POST OPERATIVE VENOUS THROMBOEMBOLIC COMPLICATIONS

ESSAY
Submitted for partial fulfillment of
the Master Degree of **GENERAL SURGERY**

By
Mohamed Saber Omar Mohamed
M.B., B.Ch.

Supervised by:

Prof. Dr. Nabil El-Mehairy
Prof. of General and Vascular Surgery
Ain Shams University

Dr. Abdel-Monem Wahba
Lecturer of Surgery
Ain Shams University

Faculty of Medicine
Ain Shams University
Cairo - Egypt
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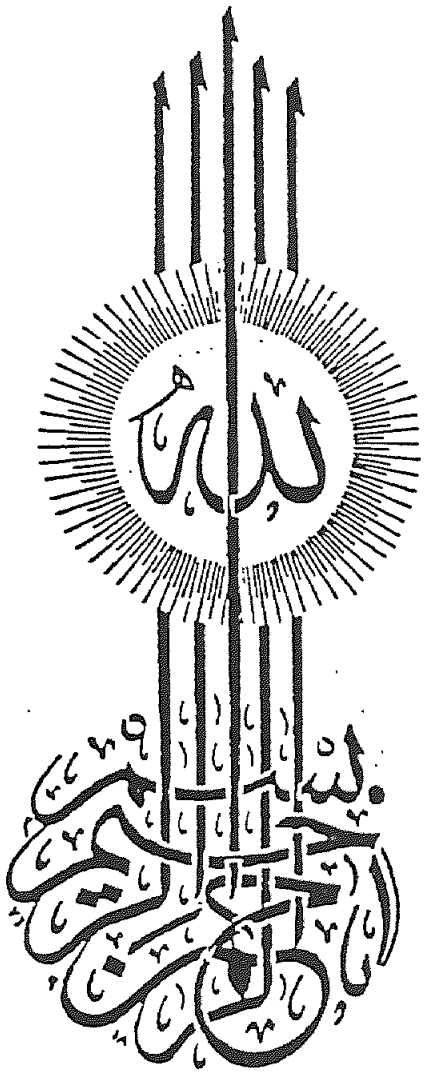

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا
عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ.

صَدَقَ اللهُ الْعَلِيُّ
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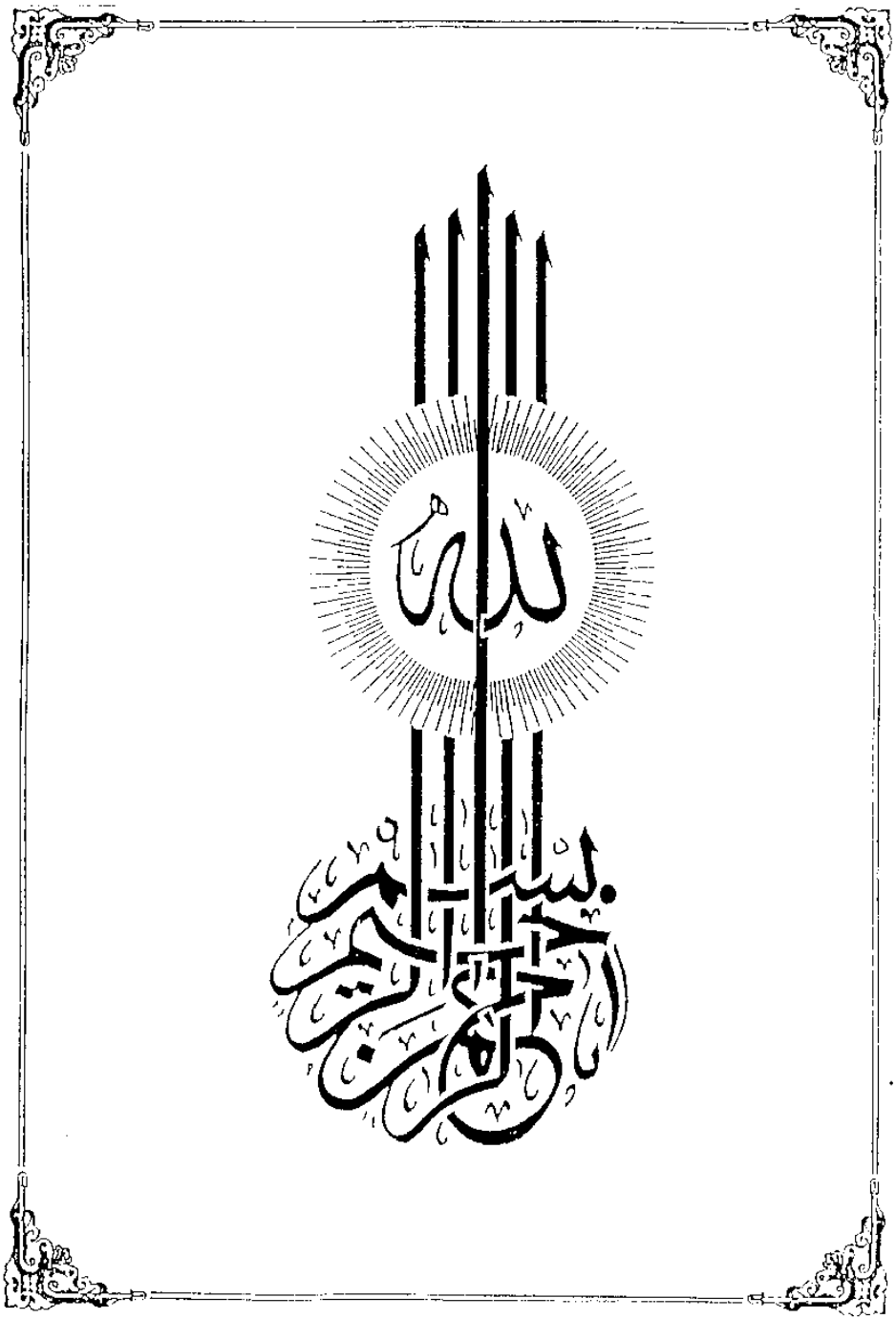

