



شبكة المعلومات الجامعية  
التوثيق الإلكتروني والميكروفيلم

# بسم الله الرحمن الرحيم



**MONA MAGHRABY**



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التوثيق الإلكتروني والميكروفيلم



# شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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# 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**

**Comparison of the Efficacy of Prophylactic Intraligamentary  
injection of Piroxicam versus Mepivacaine for management of  
Post-endodontic pain in posterior teeth  
(Double Blind Randomized Clinical Trial)**

A thesis Submitted to  
The Faculty of Dentistry  
(Cairo University)  
In Partial Fulfillment of Requirements for  
Master Degree in Endodontics

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2019**

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## Dedication

To my beloved husband, **Dr Walid**, thank you for your extraordinary support, love, encouragement, and patience.

To my lovely Parents, to whom I owe everything I achieved. They have always been standing behind any achievement I made throughout my life.

To my brothers and my children, thank you for your love, that has been the major spiritual support in my life.

I love you all

## Acknowledgment

I would like to take this opportunity to express my deep gratitude to all those who helped me through my thesis work and study. I express my heart full thanks to my great supervisor **Dr. Heba El Far**, thank you for support, motivation and guidance along the way. I am truly grateful. Thank you for your appreciation and understanding the challenges.

I would like to especially thank **Dr. Sherif El Khodary** for his encouragement, kindness, inspiring advice and moral support. Thank you for all of the help you offered me in writing this thesis.

I would like to express my sincere thanks to our professors and all staff members in Endodontic Department.

I express my thanks to all my friends, thank you for your friendship and support. It has been wonderful years. I will really miss you all.

## List of Contents

<b>No.</b>	<b>Tittle</b>	<b>Page no.</b>
<b>1</b>	<b>List of tables .....</b>	<b>vi</b>
<b>2</b>	<b>List of figures .....</b>	<b>vii</b>
<b>3</b>	<b>Introduction .....</b>	<b>1</b>
<b>4</b>	<b>Review of literature .....</b>	<b>5</b>
<b>5</b>	• Post endodontic pain .....	<b>5</b>
<b>6</b>	• Single versus multiple visit treatment ...	<b>14</b>
<b>7</b>	• Symptomatic apical periodontitis .....	<b>17</b>
<b>8</b>	• Management of Endodontic pain .....	<b>18</b>
<b>9</b>	• Intraligamentary injection .....	<b>34</b>
<b>10</b>	• Pain assessment.....	<b>38</b>
<b>11</b>	• Systematic search strategy .....	<b>40</b>
<b>12</b>	<b>The aim of the study .....</b>	<b>47</b>
<b>13</b>	<b>Materials and methods .....</b>	<b>49</b>
<b>14</b>	<b>Results .....</b>	<b>65</b>
<b>15</b>	<b>Discussion .....</b>	<b>86</b>
<b>16</b>	<b>Summary, conclusion and recommendations...</b>	<b>96</b>
<b>17</b>	<b>References .....</b>	<b>99</b>
<b>18</b>	<b>Appendices .....</b>	<b>113</b>
<b>19</b>	<b>Arabic summary .....</b>	<b>121</b>



## List of tables

No.	Name of table	Page no.
1	Primary outcome of the study	40
2	Secondary outcome of the study	40
3	Index terms and synonyms	41
4	List of included studies	44
5	Characteristics of the included studies	44
6	The demographic data in the two tested groups (Group A: piroxicam; Group B: mepevacaine)	67
7	Tooth type and number of canals distribution for the tested groups	69
8	Median and range of NRS at different time points in the tested groups by mann whitney test and overtime in each group by friedman test	72
9	Pairwise comparison by Wilcoxon signed rank test in NRS scores by time in group A	74
10	Pairwise comparison by Wilcoxon signed rank test in NRS scores by time in group B	76
11	Frequencies (n), percentages and results of comparison of pain for different pain categories between two groups	80
12	Median and range of NRS of percussion pre and postoperative in the tested groups	82
13	Frequencies (n), percentages and results comparison of percussion pain categories between two groups	83
14	Frequencies (n), percentages and results of for comparison of percussion pain categories between two groups	84
15	Frequencies (n), percentages and results of comparing drug intake for the tested groups two groups	85

