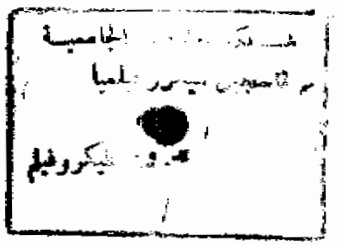
Recent Concepts in Management of Cancer Breast



Essay
Submitted in partial fulfilment for
Master Degree in General Surgery

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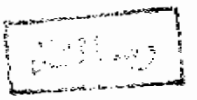

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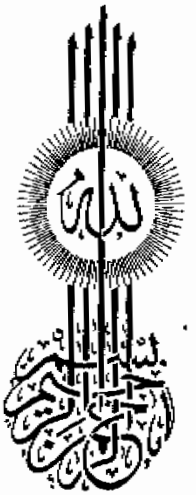
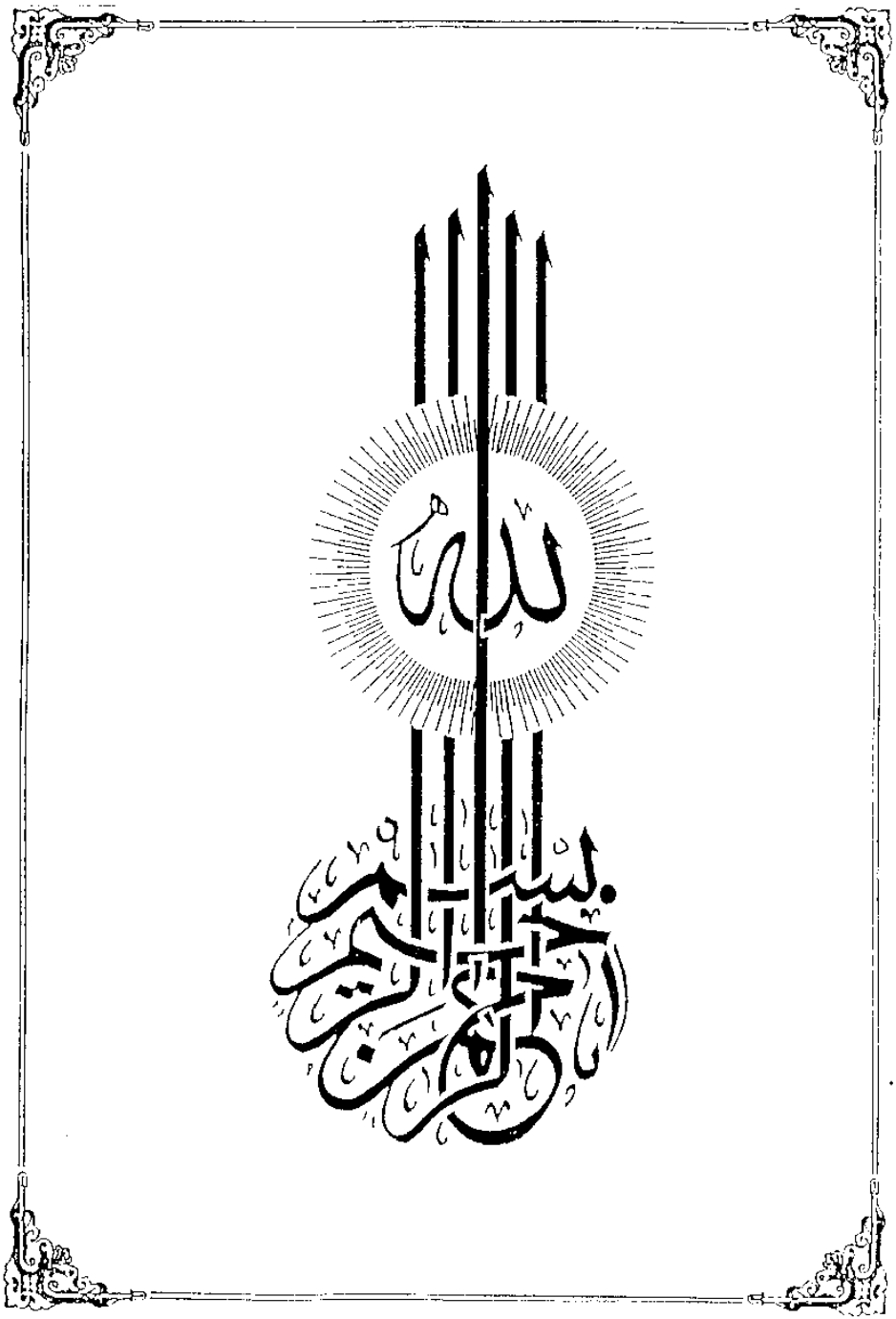
1994



