بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

Cone beam computed tomographic analysis of human mandibular posterior region

Thesis submitted to Department of Endodontics, Faculty of Dentistry, Ain Shams University, in Partial Fulfillment of the Requirements of the Master's Degree in Endodontics

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Dedication

To

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Root canal treatment is a process performed to decayed teeth with pulpal involvement. According to the American Association of Endodontists Colleagues for Excellence 2010 Spring Newsletter, “the main aim of endodontic treatment is to create an environment in which the body can heal itself” [1]. This can be achieved by endodontic triad consisting of biomechanical preparation, microbial control and complete obturation of the canal.[2]

In situations where regular endodontic treatment or retreatment fails, an alternative approach of surgical root end resection, apical seal with retrograde filling and apical curettage should be carried out.[3] When surgical endodontic treatment is necessary, evidence suggests microsurgical methods to produce better outcomes and achieve predictable results in the healing of endodontic lesions by using facilities, techniques, and materials that combine biological principles with clinical practice.[4]

Before performing any endodontic surgery, it is important to identify the shape and inclination of roots, anatomical landmarks and structures adjacent to the surgical area for the planning and preparation of the osteotomy, root-end resection and root-end fill procedure.[5]

Radiographic evaluation is one of the most effective diagnostic tools for root canal treatment, not only judging the diagnosis, but also assisting in the treatment outcome. Advanced imaging modalities as cone beam computed tomography can help the surgeon to achieve more precise measurements for the evaluation of the surgical site and giving adequate information about the anatomical landmarks at the preferred resection site (apical 3 mm). CBCT produces undistorted three dimensional images to the teeth and their surrounding structures with lower radiation dose compared to other 3D modalities as multislice CT.[6]

Excessive removal of bone and large bony defects can occur when endodontic surgery is performed without anatomical evaluation, which can interfere with the healing process and cause postoperative discomfort. Decreasing osteotomy size will increase speed of healing as it takes an average of 6.4 months for lesions smaller than 5 mm to recover, and 11 months for lesions greater than 10 mm [7].

In this study, measuring buccolingual dimension of the root, buccal and lingual bone thickness at the site of root resection is imperative to help the clinician know the anatomic dimensions at the surgical site and whether a buccal or lingual approach is to be chosen.