



شبكة المعنومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيدا عن الغبار

في درجة حرارة من ١٥-٢٥ مئوية ورطوبة نسبية من ٢٠-٤٠%

To be Kept away from Dust in Dry Cool place of
15-25- c and relative humidity 20-40%



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



بعض الوثائق الأصلية تالفة

بالرسالة صفحات لم ترد بالاصل



Assiut University
Faculty of medicine
Anesthesiology Dep.

617,96

Effect of intrathecal morphine on C-reactive protein and Interleukin-6 in elderly patients with myocardial ischaemia undergoing orthopedic surgery.

*Thesis
Submitted for partial fulfillment
of master degree in anaesthesia*

By

Ashraf M. Abdul Nazeer
M.B.B.CH.-Faculty of medicine-Assiut University

Supervised by

Prof.Dr.
Mohammed G. Almaz
*Professor of Anesthesiology and
Intensive Care*

Prof.Dr.
Mohammed Y. ElKabsh
Professor of Clinical Pathology

Dr.
Mohammed Sayed M. Moustafa
*Assist. Professor of Anesthesiology
and Intensive Care*

Faculty of medicine-Assiut University

2003

copy

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

والعصر (١) إن الإنسان لفي خسر (٢) إلا الذين آمنوا وعملوا

الصالحات وتواصوا بالحق وتواصوا بالصبر (٣)

صدق الله العظيم

TO MY FAMILY

GREAT PARENTS

BROTHERS



KIND WIFE

& SISTERS

Acknowledgments

Foremost, thanks are due to **ALLAH**, the most Beneficent and Merciful.

I wish to express my sincere gratitude to Prof. Dr. **Mohammed G. Almaz**, Professor of Anesthesiology, Faculty of Medicine, Assiut University, for his greatly useful help, kind supervision, continuous encouragement he gave throughout the course of the study.

My deepest gratitude is to Prof. Dr. **Mohammed Y. El-Kabsh**, Professor of Clinical Pathology, Faculty of Medicine, Assiut University for his kind supervision, valuable support during the conduction of this work.

I wish to express my thanks to Dr. **Mohammed Sayed M. Moustafa** Assistant Professor of Anesthesiology, Faculty of Medicine, Assiut University for his help and advice and his careful support during the work.

My sincere thanks and extreme gratitude to prof. Dr. **Hassan I. M. Kottb** professor of anesthesiology Faculty of Medicine, Assiut University for his kind supervision, kind advice, and for the time he spent in the accomplishment of this work and everlasting skillful help.

Special words of thanks are to be made to Dr. **Mohammed Shaaban Ali**, Lecturer of anesthesiology, Faculty of Medicine, Assiut University for his help and advice which helped me overcoming the difficulties I met through this work.

Contents

	<i>page</i>
<i>*Introduction and aim of the work-----</i>	<i>1</i>
<i>*Review of literature-----</i>	<i>4</i>
<i>Stress responses to surgery-----</i>	<i>4</i>
<i>Effect of anesthesia and analgesia on inflammatory stress response</i>	<i>8</i>
<i>Pain management and myocardial ischemia-----</i>	<i>11</i>
<i>Inflammatory response and myocardial ischemia-----</i>	<i>17</i>
<i>*Patients and methods-----</i>	<i>21</i>
<i>*Results-----</i>	<i>28</i>
<i>*Discussion-----</i>	<i>38</i>
<i>*Summary and conclusion-----</i>	<i>48</i>
<i>*References-----</i>	<i>51</i>
<i>*Arabic summary-----</i>	<i>68</i>

