

help improve reporting standards, thereby allowing greater patient care and protection from litigation.

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A RETROSPECTIVE STUDY ON MOLAR FURCATION ASSESSMENT VIA CLINICAL DETECTION, INTRAORAL RADIOGRAPHY, AND CONE BEAM COMPUTED TOMOGRAPHY. W. ZHANG, K. FOSS, B. WANG. UNIVERSITY OF TEXAS SCHOOL OF DENTISTRY AT HOUSTON, HOUSTON, TX

Background: It is challenging to assess molar furcation bone loss by clinical detection and intraoral radiographs in many instances. Cone beam computed tomography (CBCT) is expected to open a new horizon in periodontal assessment.

Objective(s): The aim of this study was to compare and correlate molar furcation assessment via clinical detection, intraoral radiography, and CBCT.

Study Design: Eighty-three patients, seen at the University of Texas School of Dentistry (UTSD), with chronic periodontitis who had existing CBCT scans were included. Furcation involvement was assessed on maxillary and mandibular first molars. Periodontal charts (modified Glickman classification), intraoral (periapical and/or bitewing) radiographs, and sagittal and axial CBCT reconstructions were used to identify furcation involvement on buccal and palatal/lingual sites. The correlation of furcation assessment by the 3 methods was evaluated by Pearson's analysis.

Results: There were significant correlations ($P < .05$) between clinical detection and intraoral radiography, clinical detection and CBCT, and intraoral radiography and CBCT at all the measured sites (r values ranged from 0.230 to 0.644). CBCT exhibited generally higher correlation with clinical detection compared with intraoral radiography, especially at the distal-palatal side of the maxillary first molar ($P < .05$). In addition, CBCT provided more accurate furcation assessment, because it measured up to 2 decimals in millimeters, whereas clinical detection had 3 classes, and the intraoral radiographs usually only detected the presence of furcation involvement in Glickman Class 2 and 3.

Discussion/Conclusions: This study validates that CBCT is a valuable tool in molar furcation assessment in addition to clinical examination and intraoral radiography.

Acknowledgments

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PREVALENCE OF PNEUMATIZATION OF THE CRISTA GALLI IN DENTAL PATIENTS. L.

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Background: A large field of view (FOV) cone beam computed tomography (CBCT) scan can show an anatomic variant, such as pneumatization of the crista galli. The crista galli is a bony projection that extends superiorly from the cribriform plate of the ethmoid bone. It is located at the midline of the anterior cranial fossa and is where the falx cerebri attaches anteriorly. As there is no literature on this topic using CBCT imaging, we undertook this study to add to the research as well as to inform dentists and specialists about pneumatization of crista galli.

Objective(s): The aim of this study was to report the prevalence of pneumatization of the crista galli using CBCT images and to compare the prevalence of pneumatization of crista galli in patients receiving nonsurgical versus surgical dental treatment.

Study Design: The study included 514 diagnostic CBCT scans from 2015 to 2016. Age, sex, treatment provided, and the size of pneumatized crista galli were recorded. The associations between age and sex versus pneumatization of the crista galli were evaluated using the Mann-Whitney U test. The associations between treatment and pneumatization of crista galli were assessed using Pearson's χ^2 and Fischer's exact tests.

Results: The average age of the patients was 15.69 years. Pneumatization of crista galli occurred in 20 out of 514 (3.8%) patients. The median cranial-caudal length of a pneumatized crista galli was 4.78 mm in females and 5.62 mm in males. The median width was 4.49 mm in females and 6.98 mm in males. Patients with pneumatization were statistically significantly older than the patients without pneumatization ($U = 3041.5$; $P = .004$). Among the nonsurgical categories, orthodontic treatment was classified as significant ($P = .008$). Among surgical categories, orthognathic surgery was found to be significant in the presentation of pneumatization of the crista galli ($P = .001$). Fischer's exact test showed there was a significantly higher percentage of surgical patients with pneumatization compared with nonsurgical patients ($P = .003$).

Discussion/Conclusions: Age, orthodontic treatment, and orthognathic surgery were significantly associated with pneumatization of the crista galli. Gender did not contribute substantially to pneumatization of the crista galli.

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