

The Need for Cone-Beam Computed Tomography Before Mandibular Third Molar Extraction as Assessed by General Practitioner Dentists vs. Oral Maxillofacial Surgeons

ABSTRACT

Background: Mandibular third molar extraction is a common operation in dento-maxillofacial surgery. However, the use of cone-beam computed tomography (CBCT) in addition to panoramic radiography to evaluate the proximity of the mandibular third molar to the mandibular canal to reduce the risk of damaging the inferior alveolar nerve is controversial. This study aimed to compare the capability of general practitioner dentists (GPD) to assess the need for CBCT with that of oral maxillofacial surgeons (OMS).

Methods: We retrospectively selected and analyzed 100 panoramic radiographs that were performed to determine the proximity to the mandibular canal of roots of mandibular third molars requiring extraction. The radiographs included 50 cases deemed by OMS to require CBCT and 50 cases deemed not to require CBCT based on the proximity of the root to the mandibular canal. Three GPD evaluated the radiographs, and the levels of agreement with the OMS as well as those among themselves were by descriptive statistics and Cohen's kappa coefficient.

Results: The Kappa agreement between each of the 3 GPD and the OMS were 0.6, 0.56, and 0.36. The average number of cases that did and did not warrant CBCT was 65/100 and 35/100 for the GPD.

Conclusions: The values of agreement between the GPD and the OMS regarding the indication for CBCT in mandibular third molar extractions were very low. Focused training in GPD in interpreting and assessing CBCT findings is strongly recommended.

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