بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

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MONA MAGHRABY

Quadratus Lumborum Nerve Block Versus Transversus Abdominis Nerve Block in Pain Control After Caesarean Section; Randomized Controlled Trial

Thesis

Submitted for Partial Fulfilment of Master Degree in Obstetrics and Gynecology

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List of Abbreviations

Abb.	Full term
AMPA	α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
ASA	American Society of Anesthesiologists
BMI	Body mass index
CNS	Central nervous system
COX	Cyclooxygenase
DBP	Diastolic blood pressure
DM	Diabetes mellitus
ECG	Electrocardiogram
ECMO	Extracorporeal membrane oxygenation
EOM	External oblique muscle
ERK	Extracellular signal-regulated kinases
ES	Erector spinae
GABA	γ-Aminobutyric acid
HR	Heart rate
HTN	Hypertension
IOM	Internal oblique muscle
IV	Intravenous
LA	Local anesthetics
LD	Latissimus dorsi
MAO	Monoamine oxidase
MKP	Mitogen-activated protein kinase phosphatase
NIBP	Non-invasive blood pressure
PABA	Para-aminobenzoic acid
PACU	Post Anesthesia Care Unit
PsMa	Psoas major
QL	Quadratus lumborum
QLB	Quadratus lumborum block
RSD	Reflex sympathetic dystrophy

List of Abbreviations Cont...

Abb.	Full term
SBP	Systolic blood pressure
SpO_2	Oxygen saturation
TAM	Transversus abdominis muscle
TAP	Transverse abdominis plane
TLR	Toll-like receptor
TNFα	Tumor necrosis factor
VAS	Visual analog scale
WHO	World Health Organization's

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PROTOCOL OF A THESIS FOR PARTIAL FULFILMENT OF MASTER DEGREE IN OBSTETRICS AND GYNECOLOGY

Title of the Protocol: Quadratus Lumborum Nerve Block Versus Transversus Abdominis Nerve Block in Pain Control After Caesarean Section; Randomized Controlled Trial

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What is already known on this subject?
What does the study add?

Transversus abdominis plane block approach has been proven as a safe and effective analgesic technique for several lower abdominal surgeries (decrease somatic pain) as a somatic analgesic for limited intensity and efficacy.

Quadratus lumborum nerve block approaches were an evolution of the TAP block and have also been revised and adapted over the years (decrease somatic & visceral pain) as a somatic and visceral analgesia for better intensity.

QLN block offers superior analgesia and faster postoperative recovery than TAP block after abdominal surgery ***(Oksuz et al., 2017).***

1. INTRODUCTION/ REVIEW

Cesarean delivery is often done under regional anaethesia and postoperative analgesia is not addressed adequately ***(Varshney et al., 2019).***

Additional analgesic plans like long-acting regional or systemic opioids regional analgesia or multimodal analgesia are crucial for over all well-being of the patient however systemic opioids are associated with side effects, and adverse effect like nausea, vomiting, pruritus, sedation, urinary retention, respiratory depression, thus, it is important to explore safer long lasting alternative techniques for postoperative analgesia ***(Kumar et al., 2018).***

The lateral abdominal wall consists of three muscle layers the external oblique muscle (EO), the internal oblique muscle (IO), the transversus abdominis (TA), and their fascial sheaths, the central abdominal wall also include the rectus. Abdominis Ms, its fascial sheath, the nerves that supply the anterior abdominal wall course through the neurofascial plane between the I.O & T.A Ms ***(Netter, 1989).***

In 2001, the transversus abdominis plane (TAP) block was first introduced by Rafi [Anathesia. Vol 56] as a land mark guided technique via the triangle of petit to achieve afield block in this technique we inject a

local anathetic bupivacaine into a plane between I.O. & T.A Ms, since the thoracolumbar nerves originating from the T9 T10 L1 spinal roots run into this plane and supply sensory nerves to the anterolateral abdominal wall [Clinical anatomy Vol 2] U/S guided TAP block is easy to perform with good safety profile ***(Yarwood and Berrill, 2010).***

Ultrasound guided TAP block is easy to perform with good safety profile for reducing postoperative somatic pain ***(Hebbard et al., 2007).***

In 2007, QL block was first proposed by Blanco; anesthetic is injected adjacent to the anterolateral aspect of the QL muscle and its fascia, blocking the posterior abdominal wall ***(Blanco et al., 2016).***

The block level is high (T7-L1) which can provide postoperative analgesia for both upper and lower abdominal surgery, the key to the analgesic effect of a QL block is the thoracolumbar fascia (TLF).

The TLF is a complex tubular structure formal spread through the TLF to the paravertebral space to generate an indirect paraspinal block ***(Sa et al., 2018; Dhanjal and Tonder, 2019).***

Therefore, it has an effect on visceral pain and abdominal incision pain (somatic pain).

U/S guided QLN block approaches on evaluation of the TAP block and have been revised adapted over the years for benefit of somatic, visceral analgesia for prolonged duration ***(Blanco et al., 2015).***

The local anesthetic bupivacaine is largely used in clinical setting as a local and regional anathetic agent, its major target on excitable cells is the voltage sensitive sodium channel which account for increased sodium permeability noted during the rising phase of action potential in peripheral nerves skeletal MS and neuroendocrine and heart cells ***(Tetzlaff, 2000).***

2. AIM/ OBJECTIVES

The aim of this study is to:

The aim is to determine the efficacy of U/S guided QLN block compared with TAP block for somatic, visceral analgesic effect in patient undergoing CS.