بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY

Comparison of Propofol versus Midazolam Infusion for Conscious Sedation during Spinal Anaesthesia in Patients Undergoing Inguinal Hernia Repair

Thesis

For Partial Fulfillment of Master Degree
in **Anaesthesia**

By

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قالوا

سبحانك لا علم لنا
إلا ما علمتنا إنك أنت
العليم الحكيم

صدق الله العظيم

سورة البقرة الآية: ٣٢

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Ahmed Yasser Mohammed

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List of Abbreviations

Abb.	Full term
ACTH	*Adrenocorticotropic hormone*
ASA	*American Society of Anesthesiologists*
ASA	*Anesthesiologists*
CBF	*Cerebral blood flow*
CNS	*Central nervous system*
CPP	*Cerebral perfusion pressure*
ECG	*Electrocardiographic*
EEG	*Electroencephalogram*
FDA	*Food and Drug Administration*
GABA	*Gamma-aminobutyric acid*
ICP	*Intracranial pressure*
ICU	*Intensive care unit*
IV	*Intravenous*
MAC	*Monitored anesthesia care*
MAC	*Monitored anesthesia care*
NMDA	*N-methyl-d-aspartate*
OAA/S	*Observer's assessment of alertness/sedation*
PACU	*Postanesthesia care unit*
PONV	*Post-operative nausea and vomiting*

INTRODUCTION

The operating room is an anxiety provoking environment. Supplemental sedation with an intravenous agent is often required to allay fear and anxiety in patients subjected to spinal anaesthesia.

Sedation is a valuable tool to make surgery under regional anaesthesia convenient for the patient, the anaesthetist and the surgeon. Conscious sedation is a minimally depressed level of consciousness that retains the patient's ability to maintain his or her airway independently and continuously and to respond appropriately to physical stimulation and verbal commands, produced by pharmacologic or non-pharmacologic methods alone or in combination ***(American society of Anaesthesiologists Task force on sedation and Analgesia by non –anaesthesiologists, 2002).***

With conscious sedation only some of the centers in the medullary reticular formation and thalamus are depressed in a dose dependent manner. Thus this level of sedation additionally provides the benefit of preservation of protective airway reflexes, especially in monitored anaesthesia care ***(Drummond, 2000).***

Numerous agents have been used as sedative adjuvants to spinal anaesthesia with their own advantages and disadvantages over each other. Midazolam, a short acting water soluble benzodiazepine has a fast onset and short recovery time.

Because of which it is one of the most widely used sedative agent in spinal anaesthesia. The pharmacokinetic properties of propofol particularly its rapid onset, redistribution metabolism, high clearance, favourable recovery profile and low incidence of side-effects. makes it suitable agent for achieving conscious sedation ***(Robert, 2006).***

Intravenous bolus dose technique has been shown to be associated with peaks and troughs in plasma concentrations producing significant side effects and delayed recovery. Continuous infusions have been proved to produce lesser side effects, faster recovery, easy control over desired depth of sedation and should the regional block prove to be ineffective, easy conversion to general anaesthesia The objective of the study is to compare sedative, amnesic, hemodynamic and recovery characteristics of propofol and midazolam given in continuous infusion for conscious sedation in patients undergoing surgery under spinal anaesthesia ***(Bhosale et al., 2015).***

Aim of the Work

This study will be designed to compare Propofol and Midazolam with regard to their suitability as sedative agents during spinal anaesthesia in terms of onset & recovery from sedation, haemodynamic stability, dosage and side effects of both the drugs.

Chapter 1

SEDATION

History of sedation:

Dentistry was one of the frontrunners in utilising sedation – diazepam with local anesthetic in the early 1970s. However, with the advent of faster-onset, shorter-acting drugs, polypharmacy became a potential problem. Their aim was to strive for balance between minimising fear and anxiety and maximising safety ***(Perrie et al., 2019).***

In 1985 the American Food and Drug Administration approved midazolam and it became available for use in 1986. Its advantages over diazepam are water solubility, short duration of action, potent amnesia, minimal venous irritation and fast onset ***(Mundiyanapurath et al., 2015).***

Since the approval of midazolam in the USA in ***American Society of Anesthesiologists (1986)***, there has been a 20-year evolution of a practice utilised by almost all medical disciplines, from general practitioners doing simple in-room procedures to interventional radiologists performing complex procedures. While practitioners have embraced the versatility provided by midazolam, they have also recognized the risk of losing airway control/hypoxia/hypotension.

Within a year of its approval, the American Society of Anesthesiologists (ASA) published its first standards for basic