Anesthetic management in pregnant females for non obestetric operations.

Essay

Submitted for fulfillment of the Master Degree in Anesthesia

By

Marwa Galal Mahmoud Abo Eleneine (M.B.B.Ch)

Supervised By

Prof. Dr. Ahmad Abd el Aala Elshwarby

Professor of Aanesthesia and Intensive care Faculty of Medicine Ain shams University

Dr. Mohmad Anwar El shafeiy

Assistant professor of Anesthesia and Intensive care Faculty of Medicine Ain shams University

Dr. Mostafa Gamal Eldeen Mahran

Lecturer of Anesthesia and Intensive care Ain shams University

> Faculty of Medicine Ain shams University 2009

دور التخدير في حالات السيدات الحوامل في العمليات الجراحية غير الولادة

رسالة توطئه للحصول على درجة الماجستير في التخدير والعناية المركزة

مقدمه من الطبيبة / مروه جلال محمود أبو العنين (بكالوريوس الطب والجراحة)

تحت إشراف أ.د / أحمد عبد الأعلى الشواربي أستاذ التخدير والعناية المركزة كلية الطب جامعة عين شمس

د / محمد أنور الشافعي أستاذ مساعد التخدير والعناية المركزة كلية الطب جامعة عين شمس

د / مصطفى جمال الدين مهران مدرس التخدير والعناية المركزة كلية الطب جامعة عين شمس

> كلية الطب جامعة عين شمس 2009

ACKNOWLEDGEMENT

First of all, I would like to thank God for everything and especially for my steady steps I have been taking in my career.

I would like to express my great appreciation to **Prof. Dr. Ahmad Abd El Aala El Shawarby,** Professor of Anesthesia, Intensive care and pain management, faculty of medicine-Ain Shams University, who honored me by his kind supervision and his great support.

I wish to express my deepest gratitude to assistant **Prof. Dr. Mohamed Anwar El Shafeiy:** Assistant Professor of Anesthesia, Intensive care and pain management, faculty of medicine-Ain Shams, for his irreplaceable encouragement, his experience and his great directions all through the work. He has really eased the way and made the work I enjoy more enjoyable.

No word can express my thanks to **Dr. Moustafa Gamal El Din Mahran,** lecturer of Anesthesia, Intensive care for his help and fruitful guidance.

I would like to say "thank you "to all those who supported me, help me with their suggestion and ideas, and made this work possible and enjoyable.

Marwa Galal Mahmoud Gairo, 2010

Tabels

Table 1-1	Cardiovascular Changes in Pregnancy
Table 1-2	Effect of Pregnancy on Cardiovascular Investigations
Table 1-3	Coagulation Factors in Pregnancy
Table 1-4	Values for Renal Function
Table 3-1	Relationship between the plasma binding of amide local anesthetics and UV/MV ratio.
Table 4-1	Obesteric and non obesteric indications for hospitalization.
Table 4-2	Risk classifications of drugs frequently used in anaesthesia.
Table 4-3	Examples of common radiological exams and fetal exposure associated with each of them.

2

Abbreviations

FRC: Functional Resideual Capcity

cc: Closing Capcity

GFR: Glomerular Filtration Rate

UA: Umbilical Artery

uv: Umbilical Vein

IM: Intra muscular

IV: Intra venous

Introduction

Appoximately 1-2% of pregnant women require surgery during their pregnancy. Appendectomy and cholecystectomy are the most commenly performed procedure. (McGraw-Hill, 2006)

