

2011

**PERI-OPERATIVE CARDIAC
PROTECTION IN ISCHEMIC HEART
PATIENTS UNDERGOING NON-
CARDIAC SURGERY**

Essay Submitted for the Partial Fulfillment of the
Master Degree in Anesthesia and Intensive Care

By

Hesham Mohammed Mahmoud El-Azzazi

M.B., B.Ch.

17-967412

Supervised by

Prof. Dr. Ahmed Gamal Essa

Professor of Anesthesia and Intensive Care
Faculty of Medicine
Ain Shams University

Dr. Samia Ibrahim Sharaf

Assis. Professor of Anesthesia and Intensive Care
Faculty of Medicine
Ain Shams University

Faculty of Medicine
Ain Shams University

1996



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

**قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا
إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ**

صَدَقَ اللَّهُ الْعَظِيمُ

سورة البقرة الآية ٣٢

ACKNOWLEDGMENT

Words cannot express deep thanks and gratitude to Prof. Dr. Ahmed Gamal Essa, Prof. of Anaesthesia and Intensive Care, Ain Shams University for giving me the privilege of working under his supervision, for his continuous encouragement, his patience and kind guidance throughout the whole work,

I am also indebted to Dr. Samia Ibrahim Sharaf, Ass. Prof. of Anaesthesia and Intensive Care, Ain Shams University who was kind enough to devote me much of her time and valuable advice, experience and guidance.

Hesham El-Azzazi

List of contents

	Page
Introduction	1
Anatomy of the coronary vasculature and pathophysiology of myocardial ischemia	3
Preoperative assessment of risks and preparation of patient to surgery	31
Intraoperative protection	70
Postoperative care to minimize risk of cardiac ischemia	99
Summary	111
References	114
Arabic summary	

Introduction

INTRODUCTION

Cardiovascular disease especially ischemic heart disease is one of the medical illness most frequently encountered in anaesthetic practice and a major cause of perioperative cardiac morbidity and mortality.

Strategies to improve perioperative outcome of patients having coronary artery disease have focused on:

1. A thorough knowledge of normal cardiac physiology and understanding of the pathophysiology of myocardial ischemia have offered the prospect of proper management of ischemic heart disease.
2. preoperative assessment of patients with coronary artery disease in two ways:
 - Detection of high risk factors.
 - Assessment of the functional status of the coronary circulation using most recent and effective diagnostic testing.
3. Improved detection of perioperative myocardial ischemia to allow optimal therapeutic intervention.
4. Optimal anaesthetic techniques and management pre-, intra- and post-operatively to decrease perioperative cardiac morbidity and mortality in high risk patients.

Peri-operative cardiac protection in ischemic heart patients undergoing non-cardiac surgery

Finally, attempted solutions to this problem is reviewed and researched and despite of the recent progress in diagnosing and managing patients at risk for cardiac complications by using different measures, the problem still exists.

Peri-operative cardiac protection in ischemic heart patients undergoig non-cardiac surgery

*Anatomy of the coronary
vasculature and
Pathophysiology of
myocardial ischemia*