قالوا سبحانك لاعلم لنا الا ما علمتنا
إنك أنت العليم الحكيم.

صدق الله العظيم



Acknowledgment

Words cannot adequately express my feelings to those who helped me to complete this work.

I would like to express my deepest gratitude to **Prof. Dr. Imam El-Sayed Ezzat Fakhr**, *Professor of General Surgery, Faculty of Medicine, for her encouragement and scientific help.*

I'm really indebted to **Dr. Hosam El-Deen Hassan Al-Azazi**, *Lecturer of General Surgery, Faculty of Medicine, for his kind guidance, unlimited help, and valuable advice*

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INTRODUCTION

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In the female, from the puberty to death, the breast is subjected to a constant dynamic role of physical changes related to the menstrual cycle, pregnancy, lactation and menopause. Associated with this active role are numerous malfunctions and dysfunctions that make diseases of the breast common clinical problems, **[Rush, 1989]**.

In spite of the apparent progress made in surgery, radiotherapy, and chemotherapy, the percentage of deaths caused by breast cancer has varied little over the past 30 years, **[Silverberg, 1983]**.

From the stand point of morbidity and mortality, cancer is by far the most important clinical problem that concerns the breast today, **[Rush, 1989]**.

Currently one of every two women will consult her physician for breast disease, approximately one of every four women will undergo breast biopsy and one of every nine women will develop some variant of breast carcinoma, **[Bland et al., 1994]**.

Efforts to enhance early detection and treatment of breast carcinoma have led to some of the most productive and exciting inroads into reducing mortality from this disease in select populations since Halsted's introduction of the radical mastectomy. Despite this potential for a favorable alteration of the natural history of carcinoma of the breast, however, its over all mortality has not been reduced

over the past 50 years. Over 90% of all breast cancers are still discovered as lumps averaging 2.5cm by women themselves, about 50% of whom have regional lymph node involvement and the majority of whom will still die of their disease, **[Frykberg et al., 1990].**

Early stages of breast cancer represent so far only a small fraction of the average clinical material. In larger treatment centers, the relative number of stage I tumors is approximately 10% to 25%, and according to the American College Of Surgeons, minimal carcinoma constitutes approximately 9.1% of primary breast cancer, **[Stegner, 1986].**

The major components of early breast cancer include those benign forms that pose a risk of future malignancy as well as in situ carcinomas and microinvasive carcinomas, **[Frgkberg et al., 1990].**

Marked changes in the therapy of breast cancer have occurred in the past decade, and there is every indication that continued alteration in management will evolve in the year ahead, **[Cady, 1990].**

Anatomy of The Breast

ANATOMY OF THE BREAST

Gross anatomy of the breast:

The breast form is very variable indeed, but the size of the base of the breast is fairly constant, **[McMinn, 1990].**

The mammary gland occupies the interval between the 3rd and the 7th rib and extends in breadth from the parasternal to midaxillary line, **[McVay, 1984].**

Blood supply of the breast:

The arteries of supply to the mammary gland are derived from the following sources:

(A) The perforating rami of the internal mammary artery.

(B) The arteries of mammary supply from the thoraco- acromial artery.

