بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY

Dexmedetomidine versus Fentanyl as Adjuvant to Propofol Total Intravenous Anesthesia during Endoscopic Retrograde Cholangial-Pancreatography Procedure

A Thesis

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By

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List of Abbreviations

Abbr.	Full-term
ACLS	:Advanced Cardiovascular Life Support
ASA	:American Society of Anesthesiologists
ASA	: American Society of Anesthesiologists
AUS	: Abdominal ultrasound
BP	: Blood pressure
cAMP	: Cyclic adenosine monophosphate
CBD	:Common bile duct
CBFV	:Cerebral blood flow velocity
CNS	:Central nervous system
COE	:Cerebral oxygen extraction
CT	: Computed tomography
CYP	: Cytochrome P450
EDTA	:Disodium edetate
ERCP	:Endoscopic retrograde cholangio-pancreatography
ERP	: Endoscopic pancreatography
EUS	: Endoscopic ultrasound
GABA	: Gamma aminobutyric acid
GDP	: Guanosine diphosphate
GI	:Gastrointestinal
GTP	: Guanosine-5'-triphosphate (GTP
HR	: Heart rate

ICP	:Intracranial pressure
ICU	: Intensive care unit
IUPAC	: International Union of Pure and Applied Chemistry
IV	: Intravenous
MAP	: Mean arterial pressure
MPD	: Main pancreatic duct
NPO	: Nothing by Mouth Guidelines
PEP	: Post-ERCP pancreatitis
PRIS	: Propofol Infusion Syndrome
RR	: Respiratory rate
SD	: Standard deviation
SPO_2	: Oxyhemoglobin saturation
SPSS	: Statistical package for social science

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Introduction

Ensuring adequate sedation, analgesia and the patient's clinical stability by appropriate monitoring during endoscopic procedures has become extremely important over the last 10 years ***(Hinkelbein et al., 2018).***

Various types of sedation and analgesia technique have been used during endoscopy procedures.

Providing an adequate regimen of sedation/analgesia might be considered an art, influencing several aspects of endoscopic procedures: the quality of examination, the patient's cooperation and the patient and physician's satisfaction with sedation ***(Hinkelbein et al., 2018).***

The properties of a model sedative agent for endoscopy would include rapid onset and offset of action, analgesic and anxiolytic effects, ease of titration to desired level of sedation, rapid recovery and excellent safety profile.

Therefore, there is an impulse for development of new approaches to endoscopic sedation ***(Lin, 2017).***

Endoscopic retrograde cholangio-pancreatography (ERCP) is commonly used in the management of many pancreatobiliary disorders. ERCP is the ideal method for extraction of common bile duct stones; it reduced the need for the more invasive surgical

procedures associated with high morbidity particularly in old age patients. ERCP with stent placement can be very effective for palliation of obstruction jaundice in pancreatic cancer patients ***(Fanti and Teston, 2018).***

Endoscopy remains an unpleasant experience for most patients, the purpose of sedation in these patients is to relieve anxiety, discomfort or pain, and diminish memory of the events.

Conscious sedation enables patients to maintain their response to verbal and tactile stimuli without losing cardio-vascular and ventilatory function.

The anaesthetic drugs that are usually used include benzodiazepines, ketamine, fentanyl, propofol, dexmedetomidine etc. Each class of anaesthetic drugs has different combination of anxiolytic, hypnotic, amnestic, and analgesic effects.

Selection of the most appropriate medication for specific patient requires consideration of many factors such as drug interaction.

The ideal sedative is free serious adverse effects; does not accumulate with repeated dosing.

In fact, most complications in GI endoscopy are related to sedation; including cardiopulmonary events such as

hypoxemia, hypoventilation, airway obstruction, apnoea, arrhythmia, hypotension, and vasovagal episodes.

The introduction and availability of different pharmaceutical agents such as propofol, fentanyl, and dexmedetomidine allow rapid induction of anaesthesia while enabling rapid recovery. Dexmedetomidine is a stereoisomer of medetomidine. It is a highly selective α2-agonist; eight times higher specificity for receptors compared with clonidine. It seems to have better hemodynamic parameters. It has a perioperative sedative, analgesic and anxiolytic properties similar to benzodiazepines but being α2 adrenoceptor it has less side effect at doses >0.5µg/kg this effect is dose- dependent. Dexmedetomidine is not a powerful antiemetic. It seems to be an alternative option for sedation during endoscopic outpatient procedures.

Propofol is a powerful sedative that has gained the role as the' gold standard ' for moderate to deep procedural sedation because of its rapid onset and termination of action, and the high level of satisfaction achieved among patients and physicians. Its most disadvantages is the risk of rapid change from conscious to deep sedation with the possibility of respiratory depression or airway obstruction leading to hypoxemia and cardiovascular depression.