



INCIDENCE OF THREE-ROOTED MAXILLARY PREMOLARS IN SAUDI INHABITANTS AND THEIR CLINICAL SIGNIFICANCE

Madiha Gomaa*; Ragab Seif* and Laila Bahammam**

ABSTRACT

Aim: To investigate the frequency of three-rooted / three canalled maxillary premolars among the Saudi Arabian subpopulation and to describe methods of their detection through access cavity modification and refinement. **Methodology:** A total of two hundred freshly extracted human maxillary premolars were evaluated. After cleaning; teeth were inspected for the number of roots. Three-rooted teeth were selected, relative percentages were counted and teeth were radiographed from two views –straight on and angled. In half of the three rooted teeth specimens access cavities were made according to pulp chamber dimensions exposing it. Orifice detection and canal negotiation was then done using an operating microscope. In the other half, crown decapitation was done and pulp chamber floors were inspected and examined three dimensionally as to its morphological features and canals location using the operating microscope. **Results:** Three rooted / three canalled maxillary premolars were found in 14 out of 120 maxillary first premolars specimens (11.7%), and 4 out of 80 maxillary second premolars specimens (5%). Morphological features study revealed that, the map of the pulp chamber floor takes a triangular or a comma shape. **Conclusions:** The incidence of three rooted / three canalled maxillary first and second premolars is higher in the Saudi population than that reported in the literature. Dental operating microscope enables the clinician for better visualization, negotiation and treatment of such teeth.

KEYWORDS: Root morphology, maxillary first premolar, maxillary second premolar, dental anatomy.

* Professor of Endodontics, Conservative Dental Sciences Dept, Faculty of Dentistry, King Abdulaziz University, Jeddah- Saudi Arabia

** Assistant Professor of Endodontics, Conservative Dental Sciences Dept, Faculty of Dentistry- King Abdulaziz University, Jeddah- Saudi Arabia