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Tomographic Analysis of the Dimensions of the Vestibular and Palatal Bone Wall of Anterior Maxilla Teeth

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The immediate installation of dental implants in the aesthetic area of the smile is an increasingly common practice in dental clinics. The lack of information about the anatomy of this region can bring unsatisfactory aesthetic results. The aim of this study was to analyze the anatomy of the alveolar bone ridges in the anterior region of the maxilla regarding the thickness of the bone around the natural teeth.

Methods: This study analyzed 314 cone beam computed tomography (CBCT) exams performed at a Radiology and Private Dental Imaging Clinic in the city of Curitiba, State of Paraná - Brazil in the year 2018. Of these, 211 exams were of the maxilla 155 exams were eliminated according to the exclusion criteria. The samples included 36 women between 10 and 84 years old and 20 men between 12 and 66 years old. A total of 201 teeth analyzed, including central incisors, lateral incisors and upper canines. Chi-square tests of linear trend and paired T test were performed. The level of statistical significance was 5% ($p < 0.05$).

Results: The largest thickness of the buccal bone plate was found in teeth 12 and 22 to 2 mm from the alveolar bone crest and in teeth 13 and 22 to 4 mm from the bone crest and the same locations for the palatal wall the highest averages were for teeth 11 and 21. The greatest average distance from the apex of the roots to the floor of the nasal fossa was teeth 12 and 22. The greatest distances between the cemento-enamel junction and the vestibular alveolar crest were in teeth 22 and 23, while for the palate teeth 23 and 11. According to the root positioning in the alveolar process, it was observed that in class I (Kan et al., 2011) the proportions of the vestibular bone plate were <1mm, 85.2% to 2mm of the alveolar crest and 95% at 4mm.

Conclusion: This study showed that the prevalence of tooth root positioning in CI I in the alveolar process was significantly predominant and that the thickness of the buccal alveolar bone plate is less than 1 mm in all anterior region of the maxilla.

Biography:

Flavio Gameiro de Souza graduated from the Faculty of Dentistry of Lins in 1996. He has a degree in Dentistry from the University of Lisbon in 2000. Specialist in Implantology from CEPEO-Curitiba; Specialist in Periodontics and Radiology and Dental Imaging and Resident in the Master of Oral Implantology at São Leopoldo Mandic College-Pr. Unit, Brazil. He works in a private practice in the city of Curitiba - Brazil.