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To...

My Beloved Parents

AIN SHAMS UNIVERSITY

ACKNOWLEDGEMENT

I am extremely gratiful and thankful to GOD for without his mercy and help, this work would not have been accomplished.

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INTRODUCTION AND AIM OF THE WORK

INTRODUCTION

All surgical patients are at risk for the development of deep venous thrombosis and subsequent pulmonary embolism.

Several risk factors have been identified that increase the chance of the development of deep venous thrombosis. These factors include a history of deep venous thrombosis, presence of a malignant process, increasing age, cigarette smoking, obesity, prolonged bed rest and general anesthesia. The greater the number of risk factors, the more aggressive prophylaxis should be.

Means of prophylaxis have improved and surgeons now generally agree that some form of prophylaxis is required. Heparin and intermittent compression devices appear to be equally effective in preventing deep venous thrombosis. The addition of venous monitoring in high risk patients permits immediate identification of the presence of postoperative deep venous thrombosis.

The evolution of ultrasonographic imaging has increased the awareness of diagnosis, prevention, and treatment of deep venous thrombosis. Duplex imaging and Doppler color flow imaging have made the diagnosis of deep venous thrombosis

relatively simple, painless, inexpensive and definitive. These procedures have gained acceptance by both patients and physicians.

During the last decade, the treatment of patients with postoperative deep venous thrombosis has changed little. Heparin followed by warfarin remains the treatment of choice. Although the incidence of postoperative deep venous thrombosis has decreased during the last decade, it remains a significant complication.

Fatal pulmonary embolism has been reported in 0.5% to 1% of patients after major abdominal surgery and in 2% to 6% after total hip replacement.

AIM OF THE WORK

A medical record review in 16 hospitals recently disclosed that only 32% of high risk patients received prophylaxis with a range from 9% in a community hospital to 56% in a major teaching hospital.

So this work aims to increase the awareness of the problem of post operative deep venous thrombosis and pulmonary embolism, emphasis the seriousness of the disease and construct a plan for the diagnosis and management.

CHAPTER I

HISTORICAL BACKGROUND

CHAPTER (I)
HISTORICAL BACKGROUND

In 1856 Rudolf Virchow conducted meticulous autopsies on 76 patients, 11 of whom died from massive thrombi in the pulmonary arteries or right heart. In 10 of the 11 patients, he also found thrombi in the iliac and femoral veins. He concluded that the thrombi in the pulmonary arteries had in fact embolized from the pelvic and leg veins *(Warren R., 1980).*

Over the next century, other autopsy series confirmed that pulmonary embolism was the immediate cause of death in 5% to 15% of patients who died in the hospital *(Dismuke SE, Wagner EH, 1986).*

In 1959, more than 100 years after Virchow's original description, Sevitt and Gallagher *(Sevitt S, Gallagher NG., 1959)* noted an extraordinary high incidence of pulmonary embolism in patients with fractured hips. They found that pulmonary embolism accounted for 33% of all deaths in such patients and postulated that this high death rate could be deminished by prophylactic anticoagulation. In a landmark study, they reported a reduction in mortality from pulmonary embolism from 10% to 0% among patients who received the oral anticoagulant phenindione prophylactically. This was the first randomized prospective trial of anticoagulant prophylaxis.

CHAPTER II

INCIDENCE

CHAPTER (II)
INCIDENCE

The report of Sevitt and Gallagher *(Sevitt S, Gallagher NG, 1959),* sparked intensive study of the incidence of deep venous thrombosis and pulmonary embolism in patients with hip fracture. In patients with hip fractures who do not receive prophylaxis there is 44% average incidence of venous thrombosis demonestrated by venography in nine studies conducted between 1965 and 1973. The average incidence of fatal pulmonary embolism in hip fracture patients is 5.9%, based on 13 studies conducted between 1969 and 1976 *(Bergqvist D. 1983).*

The high incidence of fatal pulmonary embolism in patients undergoing emergency surgery for hip fractures prompted careful investigation of patients undergoing elective hip surgery. Five studies conducted between 1974 and 1979 showed an average incidence of fatal pulmonary emboli of 2.4% after such surgery. The overall incidence of venous thrombosis in such patients proved to be 52% by venography. It is of interest that venography empolyed preoperatively disclosed a 7.5% incidence of venous thrombosis in these inactive patients *(Bergqvist D., et al., 1976).*