Analysis of the Internal Anatomy of Permanent Mandibular first and second Molars in Egyptians

Thesis

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By

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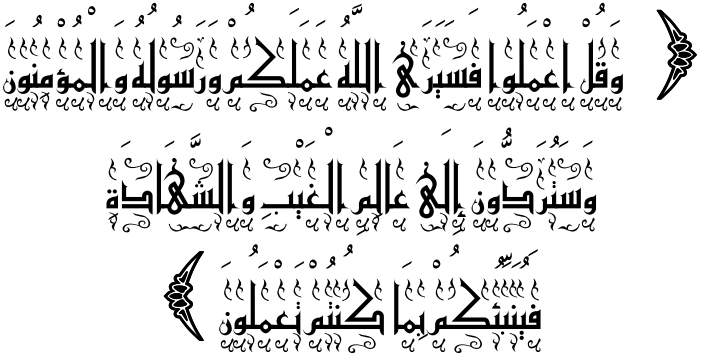
بسم الله الرحمن الرحيم



(صدق الله العظيم)

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Dedication

To my father and my mother, they are the source of strength and support from the early start.
To my mother, the greatest gift I had ever got from God, her name is another name for giving and love…
To my sisters, the angles with precious hearts….
To my brothers for their inspiration…..
To my best friend Amera, she always being there for me…..
To Sara and Maha for their help and positivity…

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Introduction

The study of root and canal anatomy has endodontic significance as successful root canal treatment depends on thorough mechanical and chemical cleaning and shaping and complete filling of the root canal system. Post-treatment disease occurs in many cases because the operator has failed to recognize the presence of an additional root canal. Therefore, a meticulous knowledge of the presence of unusual root canal morphology is imperative for the success of the root canal treatment.

Cone beam computed tomography (CBCT) is a recent technology that has been used in achieving the knowledge of root canal morphology, identification of anatomic features and variations of the root canal system because it provides the clinician with the ability to observe an area in three different planes and thus to acquire three-dimensional (3D) information. The combination of sagittal, coronal, and axial CBCT images eliminates the superimposition of anatomic structure. Root morphology can be visualized in three dimensions, as can the number of root canals and their convergence or divergence from each other. These advantages allow the clinician a more thorough understanding of the true morphology of root canal system and to clean, shape, and obturate it more efficiently.

Unfortunately there is no documentation of morphology of permanent teeth of Egyptians using this recent modality.

Therefore, conducting a study to analyze the internal anatomy of permanent mandibular first and second molars in an Egyptian subpopulation using CBCT was thought to be of value.

Review of Literature