 11 mm, as many of the root apices were superimposed over the maxillary sinus. The measurement (mm) from PM2 root apex to the sinus was -0.18 +/- 1.56, from the mesiobuccal root apex of M1 ((MB) to the sinus was -1.94 +/- 1.70 and from the midpoint between their apices to the sinus was -2.96 +/- 2.06 (superimposed on the sinus). Conclusion: The safest area to place mini-implants between the second premolar and the first molar in the maxilla of Mongoloids is between 5 to 8 mm above the CEJ.

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