بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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MONA MAGHRABY

Ain Shams University
Faculty of Medicine
Department of Anesthesia, Intensive Care & Pain Management

The effect of low dose nalbuphine or ketamine in the prevention of emergence agitation after sevoflurane anesthesia in children undergoing tonsillectomy with or without adenoidectomy

Thesis

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

By

Yasser Alaa Abdalmonem Ismail

M.B.B.Ch

Supervised by

Prof. Dr. Zakaria Abdelaziz Mostafa

Prof. of Anesthesiology, I.C.U and Pain Management

Faculty of medicine Ain shams University

Dr. Tarek Mohamed Ahmed Ashor

Lecturer of Anesthesiology, I.C.U and Pain Management

Faculty of medicine Ain shams University

Dr. Diaaeldein Mahmoud Haiba

Lecturer of Anesthesiology, I.C.U and Pain Management

Faculty of medicine Ain shams University

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List of Abbreviations

Abb.	Full term
5-HT	5-Hydroxytryptamine
ALT	Alanine Aminotransferase
ASA	American Society of Anaesthesiologist
BP	Blood Pressure
Cl	Clearance
CNS	Central Nervous System
CPK	Creatine Phosphokinase
CYP450	Cytochrome P450
D2	Dopamine
EA	Emergence Agitation
ECG	Electrocardiography
ED	Emergency Department
FDA	Food and Drug Administration
GABA	Gamma-Aminobutyric Acid
HR	Heart Rate
ID	Intellectual Disability
ICU	Intensive Care Unit
IM	Intramuscular
IV	Intravenous
LMA	Laryngeal Mask Airway
MAC	Minimum Alveolar Concentration
MAP	Mean Arterial Blood Pressure
MRI	Magnetic Resonance Imaging
NMDA	N-methyl-D-aspartate
NMS	Neuroleptic Malignant Syndrome

INTRODUCTION

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Emergence agitation (EA) in children early after sevoflurane anaesthesia is a common postoperative problem, with incidence ranging up to 80%, It is characterized by behavior that can include crying, disorientation, excitation and delirium, Several drugs have been tried in this regard including but not limited to propofol, midazolam, ketamine and ketorolac among other drugs ***(Abu-shahwan and chowdary, 2007).***

Symptoms of (EA) are worse for pediatric patients, they cry heavily and writhe to free themselves, pull on their IV line, and impose a heavy burden on the medical staff, they play a very big role in making their parents lose confidence and satisfaction in the anaesthesia and surgery, so effective treatment requires understanding and addressing the multifactorial cause of the agitation, including pain, psychiatric symptoms, physical distress, and environmental triggers ***(Voepel-Lewis, Malviya and Tait, 2003).***

Sevoflurane in particular has been associated with an increased amount of agitation on emergence from anaesthesia in children when compared with a more soluble anesthetic (halothane) even

in the absence of any surgical intervention ***(Abu-shahwan and Chowdary, 2007).***

Sevoflurane is used frequently in pediatric patients,when inhalational induction of anaesthesia is required, because of its fast and non-irritating effects on the airway. The speed of emergence from sevoflurane anaesthesia, however, sometimes presents a dilemma to both patient and anesthetist. Thesis show a higher incidence of post anesthetic agitation has been attributed to the use of this newer inhalational anesthetic. However, the exact etiology of restlessness after sevoflurane anaesthesia is still not known ***(Aono et al., 1997).***

Ketamine is a noncompetitive N-methyl-D-aspartate receptor antagonist. It manifests the effects of anesthesia and analgesia in a dose-dependent relationship ***(Mason, 2017).***

Ketamine is believed to reduce the incidence of emergence agitation in children undergoing surgery or procedure.

Nalbuphine is a semi-synthetic, agonist antagonist opioid analgesic agent. Nalbuphine acts as a partial agonist at kappa receptors and an antagonist at μ receptors, has minimal side

effects, and exhibits a ceiling effect for respiratory depression ***(Gal, DiFazio and Moscicki, 1982).***

Nalbuphine should effectively relieve postoperative pain and decrease the rate of EA in pediatric patients after sevoflurane anesthesia.

AIM OF THE WORK

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The objective of this study is to compare the effect of low dose nalbuphine to ketamine in the prevention of emergence agitation in children undergoing tonsillectomy with or without adenoidectomy.