NEW CONCEPTS IN AMBULATORY ANAESTHESIA FOR ADULTS

An Essay

Submitted for Partial Fulfillment of Master Degree in Anaesthesia

Prepared by:

Ahmed Youssri Ahmed Ibrahim

MBBCH

Faculty of medicine, Cairo University

Under supervision of

Prof. Dr. Magda Mohamed Farid Rasmy

Professor of Anaesthesia

Faculty of Medicine, Cairo University

Prof. Dr. Ahmed Abd El-Aziz Aref

Assistant Professor of Anaesthesia

Faculty of Medicine, Cairo University

Dr. Osama Mohamed Hosny

Lecturer of Anaesthesia

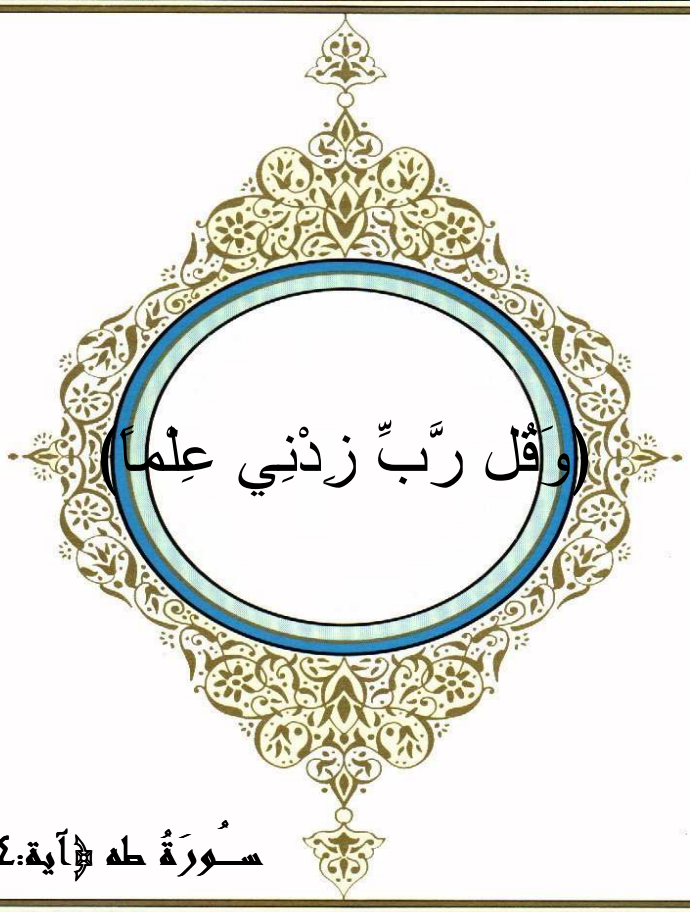
Faculty of Medicine, Cairo University

Faculty of Medicine

Cairo University

2008

بسم الله الرحمن الرحيم



سُورَةُ طه ﴿آية:١١٤﴾

صَدَقَ اللهُ العَظِيم

Abstract

Over the last three decades outpatient surgery has grown at an exponential rate, progressing from the practice of performing simple procedures on healthy outpatients to a broad spectrum of patient care in freestanding ambulatory surgery centers.

With advances in surgical technologies and the rapid growth of minimally invasive surgery, a wide variety of operations may now be performed on an outpatient basis.

Key words :

General Anesthesia – Epidural - Cyclo-Oxygenase .

Acknowledgement

First of all, all gratitude is due to god almighty for blessing this work, until it has reached its end, as part of his generous help throughout my life.

I can hardly find the words to express my deepest gratitude to Professor ***Dr. Magda Mohamed Farid Rasmy****, professor of anesthesiology, faculty of medicine, Cairo University, for her close supervision, kind help and encouragement through the whole work. I had the privilege to benefit from her knowledge, and it is a great honor to work under her guidance and supervision.*

I'm also deeply indebted to Professor ***Dr. Ahmed Abdel Aziz Aref****, Assistant professor of anesthesiology, faculty of medicine, Cairo University, for his guidance, continuous assistance, great effort and close supervision.*

I'm also deeply indebted to ***Dr. Osama Mohamed Hosny*** *lecturer of anesthesiology, faculty of medicine, Cairo University, for his kind help, useful advices, valuable suggestions, continuous support all through my work.*

It is a great honor to work under their guidance and supervision.

Also many thanks and love I owe to my wife who had helped me a lot, encouraged me so much, kept standing beside me in difficult circumstances and she always plays an important role in my life.

For my parents I can't find the words, its enough to say that if I didn’t have these parents I wouldn’t be here now.

Finally many thanks to everyone who helped me even with one word, thanks a lot.

