

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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

صدق الله العظيم

النمل.....اية رقم ١٩



تقييم الاستراتيجيات المختلفة لمعالجة الحالات الطارئة لالتهاب اللارجي للعصب والانسجة فوق قمية

رسالة مقدمة الي كلية طب الفم والأسنان، جامعة عين شمس
تمهيدا للحصول علي درجة الماجستير في علاج الجذور

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(جامعة مصر الدولية، ٢٠٠٩)

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Evaluation of Different Clinical Strategies for Emergency Treatment of Irreversible Pulpitis with Apical Periodontitis

Thesis submitted to the Faculty of Dentistry,

Ain Shams University

In Partial Fulfillment of the Requirements

for the Master Degree in Endodontics

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2015

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Acknowledgement

I am greatly honored to express my thankful gratitude to **Dr. Shehab El-Din Mohamed Saber**, Associate Professor of Endodontics, Faculty of Dentistry, Ain Shams University for his continuous encouragement, guidance, support and help.

I would like to express my thankful gratitude to **Dr. Medhat Taha El Faramawy**, Lecturer in Endodontics, Faculty of Dentistry, Ain Shams University for his support and valuable comments throughout this work.

Personal appreciation and thanks to all staff members of Endodontic Department, my friends and colleagues for their effort and help whenever asked.

Dedication

*To my great **father** and my lovely **mother**....the source of encouragement and inspiration to me throughout my life.*

*To my precious brother..... **Ahmed***

*To my sweet sisters..... **Marwa** and **Menna** for their special support and help.*

To my Adorable Fiancée

Mohamed

For being there for me

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An endodontic emergency is defined as pain or swelling caused by various stages of inflammation or infection of the pulpal or periapical tissues.

Endodontic pain may occur before, during, or after endodontic treatment and may last from several hours to several days. Therefore, endodontic pain continues to be a significant problem facing the dental profession ⁽¹⁾. Pain after endodontic procedures is an undesirable occurrence for both patients and clinicians. The causes of postoperative pain includes mechanical, chemical and microbial injury to the pulpal or periradicular tissues ⁽²⁾.

It is generally accepted that there is no single factor affecting pain after root canal treatment. Several factors may influence pain perception including: state of pulp, presence of periapical radiolucency, preoperative pain and pain arising from periapical tissues⁽³⁾.

One of the most important aspects of endodontic practice is to control pain during and after root canal treatment. Therefore, several strategies have been described for managing pain and discomfort after root canal treatment. These includes: preoperative analgesics and corticosteroid

prescription, intracanal medicaments and occlusal reduction⁽³⁾.

Because of the microbial etiology of the periradicular diseases, endodontic therapy should be based on antimicrobial strategies. In addition, if microorganisms are the commonest causative factors of postoperative pain, a lower incidence of pain might be expected after the accomplishment of intra canal procedures based on antimicrobial strategies⁽²⁾.

Several studies had shown that both of Calcium hydroxide and chlorhexidine are of the most common intra canal medicaments in eradicating endodontic infection so, reducing the postoperative pain. Calcium hydroxide suggested that it has pain preventive properties because of its antimicrobial or tissue altering effects⁽⁴⁾. Also, chlorhexidine has potent antimicrobial activity.

Also, apical extrusion of debris to the periradicular tissues is one of the principle causes of postoperative pain and discomfort, recent researches have shown the effect of instrumentation kinematics on the amount of debris extruded and consequently, the risk of postoperative pain⁽⁵⁾. Against