CONSCIOUS SEDATION

AN ESSAY

For Partial Fulfillment of the M.Sc.

Degree in Anaesthesiology

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2010

التهدئة مع اليقظة

رسالة توطئة للحصول على درجة الماجستير فى التخدير

مقدمة من الطبيب

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2010

ACKNOWLEDGMENT

First of all and above all great thanks to Allah.

I would like to express my profound gratitude to Professor Doctor/ **Mahmoud Shereif Mustafa**, Professor of Anaesthesia and Intensive Care, Faculty of Medicine, Ain Shams University for his most valuable advises and support all through the whole work and for dedicating much of his precious time to accomplish this work.

I am also grateful to Doctor/ **Walid Abd El-Maged El Taher**, Assistant Professor of Anaesthesia and Intensive Care, Faculty of Medicine, Ain Shams University for his unique effort, considerable help, assistance and knowledge he offered me through out the performance of this work.

My special thanks and deep obligation to Doctor/ **Abla Abd El-Rahman Saab**, Lecturer of Anaesthesia and Intensive Care, Faculty of Medicine, Ain Shams University for her continuous encouragement and supervision and kind care.

LIST OF ABBREVIATIONS

- **ACT** : Activated Clotting Time
- **ASA** **:** American Society of Anaesthesiologist.
- **ADA** **:** American Dental Association
- **AVM** : Arterio Venous Malformation
- **BIS** **:** Bispecteral Index.
- **CAPS** : Computer Assisted Personalized System
- **CNS** **:** Central Nervous System.
- **CT** **:** Computed Tomography.
- **ECG** **:** Electrocardiography.
- **ECT** **:** Electro-Convulsion Therapy.
- **ERCP** : Endoscopic retrograde cholagiopancreatography
- **EUS** : Ensoscopic Ultra Sound
- **FD** : Fospropofol Disodium
- **FDA** **:** Food and Drug Administration Society .
- **GABA** **:** Gamma Amino Buteric Acid**.**
- **HBO** **:** Hepato Biliary Obstruction.
- **ICP** **:** Intracranial Pressure
- **IM** **:** Intramuscular.
- **INR** : International Normalized Ratio
- **IV** **:** Intravenous.
- **IVF** **:** In Vitro-Fertilization.
- **LOC** **:** Level Of Consciousness.

- **MAC** **:** Monitored Anaesthesia Care.
- **MAO** **:** Mono Amino-Oxidase**.**
- **MELD** : Model for End-Stage Liver Disease
- **MOAAIS** **:** Modified Observer's Assessment of Alterness and Sedation.
- **MRA** **:** Magnetic Resonance Angiography.
- **MRI** **:** Magnetic Resonance Imaging.
- **NAPS** : Non Anaesthesiologist Propofol Sedation
- **NPO** **:** Nothing Per Oral.
- **NSAIDs** **:** Non Steroidal Anti-inflammatory Drugs.
- **OR** **:** Operating Room.
- **PACU** **:** Post Anaesthetic Care Unit.
- **PADSS** **:** Post Anaesthetic Discharge Scoring System.
- **P.o.** **:** Per Os (Mouth)
- **PO** **:** Post Operative.
- **RF** **:** Radiofrequency
- **RN** **:** Registered Nurse.
- **TCI** : Target Controlled Infusion
- **US** **:** Ultrasound

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INTRODUCTION

Conscious sedation was first introduced by the American Dental Association (ADA) and refers to a "minimally depressed level of consciousness that is produced by a pharmacologic method, a nonpharmacologic method, or a combination of both, in which the patient retains the ability to maintain an airway independently and continuously and to respond appropriately to physical stimulation or verbal command" **(Waring et al., 2003).**

Conscious sedation is a technique that originated in the practice of oral surgery and dentistry. It is popular and widely used to supplement local or regional anaesthesia during a variety of short term, therapeutic, and diagnostic procedures **(Kalach et al., 2002)**.

