



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



HANAA ALY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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A Comparative Study of Transversus Abdominis Plane Block versus Quadratus Lumborum Block for Postoperative Analgesia following Lower Abdominal Surgeries

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قالوا

لسبحناك لا نعلم لنا
إلا ما علمتنا إنك أنت
العليم العظيم

صدق الله العظيم

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List of Abbreviations

Abb.	Full term
AMPA	<i>α-amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid</i>
ASA	<i>American Society of Anesthesiologists</i>
CNS	<i>Central nervous system</i>
COX	<i>Cyclooxygenase</i>
DBP	<i>Diastolic blood pressure</i>
ECG	<i>Electrocardiogram</i>
ERK	<i>Extracellular signal-regulated kinases</i>
GABA	<i>γ-Aminobutyric acid</i>
HR	<i>Heart rate</i>
IOM	<i>Internal oblique muscle</i>
IV	<i>Intravenous</i>
L / M	<i>Lateral and medial</i>
LA	<i>Local anesthetic</i>
MAO	<i>Monoamine oxidase</i>
MKP.....	<i>Mitogen-activated protein kinase phosphatase</i>
PABA	<i>Para-aminobenzoic acid</i>
PM	<i>Psoas major</i>
QL	<i>Quadratus lumborum</i>
QLB	<i>Quadratus lumborum block</i>
RA	<i>Rectus abdominis</i>
RSD	<i>Reflex Sympathetic Dystrophy</i>
SBP	<i>Systolic blood pressure</i>
SC	<i>Subcutaneous tissue</i>
SD	<i>Standard deviation</i>
SpO2.....	<i>Oxygen saturation</i>
SpO ₂	<i>Pulse oximetry</i>
SPSS.....	<i>Statistical package for social sciences</i>
TA	<i>Transversus abdominis</i>

List of Abbreviations (Cont...)

Abb.	Full term
<i>TAM</i>	<i>Transversus abdominis muscle</i>
<i>TAP</i>	<i>Transverse abdominis plane</i>
<i>TLR</i>	<i>Toll-like receptor</i>
<i>VAS</i>	<i>Visual Analogue Scale</i>
<i>WHO</i>	<i>World Health Organization's</i>

INTRODUCTION

Poor pain control after lower abdominal surgeries is associated with increased length of stay and recovery, that may lead to multiple complications and it also has an impact on psychological changes, quality of life, and patient satisfaction (*Blanton et al., 2017*).

As part of a multimodal analgesic regimen, opioids are required initially to achieve effective analgesia. However, opioids are associated with dose-dependent side-effects including nausea vomiting, pruritus, sedation, and respiratory depression (*Belavy et al., 2009*).

The transverse abdominis plane (TAP) block is a peripheral nerve block designed to anesthetize the nerves supplying the anterior abdominal wall (T6 to L1). It was first described in 2001 by Rafi (*Hebbard et al., 2010*).

In the TAP, the intercostal, subcostal, and L1 segmental nerves communicate to form the upper and lower TAP plexuses, which innervate the anterolateral abdominal wall, including the parietal peritoneum. Therefore, TAP blockade requires anesthesia of the upper (also known as the subcostal or intercostal) TAP plexus, as well as the lower TAP plexus, located in the vicinity of the deep circumflex iliac artery (*Hebbard, 2009*).

Quadratus lumborum block is an emerging technique for peripheral nerve blockade, which generates an analgesic effect by unilaterally blocking spinal nerves which may extend from T6 to L3, Considering its wide block range, It has been increasingly used for postoperative analgesia in patients undergoing middle and lower abdominal surgeries, and showed satisfactory results no matter in single injection mode or continuous infusion mode (*Srinivas, 2018*).

Blanco is the first one described QLB in 2007. The main advantage of QLB compared to the transverse abdominal plane (TAP) block is the extension of the local anesthetic agent beyond the transversus abdominis plane to the thoracic paravertebral space. Greater spread of local anesthetic agents may result in extensive analgesia and prolonged action of the local anesthetic solution injected. Previous studies have shown that both TAP block and QLB may reduce opioid requirements in the postoperative period (*Blanco et al., 2016*)

Quadratus lamborum blocks are three types:

QL 1 block where the injection is in the lateral aspect of Quadratus lamborum muscle.

QL 2 block where the injection is in the posterior aspect of Quadratus lumborum muscle between it and erector spinae muscle.

TQL block (transmuscular quadratus lumborum block) where the injection is in the anterior aspect of the muscle between it and psoas major muscle.