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Anterior loop of the mandibular canal prevalence and assessment using CBCT: A cross-sectional study

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ABSTRACT:

Background: While placing implants and performing anterior mandibular osteotomies, the anterior loop of the mental nerve is a crucial anatomic landmark.

Purpose: In most cases, two-dimensional imaging techniques are insufficient to identify and quantify the mental nerve loop. Any damage to this loop causes paresthesia, numbness, or pain in the area that the mental nerve supplies. Cone beam computed tomography (CBCT) will be used in this study to measure the loop's length and examine its prevalence. The average length and prevalence will also be computed, allowing for the safe placement of implants or osteotomy cuts in the premolar region.

Materials and Methods: A cross-sectional analysis was conducted utilizing CBCT pictures from 255 individuals undergoing impaction surgery. The length of the loop was measured in millimeters using defined lines drawn along particular anatomic landmarks.

Results: Our investigation found that 12.14% of patients had an anterior loop in their mental nerve. The average length of the mental nerve loop was calculated to be 2.56 mm.

Conclusion: In most cases where the mental nerve loop bundle is present, it is safe to place an order of magnitude margin 4 mm anterior to the mental foramen to prevent harm to the loop.

Keywords: CBCT, anterior loop, mandibular canal, implant

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