List of Figures

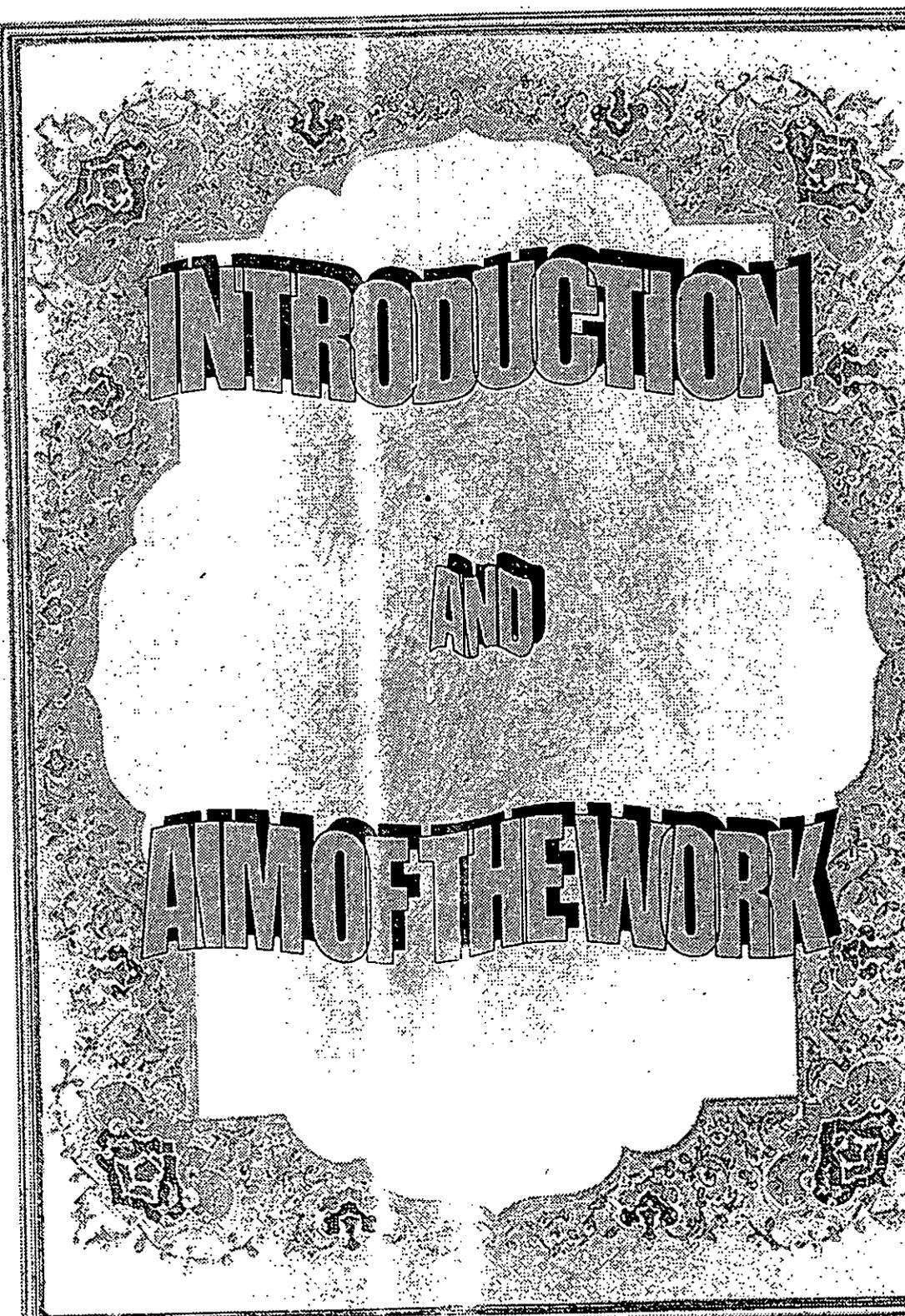
Figure (1) Intraoperative changes of mean heart rate-----	30
Figure (2) Intraoperative changes of mean arterial blood pressure----	31
Figure(3) Changes in the mean of respiratory rate over time-----	31
Figure (4) Changes in mean plasma level of serum C reactive protein-----	35
Figure (5) Changes in plasma level of serum IL-6 -----	36
Figure (6) Correlation between IL-6 and CRP in the preoperative period.-----	38
Figure (7) Correlation between IL-6 and CRP in the 1 st postoperative day-----	38
Figure (9) Correlation between IL-6 and CRP in the 2 nd postoperative day-----	39
Figure (10) Correlation between IL-6 and CRP in the 3 rd postoperative day -----	39

List of Tables

	<i>Page</i>
<i>Table (1) systemic responses to surgery-----</i>	<i>4</i>
<i>Table (2) Demographic characteristics-----</i>	<i>29</i>
<i>Table (3) Changes in C- reactive protein-----</i>	<i>35</i>
<i>Table (4) changes in the mean of IL-6 -----</i>	<i>36</i>

List of abbreviations

CRP	C-reactive protein
IL-6	Interleukin-6
NSAIDs	Nonsteroidal anti-inflammatory drugs
NMDA	N-methyl D aspartate
HPA	Hypothalamo-pituitary axis
CRH	Corticotrophic releasing hormone
ACTH	Adrenocorticotrophic hormone
IL-1	Interleukin-1
TNF	Tumour necrosing factor
Min	Minute
Hr	Hour
cAMP	Cyclic adenosine monophosphate
kg	Kilogram
IL-8	Interleukin-8
IT	Intrathecal
CSF	Cerebrospinal fluid
PCA	Patient controlled analgesia
MAP	Mean arterial pressure
Hs-CRP	High sensitivity C-reactive protein
SAA	Serum amyloid-A
CAD	Coronary artery disease
AMI	Acute myocardial infarction
ECG	Electrocardiogram
MI	Myocardial infarction
HDL	High density lipoprotein-cholesterol
CARE	Cholesterol and recurrent events investigators
CSE	Combined spinal epidural
SBP	Systolic blood pressure
DBP	Diastolic blood pressure
IV	Intravenous
IM	Intramuscular
PACU	Post-anesthesia care unit
VRS	Verbal rating score
ELISA	Enzyme linked immuno-sorbant assay
SED	Standerd error of mean
G1	Group 1
G2	Group 2



INTRODUCTION

AND

AIM OF THE WORK

INTRODUCTION AND AIM OF THE WORK

The geriatric population is unique for its non homogeneity, The physical and medical heterogeneity increase with advancing age (*Oskvig, 1999*). About 25% of surgical patients are aged >65 years, half of those will undergo surgery in the remainder of their life time (*Shipton 1983*).

As the occurrence of fracture femur in the elderly is increasing, 17% of the population aged more than 85 years old was treated from fracture femur in 1905, this increased to become 40% in 1987 and it is projected that in 2011 the proportion will be 65% (*Rockwood et al., 1990*). Fracture of the upper femur is a common injury in elderly. Elderly patients undergoing hip arthroplasty may have high perioperative morbidity and mortality (*Seagroet et al., 1991*).

Risk of dying within 12 months is about 10% in patients aged 60-90 years, increasing to 50% in the group over 90 years old and the mortality in the elderly mostly occurs in the first 6 months after surgery (*cooper, 1997*).

There is a relationship between the inflammatory response measured by IL-6 and CRP and the number of postoperative days before the patients could walk 10 and 15 meter independently (*Carli and mayo, 2001*).

Afferent neuronal stimuli and activation of the autonomic nervous system and other reflexes by pain may serve as a major release mechanism of the endocrine, metabolic responses and thus contribute to various organ dysfunctions. Therefore pain relief may