Shaping Ability AndCleaning Effectiveness of a New Single File System in Curved Root Canals of Extracted Teeth

Thesis

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بسم الله الرحمن الرحيم

رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي
أَنْعَمْتَ عَلَيَّ وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ
صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي
عِبَادِكَ الصَّالِحِينَ

صدق الله العظيم

النمل.....ايه رقم ١٩

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القدرة التشكيلية و الفاعلية التنظيفية لنظاممبرد واحد جديد في القنوات العصبية المنحنية للاسنان المنزوعة

رسالة

مقدمة توطئة للحصول علىدرجة الماجستير

فى تخصص علاج الجذور

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الملخص العربى

الهدفمنهذاالبحثهوتقييمفاعليةالتنظيفوالتشكيللنظامالمبردالواحدالجديدالمترددللاماموالوراءالنيكلتايتنيوموفونفيالقنواتالعصبيةالمنحنيةللاسنانالمنزوعةفيمقابلنظامالمبردالواحدالمترددللاماموالوراءالنيكلتايتنيومف٢بروتيبرونظامالتسلسلالكاملللبروتيبرباستخدامدورانمتواصل.

سيتم استخدام عدد خمس و اربعون عينة مقسمة الي ثلاثة مجاميع وفقا" للتقنية المتبعة:

مجموعة (ا) باستخدام نظامالمبردالواحدالمترددللاماموالوراءويفون

مجموعة (ب) باستخدام
نظامالمبردالواحدالمترددللاماموالوراءالنيكلتايتنيومف٢بروتيبر

مجموعة (ج)) باستخدام دورانمتواصل لنظامالتسلسلالكاملللبروتيبر

سوف يتم قياس الانتزاع القمي للحطام بواسطة الوزن المكروي (ميكرو بالانس) و سيتم تقييم مدي تحرك قمة قناة الجذر من خلال قياسات علي اشعات تؤخذ قبل و بعد التحضير. جميع النتائج سوف يتم تحليلها احصائيا".

تم تقييم تحرك قمة قناة الجذر من خلال القياسات التي اخذت علي الاشعات قبل و بعد تحضيرالقنوات باستخدامأوتوكاد ٢٠١٠

تم قياس الانتزاع القمي للحطام خلالتوسيعقناة الجذرو تم وزن الحطام بعدجفاف إجمالي المقذوفبواسطة الوزن المكروي.

لم يكن هناكفروق ذات دلالة إحصائية بينالمجموعات الثلاث من حيث تحرك قمة قناة الجذر و كمية الانتزاع القمي للحطام .

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Introduction

Cleaning and shaping are the corner stone of root canal treatment. The primary objectives in cleaning and shaping are to remove infected soft and hard tissues, provide an access for the disinfecting irrigants to reach the apical canal space, and create space for the delivery of medicaments and obturating materials.

Nickel titanium rotary files are able to provide predictable shaping outcomes being faster, more flexible in negotiating curvatures, and provide cleaner canals compared to manual stainless steel files.

New rotary NiTi systems are continuously being introduced in the market having different designs, sequence of application and mode of use. The first generation of NiTi rotary systems were characterized by having a U shaped cross sectional design , radial lands and a negative cutting angle. Second generation systems had an asymmetric cross section, relieved radial lands and a positive cutting angle. The next generation incorporated a triangular cross section, no radial lands and a negative cutting angle. All of these previous systems were operated in a continuous rotation motion using an electrical motor.

New reciprocating single file systems have been recently introduced in the market one of which is Wave one (Dentsply/Maillefer). Wave one file is manufactured from m-wire and it operates in a reciprocating motion. Very little data is present in the literature regarding the efficiency of this new system in enlargement of curved root canals, in regards to its shaping and cleaning abilities.

Review of Literature

The objective of root canal preparation is to clean and shape the canal system in three dimensions while maintaining the original shape. During shaping root canals, files show a tendency to cause canal transportation and other procedural problems especially in narrow root canals. Apical transportation is an important parameter that affects the long term success of root canal treatment.

I-Shaping ability:

Swindle et al [(1)] evaluated the effect of coronal-radicular flaring on apical transportation. Sixty six extracted human teeth with curvatures ranging from 20^{o} to 65^{o} were divided equally into 2 groups. Canals were cleaned and shaped using balanced force and one flaring technique. The first group of teeth were flared coronal to the curvature using Gates Glidden drills #2 to 4. Following the coronal-radicular flaring, all subsequent cleaning, shaping and apical preparation was accomplished with Flex-R file #20 through 40 to the WL. In the other group cleaning and shaping was completed to a #40 file at WL. To maximize the extremes, coronal-radicular flaring was not used with this group. Pre and postoperative double exposure radiographic technique