## List of Figures

No.		Page no.
1	prisma flow diagram	46
2	Numeric Rating Scale	57
3	Intraligamentary syringe	59
4	consort flow diagram of the study	66
5	Bar chart representing mean age values and SD in the two Groups (Group A: piroxicam, Group B: mepivacaine)	68
6	Bar chart representing gender distributions in the two groups (Group A: piroxicam, Group B: mepivacaine)	68
7	Bar chart representing Teeth type distribution in the two groups (Group A: piroxicam, Group B: mepivacaine)	70
8	Box plot showing the median NRS I the tested groups at different time points(Group A:piroxicam, Group B: mepivacaine)	73
9	Box plot showing the median NRS score in (group A : Piroxicam) at different time points	75
10	Box plot showing the median NRS score in (group B: Mepivacaine)at different time points	77
11	Bar chart comparison of pain for different pain categories between the two groups (Group A: Piroxicam, Group B: Mepivacaine)	81
12	Box blot showing the median NRS score of percussion test in the tested groups at different time points( Group A:Piroxicam, Group B: Mepivacaine )	83
13	Bar chart representing percussion pain distribution in the two groups (Group A:piroxicam, Group B: Mepivacaine)	84
14	Bar chart representing analgesic intake distribution in the tested groups (Group A:piroxicam, Group B: Mepivacaine)	85



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# *Introduction*

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## **Introduction**

Pain after root canal treatment usually happens with various intensities and degrees that depends on multiple factors as age, gender, type of tooth, pre-operative pain, vitality of the tooth and various medications used <sup>(1)</sup>.

This postoperative pain is an unpleasant situation for both the dentist and the patient which may affect the trust of the patient in his dentist. A number of factors have been found to be related with the risk of post endodontic pain. The microbial factor has been found to be the most common reason for incidence of post endodontic pain<sup>(2)</sup>.

The pain results from instrumentation and/or obturation of the canals that may cause chemical or mechanical injury to pulpal or periapical tissues. Although the pain may not be considered as indication for failure, relief of this pain is much more important to the patient than the success or failure of the treatment<sup>(3)</sup>.

Symptomatic apical periodontitis is inflammation which occurs in the apical periodontium, leading to clinical symptoms in the form of painful response to biting and percussion. It may or may not be associated with an apical radiolucent area and could result from inflamed pulp or from previous asymptomatic apical periodontitis. Several studies agreed that symptomatic cases have higher incidence of post-operative pain <sup>(14)</sup>. The incidence of post-operative pain associated with previously symptomatic teeth was 15.9%, compared with 7.1% for asymptomatic teeth<sup>(40)</sup>.

Many procedures are done to prevent post-operative pain including the use of various instrumentation techniques, intracanal

medications, irrigation system and the use of pre-operative drugs e.g. opioids, non-steroidal anti-inflammatory drugs (NSAIDs) and antibiotics<sup>(27,28,29)</sup>.

Non steroidal anti -inflammatory drugs are now widespread all over the field of dentistry and they have been proved to be very effective in controlling post endodontic pain<sup>(4)</sup>. As following endodontic therapy is usually linked to the inflammatory process as well as additional central mechanisms.

NSAIDs are generally considered to be the most effective treatment for inflammation and hence inflammatory pain<sup>(5)</sup>. They can control the pain by blocking the inflammatory mediators which in turn will inhibit the process of inflammation and reduce or prevent the pain<sup>(5)</sup>.

Piroxicam is a non steroidal anti- inflammatory drug (NSAID) which has the ability for the treatment of pain, fever and inflammation in the body although its mechanism of action is incompletely known<sup>(6)</sup>. The pain after endodontic treatment is commonly severe in the first 24 hours after treatment, and reduces gradually until commonly disappearing after 7-10 days in most cases. Since piroxicam has a half-life of 50 h in the plasma, it will be effective in controlling the most intense pain which occurs after endodontic treatment<sup>(6,7)</sup>.

Intraligamentary injection of local anesthesia was found to be an effective and easy way to control severe pain during endodontic treatment particularly in mandibular teeth which are considered more difficult than maxillary teeth to be properly anesthetized<sup>(8)</sup>. But the main problem in achieving effective anesthesia in patients with irreversible pulpitis and symptomatic apical periodontitis is the resistance of voltage gated sodium channels to local anesthetics and these channels are sensitive to

prostaglandins, so the usage of NSAIDs may be effective as a premedication to support the action of local anesthetics<sup>(9)</sup>

Also the patients which were diagnosed with acute apical periodontitis showed a significantly increased need for additional medication after completion of root canal treatment compared with all other periapical diagnosis, as patients with severe preoperative pain have a higher tendency for severe operative and post-operative pain than patients that have no or mild pain<sup>(10&11)</sup>.

Therefore, it was of interest to assess the effect of prophylactic intraligamentary injection of piroxicam on the management of postendodontic pain in mandibular molar teeth with acute irreversible pulpitis and symptomatic apical periodontitis after single visit root canal treatment.



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## *Review of Literature*

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