شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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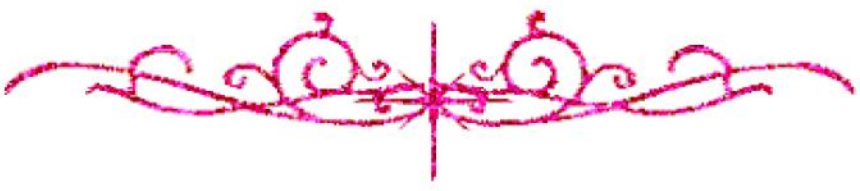

بالرسالة صفحات
لم ترد بالأصل

Intrathecal Nalbuphine versus Intrathecal fentanyl as adjuvant to 0.5% bupivacaine for caesarian section surgery under subarachnoid block

A Thesis

Submitted for partial fulfillment of M.Sc. degree
in Anesthesiology

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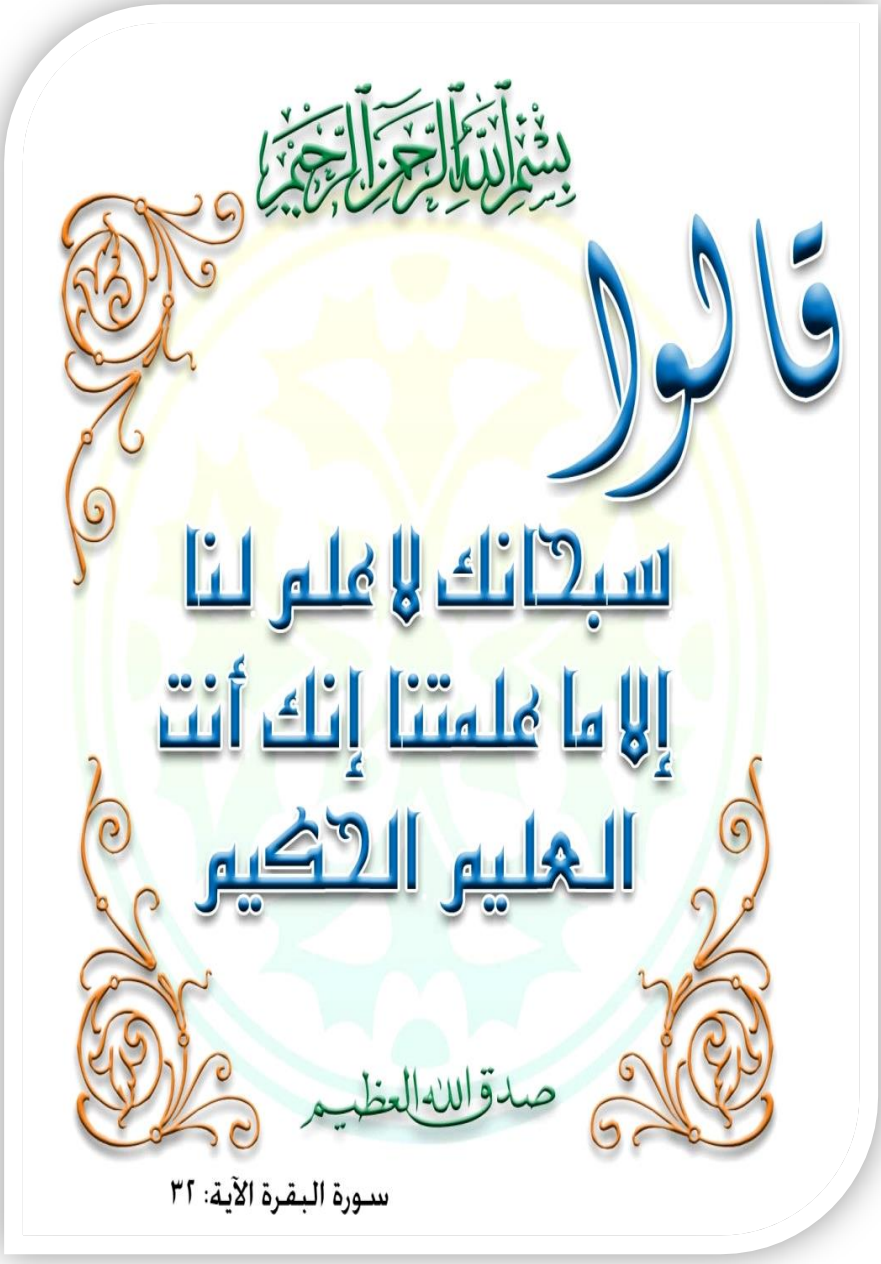
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List of Abbreviations

Abbr.		Full-term
ACTH	**:**	Adrenocortico-trophic Hormone
ADH	**:**	Antidiuretic hormone
ASA	**:**	American Society of Ansthesiologists
CNS	**:**	Central Nervous System
CSE	**:**	Combined Spinal Epidural
CSF	**:**	Cerebrospinal Fluid
CT	**:**	Computed Tomography
INR	**:**	International Normalized Ratio
IT	**:**	Intra-thecal
ITP	**:**	Immune Thrombocytopenic Purpura
LMWH	**:**	Low Molecular Weight Heparin
MAC	**:**	Minimal Alveolar Concentration
MRI	**:**	Magnetic Resonance Imaging
PCA	**:**	Patient-controlled Analgesia
PCEA	**:**	Post-cesarean section Epidural Analgesia
PDPH	**:**	Post-dural Puncture Headache

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Introduction

Spinal anesthesia is the earliest type of regional anesthesia which consists of injecting local anesthetics and other adjuvants into the subarachnoid space. The first operation under spinal anesthesia was in 1898 in Germany by August Bier. The term neuro-axial anesthesia refers to the placement of local anesthetic in or around the CNS. Spinal anesthesia is only performed in the lumbar area, specifically the mid to low lumbar levels to avoid damage to the spinal cord and also to prevent intrathecally-injected medications from having any activity in the upper thoracic and cervical regions **(Olawin et al., 2019).**

Spinal anesthesia is the primary choice for cesarean section. It is not only easy to perform, cheap, but also induces rapid onset of anesthesia and complete muscle relaxation. It is highly efficient, has less systemic drug doses, minimal neonatal depression, fully conscious mother which ensures early skin-to-skin-contact and lesser occurrences of aspiration pneumonitis. On the other hand, it has a fixed duration of anesthesia, may cause post-dural puncture headache, hypotension and lesser control of block height **(Moore et al., 2012).**

Bupivacaine, which is an amide type of local anesthetic, has several properties such as high potency, slow

onset (5-8 minutes) and long duration of action (1.5-2 hours). In cesarean delivery, the dose of intrathecal hyperbaric bupivacaine is 10mg to 12.5mg. In a cesarean section, traction of peritoneum and handling of intra-peritoneal organs may occur, resulting in intraoperative visceral pain. As the dose of hyperbaric bupivacaine increases, incidence of intraoperative visceral pain associated with higher blocks decreases **(Becker et al., 2006).**

Opioids are frequently added in regional (intrathecal and epidural routes) anesthesia to improve the anti-nociceptive effect of local anesthetics. Nalbuphine and fentanyl are being used intrathecally together with local anesthetics in cesarean section. Potentiating the effect of intrathecal local anesthetics by addition of intrathecal-opioids for intra-abdominal surgeries is known. By addition of nalbuphine and fentanyl in this trial, we tried to minimize the dose of bupivacaine, thus decreasing the incidence of the side effects caused by higher doses of intrathecal bupivacaine in cesarean section. Also comparisons between nalbuphine and fentanyl as adjuvants to bupivacaine were observed **(Rollins et al., 2012).**