Contents

List of Tables

List of Figures

Figure no.	*Title*	*Page*

Abbreviation List

5HT ..... 5-Hydroxytryptamine (serotonin).
ASA ..... American Society of Anesthesiologists.
ASU ..... Ambulatory Surgery Unit.
BIS ..... Bispectral Index.
BMI ..... Body Mass Index.
CHF ..... Congestive Heart Failure.
CNB ..... Central Neuroaxial Block.
COX ..... Cyclo-Oxygenase.
CP ..... Chloroprocaine.
CVA ..... Cerebro-Vascular Attack.
EMLA ..... Eutectic Mixture of Local Anesthetics.
ENT ..... Ear Nose and Throat.
EPI ..... Epidural.
FASA ..... Federated Ambulatory Surgery Association.
GA ..... General Anesthesia.
IM ..... Intramuscular.
IT ..... Intrathecal.
IV ..... Intra Venous.
IVRA ..... Intra Venous Regional Anesthesia.
LMA ..... Laryngeal Mask Airway.
LOS ..... Length Of Stay.
MAC ..... Minimal Alveolar Concentration.
MI ..... Myocardial Infarction.
NDMRs ..... Non Depolarizing Muscle Relaxants.
NMDA ..... N-Methyl-D-Aspartate.
NPO ..... Non Per Os.
NSAIDs ..... Non Steroidal Anti Inflammatory Drugs.

OR ..... Operating Room.
PACU ..... Post Anesthesia Care Unit.
PCA ..... Patient Controlled Analgesia.
PDPH ..... Post Dural Puncture Headache.
PNB ..... Peripheral Nerve Block.
PO ..... Per Oral.
POCD ..... Post Operative Cognitive Dysfunction.
PONV ..... Post Operative Nausea and Vomiting.
PR ..... Per Rectum.
RA ..... Regional Anesthesia.
SQ ..... Subcutaneous.
TC ..... Transcutaneous.
TIA ..... Transient Ischemic Attack.
UK ..... United Kingdom.

INTRODUCTION AND AIM OF THE WORK

Introduction

Ambulatory surgery has evolved considerably over the past two decades, with more complex procedures being performed, and more ASA class III patients being eligible. This progress, while driven partly by health care economics, has evolved through expanded scientific research in all areas of ambulatory anesthesia. Evolution of anesthetic pharmacology, including new drugs and better understanding of their complex interactions, as well as more targeted regional anesthetic techniques, have had an enormous impact. Another key area of development is facilitation of patient recovery and discharge from the post anesthesia care unit (PACU) and step-down unit, or ambulatory surgical unit (ASU). Ambulatory surgery will continue to grow and expand. Continued advances in surgical techniques (e.g., minimally invasive surgery), anesthetic pharmacology, regional anesthesia, and postoperative analgesia, will allow even more complex procedures to be conducted on an ambulatory basis. **(1-4).**

Discharge scoring systems will help to facilitate discharge. Improved understanding of potential complications, updating patient information and clinical pathways based upon current

best evidence, and addressing patient escort and driving issues, will help to ensure the safe recovery and discharge of patients following their outpatient procedures. **(5-8)**

Today there is a continued trend to expand the indications for ambulatory surgery. We are constantly being confronted with the need for change in our clinical practice.

Aim of the Work

The aim of this essay is to provide an overview and update of specific issues related to indications for ambulatory anesthesia, patient selection, the use of fast-track concept and also to highlight issues related to postoperative patient assessment and causes of delayed discharge.

Preoperative Care

Preoperative care

A day-case patient is one who is admitted for investigation or operation on a planned non-resident basis. Patients are usually discharged from the hospital or unit later on the day of the procedure. The procedure may require general, regional or local anesthesia, sedative techniques or a combination of these **(2)**.

Increasingly complex cases are now performed as day Procedures, including laparoscopic cholecystectomy and tonsillectomy. By extending day surgery opening Hours and using staggered admission times, patients who would normally require hospital admission may be treated as day cases. The Audit Commission report for the year 2000 showed expansion in the number of procedures performed as day cases compared to 1996, but highlighted 120 000 patients treated as inpatients who may have been appropriate as day cases **(2)**.

Ambulatory surgery is rapidly growing world wide. In the past decade, the number of ambulatory surgical procedures has grown from 3.2 Million to more than 21 million annually in the United States alone and 50%–70% of all surgical procedures in North America are now performed on an ambulatory basis **(11)**.

Advantages of outpatient's surgery:

1- Significant reduction in medical care costs.
2- More efficient use of operating rooms.
3- Convenience to the patient (decrease time away from home, family, and work).
4- Reduced stress and emotional disturbance to patients.
5- Reduced risk of infection, particularly in the immuno-suppressed patient.
6- Lack of dependence of availability of hospital beds.
7- Less preoperative testing and preoperative medications.
8- Greater flexibility in scheduling operations **(79)**.