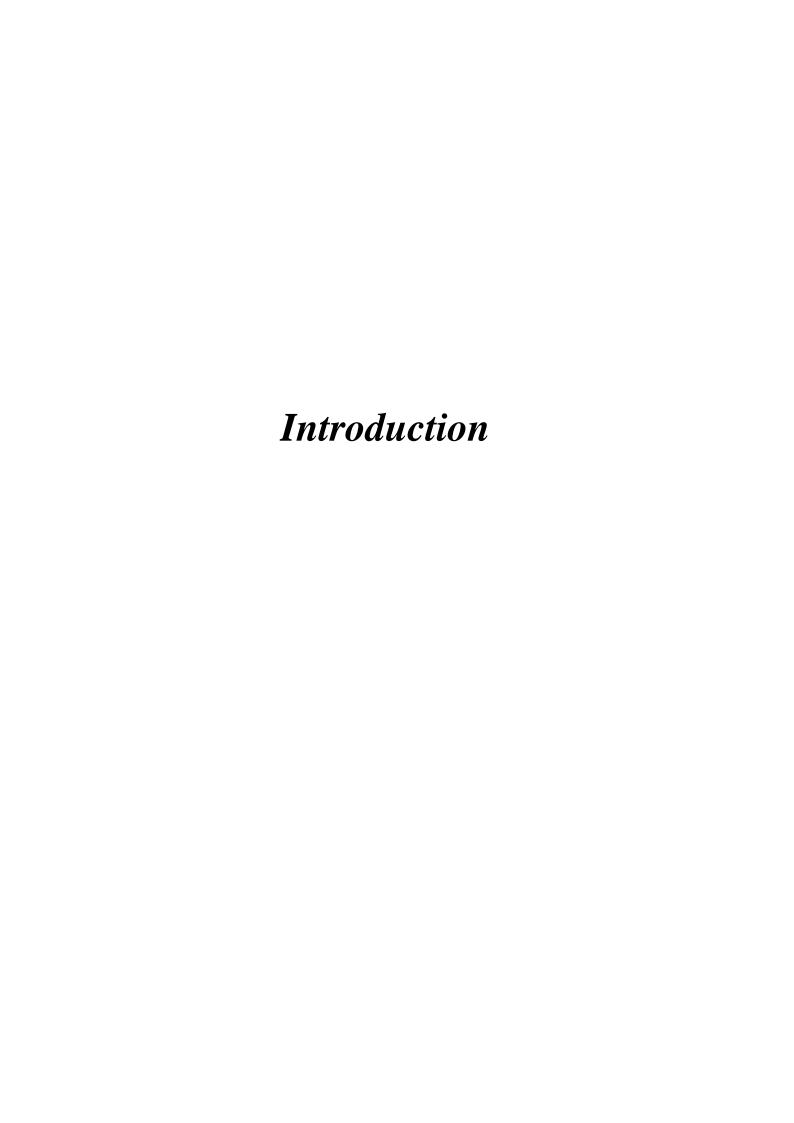
Anaesthetic management is particularely important during pregnancy. The attending anaesthiologist and surgeon must consider effect of anaesthesia on the fetus, teratogenic potential of anaesthetic agents, the patient postion (aortocaval compression risk and fetal compression), and wether the surgery requires general or epidural anaesthesia. in addition, they should also evaluate the maternal risk factors arising from the physiological and anatomical changes due to the pregnancy and consider the maintenance of adequate uteroplacental blood flow. (lyilikci L, 2004)

Fortunately, no anaethetic or commenly used adjunctive drugs are known to be teratogens. (kuczkowski KM, 2006)

As a conclusion Anesthesia for expecting mothers has never been safer and is likely to have few adverse effects on developing fetus. In particular, epidural analgesia is still probably the safest form of pain relief for laboring women and their babies. However there is reason for some concern and definitly strong justification, for aggressive research. And if necessary, effective protetive strategies developed, as a high priority.

CONTENTS

•	Introduction	4-5
•	Physiological Changes of Pregnancy	6-21
•	Fetoplacental circulation and placental	
	barrier	22-30
•	Effects of anaesthetic drugs on the fetus	31-77
•	Effects of anaesthia on the mother	78-99
•	References	100-112
•	Arabic summary	113-114



Chapter I Physiological Changes of Pregnancy

Chapter II Fetoplacental Circulation And Placental Barrier

Chapter III Effects of Anaesthetic Drugs On The Fetus

Chapter IV Effects Of Anaesthia On Mother

