Characterization of Anatomical Structures Using Panoramic Radiographs: The Mental Foramen [Caracterización de estructuras anatómicas mediante radiografías panorámicas: El foramen mental]

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Mental foramen (MF) is an important anatomical reference during surgery and implants. In order to meet the detectability and MF position, and describe it with respect to its anatomical relations, we analyzed 215 conventional panoramic radiographs. Furthermore, the presence and extent of mandibular canal loop was determined. The MF was detected in 87.9% of cases, with a greater percentage in men and a a younger age. The most frequent anteroposterior position of the MF was in relation to the longitudinal axis of the second premolar on the right, and between the longitudinal axes of the first and second premolar on the left. The superior-inferior position observed most frequently in both sexes and in all age groups was under the apex of the teeth. The average distance from the center of the MF to the midline was 35.3 mm and 35.6 mm in the right and left side, respectively. The average distance from the center of the mandibular MF margin was 16.6 mm on the right and 17.1 mm on the left. In relation to the mandibular canal loop, it was detected in 33.9% of cases and its extent was 5.3 mm and 4.8 mm on the right and left side, respectively. It is important to understand the anatomy, location of structures and to evaluate this area prior to any surgical procedure or dental implant, in order to avoid injuries to the MF, the mental nerve, anterior or posterior mandibular canal loop and inferior alveolar nerve.

Anterior mandibular canal loop

Inferior alveolar nerve

Mandibular canal

Mental foramen

Panoramic radiography