(C) Vessels come from the axillary artery or from its lateral thoracic branch, **[McVay, 1984].**

Smaller contributions to the arterial supply of the breast come from the intercostal and subscapular arteries and from the superior branch of the axillary artery, **[O'Higgins, 1991].**

Venous drainage of the breast:

Blood from the breast is drained by:

(A) The superficial subcutaneous veins:

The mammary glands have a rich, anastomosing network of superficial subcutaneous veins. The majority of these veins drain to the internal mammary vein. In some individuals these veins drain into the superficial veins of the lower neck, **[Rush, 1989].**

The superficial subcutaneous veins become markedly dilated during pregnancy and may sometimes become prominent over an area of underlying neoplasm, **[Rush, 1989].**

(B) Deep veins of the breast:

The deep veins of the mammary gland drain along routes roughly corresponding to the arterial blood supply, **[Rush, 1989].**

1- Perforating branches of the internal mammary vein; These are the largest veins draining the breast. They are coming through rib interspaces and emptying finally into the innominate veins, thence to the pulmonary capillary network, **[McVay, 1984].**

2- Multiple tributaries to the axillary vein; The axillary vein has many inconstant tributaries from chest wall, pectoral muscles, and the breast, leading to the pulmonary network, **[McVay, 1984].**

3- The intercostal veins; One of the most important routes of venous drainage from the breast, travel posteriorly to the vertebral veins and thence to the azygos veins and superior vena cava. They are a third pathway from the breast to the lungs, **[McVay, 1984].**

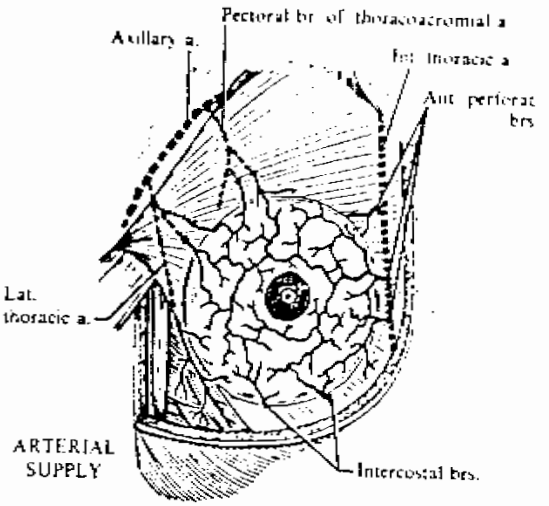

Fig. (1): Arterial Supply of the Breast

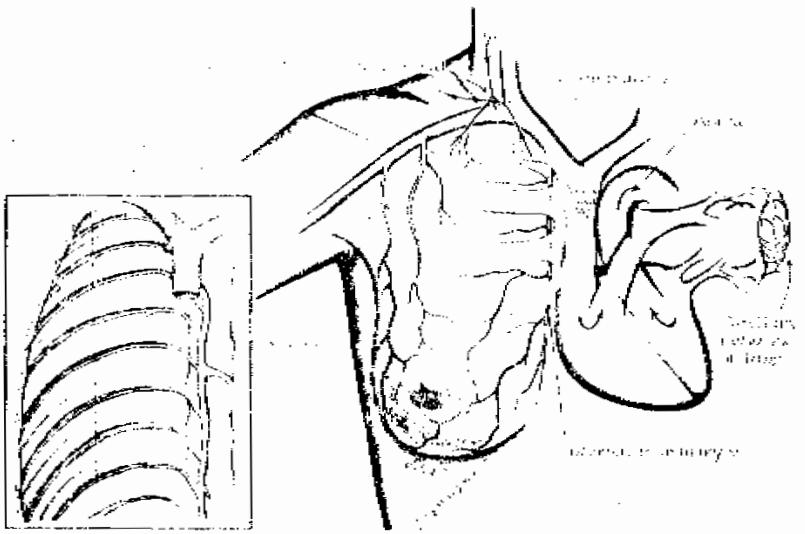

Fig. (2): Venous Drainage of the Breast