بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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Cesarean section incisional infiltration with lidocaine and Epinephrine versus Lidocaine alone in reducing postoperative pain. A randomized controlled double-blinded clinical trial

A Thesis

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List of Abbreviations

Abbr.	Full-term
ABP	**:** Arterial blood pressure
ACCP	**:** American college of Clinical Pharmacy
ACOG	**:** American College of Obstetricians and Gynecologist
Aps	**:** Action potentials
CNS	**:** Central nervous system
CS	**:** Cesarean section
ERCD	**:** Elective repeat cesarean delivery
HCV	**:** Hepatitis C virus
HIV	**:** Human immunodeficiency virus
HPV	**:** Human papilloma virus
ITP	**:** Idiopathic thrombo-cytopenic purpura
IUGR	**:** Intrauterine growth restriction
MEGX	**:** Metabolites monoethy glycinexylidide
NSAIDS	**:** Non-steroidal anti-inflammatory drugs
RCOG	: Royal College of Obstetricians and Gynecologist
RR	**:** Respiratory rate
SD	**:** Standard deviation

SPSS **:** Statistical Package for Social Sciences

TED **:** Thromboembolic disease

TOLAC **:** Trial of labor after cesarean delivery

VAS **:** Visual analogue scale

VDS **:** Verbal descriptor scale

VLBW **:** Very low birth weight

VNRS **:** Verbal numerical rating scales

VTE **:** venous thromboembolism

WHO **:** World Health Organization

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Introduction

Cesarean section (C/S) is the most frequent obstetric surgery performed worldwide ***(Wae et al., 2017).***

Pain is an upsetting feeling that usually delays a patient's recovery and can be accompanied by tissue damage. Proper pain assessment provides crucial information that helps in diagnosing various types of pain, such as somatic, neuropathic, or visceral pain ***(Kerai et al., 2017).***

Unfortunately, to date, postoperative pain is not properly controlled because of many factors. One of these is the inability to efficiently put into action pain management protocols, together with the lack of precision of pain assessment techniques ***(Schoenwald et al., 2006).***

Other factors include wrong beliefs and the patient's high expectations. There is usually a lack in customizing analgesic strategies to satisfy the patients' requirements. Acute pain has deterimental effects if left untreated because it results in acute neurohumoral changes, neuronal re-modeling, depression, anxiety, insomnia, loss of control, inability to sense and communicate with others, and long-lasting psychological and emotional illness and may also end up in prolonged chronic pain states ***(Coll et al., 2004).***

Post-cesarean delivery pain relief is important. Good pain relief will improve mobility and can reduce the risk of thrombo-embolic disease, which is increased during pregnancy. Pain may also

impair the mother's ability to optimally care for her infant in the immediate postpartum period and may adversely affect early interactions between mother and infant. Pain and anxiety may also reduce the ability of a mother to breast-feed effectively ***(Gadsden et al., 2005).***

Several studies have been conducted to evaluate the efficacy of different post-partum pain management protocols for cesarean section ***(Ghenaee et al., 2015).***

Usually, high doses of opioid analgesics are necessary to ease severe postoperative pain, however, this strategy has many disadvantages, such as evident disruption of mother–newborn bonding, sedation, respiratory depression, nausea and vomiting, hypotension, bradycardia, pruritus, and inhibition of bowel function ***(Sakalidis et al., 2013)***.

On the other hand, pain control method depends on individual variability such as age, genetic, psychological factors and also sensitivity to pain. These methods might vary in different region and center regard to their facilities ***(Ritter et al., 2008).***

Local anesthesia is of help because of the decreased opioid consumption and it can be used because of its affordability as part of the smart strategic protocol for pain relief ***(Bamigboye et al., 2010)***.

Local analgesics usage during surgery has fewer side effects in compare with opioids or neuro-axial method ***(Cunningham et al., 2010).***

In a study assessing the maternal and fetal outcomes of local wound infiltration with lidocaine alone either preincisionally, postincisionally or combined in elective C/S, it showed that combined pre- and postincisional local wound infiltration is superior to each one alone in pain relief ***(Fouladi et al., 2013).***

Aim of the Work

This study aims to assess the efficacy and safety of incisional infiltration of lidocaine and epinephrine versus lidocaine only to reduce post-C/S pain and thus enhance the patient's recovery.

Chapter (1)
Caesarean Section

Caesarean delivery also known as a C-section is a surgical procedure used to deliver a baby through an incision in the mother's abdomen (laparotomy) and a second incision in the mother's uterus (hystrotomy). This definition does not include removal of the foetus from the abdominal cavity in cases of uterine rupture nor in cases of abdominal pregnancy ***(Cunningham et al., 2007).***

Caesarean delivery now is the most common obstetric intra peritoneal operation, and the number of caesarean deliveries is increasing worldwide **(Antonio M, 2009)**. Up to that in many settings it may be done without any medical indication which may contribute to this secular trend towards higher rates ***(Stjernholm, 2010)***.

Despite this, there is no widely accepted technique for performing CS, numerous approaches have been described and technique often varies from surgeon to surgeon ***(Colin Walsh, 2010)***.

Incidence of caesarean section

Based on the following statement by a panel of reproductive health experts at a meeting organized by the World Health Organization (WHO) in 1985 in Fortaleza, Brazil: "There is no justification for any region to have a rate

higher than 10-15%" this was the ideal rate ***(World Health Organization. Statement on Caesarean Section Rates).***

Studies from across the world have shown that the cesarean section rate may be influenced by factors other than the ability to pay, including fear of litigation, convenience, perceived safety, fear of substandard care and the opportunity for sterilization ***(Béhague et al., 2002).***

Cesarean section rates in Egypt

In Egypt, the nearly 60% population-based proportion of C-sections performed in 2014 greatly exceeds the threshold of 10–15% recommended by WHO ***(World Health Organization. Statement on Cesarean Section Rates.).***

The institutional-based proportion (67.3%) of C-sections recorded in Egypt in 2014 is 2.2-time and 2.7-time higher than that recently recorded in Jordan (30.3%)and in Saudi Arabia (25%) respectively ***(Al Rifai et al., 2014)***.

Indications of Caesarean Sections

I. Maternal Indications:

1 - Maternal diseases:

- Gestational hypertensive disease, preeclampsia, and eclampsia are relative maternal indication for section depending upon severity of the disease.