شبكة المعلومات الجامعية

بسم اللّه الرحمن الرحيم

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه 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

بعض الوثائق الأصلية تالفة

شبكة المعلومات الجامعية

بالرسالة صفحات لم ترد بالأصل

Comparative study between two doses of intravenous Ondansetron on maternal haemodynamics during elective caesarean delivery under spinal anaesthesia

Thesis

Submitted for partial fulfillment of M. Sc degree in anaesthesiology

By

Ahmed Sayed Khalifa Sayed
M.B.B.Ch

Supervised by

Prof. Dr. Sohair Abbas Mohamed
Professor of Anaesthesiology, Intensive Care and Pain Management,
Faculty of Medicine
Ain Shams University

Dr. Randa Ali Shoukry
Assistant professor of Anaesthesiology, Intensive Care and Pain Management,
Faculty of Medicine
Ain Shams University

Dr. Mustafa Mansour Hussein
Assistant professor of Anaesthesiology, Intensive Care and Pain Management,
Faculty of Medicine
Ain Shams University

Faculty of Medicine
Ain Shams University
2020

Acknowledgement

First and foremost, thanks are due to the GOD, the most kind and merciful.

Words will never be able to express my deepest gratitude to all those who helped me during preparation of this study.

I gratefully acknowledge the sincere advice and guidance of Prof. Dr. ***Sohair Abbas Mohamed*** *,Professor of Anaesthesiology, Intensive Care and Pain Management,, Faculty of Medicine, Ain Shams University, for her constructive guidance, encouragement and valuable help in accomplishing this work.*

I am really thankful to Dr. ***Randa Ali Shoukry*** *, Assistant Professor of Anaesthesiology, Intensive Care and Pain Management,, Faculty of Medicine, Ain Shams University, for her great help, advice,precious time,kindness,and moral support.*

I am really thankful to Dr. ***Mustafa Mansour Hussien,*** *Assistant Professor of Anaesthesiology, Intensive Care and Pain Management,, Faculty of Medicine, Ain Shams University,y, for his kind support, precious time and great help.*

Ahmed Sayed Khalifa Sayed

Index

Table of Contents

List of abbreviations

$5\text{-}HT_3$	5-hydroxytryptamine 3 receptor.
ABP	Arterial blood pressure.
ASA	American Society of Anaesthesiologists.
BJR	Bezold jarisch reflex
BNP	Brain natriuretic peptide.
Bpm	Beat per minute.
CNS	Central nervous system.
CS	caesarean section.
CSF	Cerebro-spinal fluid.
DBP	Diastolic blood pressure.
ECG	Electrocardiography.
eNOS	endothelial nitric oxide synthase.
FRC	Functional residual capacity.
GA	Gestational age.
GDFT	Goal directed fluid therapy.
HPL	Human placental lactogen.
HR	heart rate.
IM	Intramuscular.
IV	Intravenous.
LMWH	Low molecular weight heparin.
LSCS	Lower segment caesarean section.
MABP	Mean arterial blood pressure.
MAC	Minimum alveolar concentration.
NADPH	Nicotinamide adenine dinucleotide phosphate (reduced form).
NTS	Nucleus tractus solitarius.
PAS	post anaesthesia shivering.
PBPC	Positional blood pressure change.
PMNLs	Polymorph-nuclear leucocytes.
PNS	peripheral nervous system.
Pro-BNP	Pro- brain natriuretic peptide.

PSHCD	Post spinal hypotension in caesarean delivery.
RCTs	Randomized controlled trials.
SAB	Sub arachnoid block.
SBP	Systolic blood pressure.
SHSP	Supine hypotension syndrome of pregnancy.
SPSS	Statistical Package for the Social Sciences.
SST	Supine stress test
SVRI	Systemic vascular resistance index.
B-HCG	β-human chorionic gonadotropin.

List of tables

List of figures

.

Introduction

Hypotension is one of the most common intra-operative complications associated with spinal anaesthesia. Its incidence in caesarean section has been estimated to be as high as 50-60 %.

This incidence is present despite fluid preloading, lateral uterine displacement and the use of vasopressor agents. It occurs due to sympathetic block which leads to autonomic nervous system disturbances and a decrease in systemic vascular resistance. This can occur because the level of block must be at least at T4 to ensure adequate analgesia, advanced age, obesity, higher neonatal weight, and a block at higher spinal levels are considered potential risk factors. Severe hypotension following spinal anaesthesia in caesarean section is a dangerous complication. If it is unnoticed or inadequately treated, it can lead to serious maternal or fetal compromise.

The cardinal symptoms of hypotension include lightheadedness or dizziness. If the blood pressure is markedly low, loss of consciousness and seizures may occur Other symptoms associated with low blood pressure include chest pain, shortness of breath, arrhythmia. It also includes headache, nausea, vomiting and fatigue Several other studies suggest that hypotension during spinal anaesthesia may cause several adverse events such as

delirium and coronary ischemia.

Several measures were adopted to prevent or at least reduce the incidence of hypotension induced by spinal anaesthesia. They include patient position as displacement of the pregnant uterus to prevent aortocaval compression Administration of pre-load and/or co-load of crystalloid and colloid solutions helps to increase the intravascular volume, using small sized spinal needle We can use also vasopressors boluses as ephedrine, phenylephrine and finally reduce the local anaesthetic dose

In spite of using all the prophylactic measures described, none of them can totally avoid maternal hypotension post-spinal anaesthesia

Therefore, there should be an interventional study to prevent or at least reduce the incidence of hypotension following spinal anesthesia in caesarean section.

Ondansetron is a highly specific and selective serotonin 5-HT3 receptor antagonist with low affinity for dopamine receptors. Several studies have shown that it can prevent hypotension after spinal anaesthesia in pregnant and non-pregnant women. A recent meta-analysis concluded that ondansetron may reduce the incidence of hypotension induced by spinal anesthesia.

Aim of the work

To evaluate the effect of two doses of prophylactic ondansetron on spinal anesthesia-induced hypotension and bradycardia among patients undergoing elective cesarean deliveries