Many patients prefer the light sleep of conscious sedation and analgesia versus general anesthesia and like the added amnesic benefit that many of the medications provide. The goals of patient care are to provide adequate safety, while allaying patient fears and anxiety **(Faigel et al., 2002)**.

Many physicians, nurses and patients prefer the administration of conscious sedation and analgesia over general anaesthesia for patients who meet appropriate selection criteria **(Waring et al., 2003)**.

In the future an increase in the administration of conscious sedation and analgesia over general anaesthesia can be expected for spedific short-term therapeutic diagnostic and surgical procedures **(Cravero and Blike, 2004)**.

One of the main advantages of conscious sedation and analgesia is the patient's rapid return to presedation levels, such patients generally experience a shorter recovery period, ambulate earlier and more readily participate in the discharge process than do patients receiving general anesthesia. Side effects from the medications are minimal and complications are few **(Cohen et al., 2007)**.

The aim of this essay is to review the following topics :

1- Levels of sedation.

2- Conscious sedation practice.

3- Hazards of conscious sedation.

4- Drugs uses for conscious sedation.

5- Guidelines for conscious sedation.

CHAPTER ONE

DEFINITIONS AND PREPARATIONS FOR CONSCIOUS SEDATION

Definitions for Sedation

Different levels of sedation:

- **Minimal Sedation (anxiolysis):** A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected **(Friedberg, 2003) .**
- **Moderate Sedation / Analaesia "conscious sedation":** It is a form of sedation and analgesia that is "a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation" **(Goodwin et al., 2005).**

No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate

- **Deep sedation / analgesia:** A drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully after repeated or painful stimulation **(Waring et al., 2003)**

The ability to independently maintain

ventilatory function may be impaired. Patients may require assistance in maintaining patent airway and - spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. Deep sedation is restricted to use by anesthesiologists and practitioners credentialed to administer **(Everett, 2001)**

- **Anaesthesia:** Consists of general anaesthesia and spinal or major regional anaesthesia, it does not include local anaesthesia.

General anaesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be Impaired **(Pasternak et al., 2002)**

Anaesthesia is restricted to use by anesthesiologists and practitioners credentialed to administer

Note: If minimal sedation or moderate sedation inadvertently progresses to a state of deep sedation or general anaesthesia:

- Provide any necessary emergency care, i.e., airway support
- Notify appropriate resource personnel, i.e., nursing supervisor, anaesthesia provider.
- Call a Code Blue if needed

(Pasternak et al., 2002).

During moderate sedation a physician supervises or personally administers sedative and analgesic medications that can safely and effectively allay anxiety and control pain during a diagnostic or therapeutic procedure **(Cohen et al., 2007).**

The advantages of this form of pain control are that it is easy to administer, short acting, readily reversible and well tolerated by patients. Furthermore, it can be administered in an office setting, and does not require highly specialized equipment or the need for an anesthesiologist **(Cohen et al., 2007).**

The following table shows the main differences between conscious sedation and deep sedation techniques:

Table I: Differences between conscious sedation and deep sedation techniques

Conscious Sedation	Deep (Unconscious) sedation
- Mood altered - Patient cooperative . - Protective reflexes intact - Vital signs stable - Local anaesthesia provides analgesia. - Amnesia may be present - Short recovery room stay - Preoperative complications infrequent - Unco-operative or mentally handicapped patient cannot always be managed	- Patient unconscious - Patient unable to cooperate - Protective reflexes obtunded. - Vital signs labile - Pain eliminated centrally . - Amnesia always present. - Occasional prolonged recovery room stay. - Preoperative complications reported in 25 to 75 percent of cases. - Useful in managing difficult or mentally handicapped patients.

(Sury and Jonathan, 2008) .

The key to optimal sedation is titration and vigilance in order to achieve optimal patient comfort, while avoiding; cardiorespiratory depression. Careful monitoring will lead to improved titration of the sedative-analgesic drugs **(Waring et al., 2003).**