بسم الله الرحمن الرحيم

﴿وما أوتيتم من العلم إلا قليلا﴾

صدق الله العظيم

الإسراء (٨٥)

Effectiveness of Submucosal Versus Local Intramuscular Dexamethasone Injection on Postoperative Discomfort Following Lower Third Molar Surgery

Proposal

Submitted to the Faculty of Oral and Dental Medicine,
Cairo University in Partial Fulfillment of the Requirement for the Master Degree in
Oral and Maxillofacial Surgery

By

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2010

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Acknowledgement

I am deeply grateful to ***ALLAH*** who stood by me all along, with my great appreciation and thanks for achieving my goals in my life.

I would like to express my deep thanks and gratitude to ***Prof. Dr. Ragia Mohammed Mounir***, Professor of Oral and Maxillofacial Surgery, Faculty of Oral and Dental Medicine, Cairo University, for her keen interest, exceptional scientific supervision, unlimited assistance, great support and encouragement throughout this work.

I am deeply obliged and grateful to ***Dr. Hassan Abdel Ghani***, Lecturer of Oral and Maxillofacial Surgery, Faculty of Oral and Dental Medicine, Cairo University, for his kind supervision, great effort throughout this study.

I wish to express my deepest gratitude and sincere thanks to ***Prof. Dr. Ibrahim Shindi***, Head of Oral and Maxillofacial

surgery Department, Faculty of Oral and Dental Medicine, Cairo University, for his kind, endless help and support, continuous guidance and encouragement.

I would like to express my deepest gratitude to all my fellow colleagues and all members of Oral and Maxillofacial surgery Department, Faculty of Oral and Dental Medicine, Cairo University, for their help and cooperation.

Finally, I am deeply indebted to my parents, and my friends in the Oral and Maxillofacial surgery Department for their support, kind assistance and intimate cooperation.

LIST OF CONTENTS

LIST OF TABLES

LIST OF FIGURE

INTRODUCTION

The surgical extraction of impacted third molars is the most common procedure in oral and maxillofacial surgery. Patients undergoing the surgical removal of impacted third molar teeth usually experience significant postoperative pain, swelling and trismus that may have a biological and social impact and can cause distress to the patient affecting their daily activities and quality of life after surgery. Oral surgical procedures can vary in difficulty and in the degree of trauma caused to the surrounding tissues. The greater amount of tissue injury, leads to an increased amount of inflammation in the perisurgical area.

Postoperative swelling and edema may be due in part to the conversion of phospholipids into arachidonic acid by phospholipase A_2, and the resultant synthesis of prostaglandins, leukotrienes, or thromboxane related substances act as mediators of the inflammatory response[1,2]. These symptoms are not observed immediately after surgery but rather begin gradually, peaking two days after the surgery[3].

Many clinicians have emphasized the necessity for better discomfort control in patients who undergo third molar surgery,

and several types of medications have been proposed. Pharmacological controlling the extent of the inflammatory process after surgery can decrease the intensity of this triad of sequelae of tissue trauma. Oral surgeons have traditionally prescribed corticosteroids, non-steroidal anti-inflammatory drugs (NSAID), and narcotic analgesics to manage these postoperative sequelae.

One technique for reducing the postoperative inflammatory process is the administration of corticosteroids, such as cortisol and the synthetic analogue of cortisol, which have been found to suppress the physiologic processes of local heat, redness swelling, and tenderness that characterize inflammation[4].

Corticosteroids are successful in controlling acute inflammation by interfering with the multiple signaling pathways involved in the inflammatory response[5,6]. Their biological action is not completely understood, but the primary mechanisms are thought to involve suppression of leukocyte and macrophage accumulation at the site of inflammation, and prevention of prostaglandin formation through the disruption of the arachidonic acid cascade[5,7].

Corticosteroids such as dexmethasone have been extensively used in varying regimen and routes to lessen

postoperative inflammatory sequelae and hence decreasing the morbidity after oral surgery.

Although many clinicians are reluctant to use corticosteroids in conjunction with oral surgery because of concerns about possible adverse effects with impacts on metabolism, water electrolyte balance, negative feedback on the hypothalamus pituitary adrenal axis (HPA), anti-inflammatory and immunosuppressive effects[8,9], however, both short term and single dose treatment have been found effective in reducing postoperative inflammation in many patients without producing side effects.