BREAST INFECTIONS
PATHOGENESIS, CLINICAL PICTURE, DIAGNOSIS AND TREATMENT

ESSAY

Submitted in Partial Fulfilment for the
Master Degree « General Surgery »

By
Mohamed Abdel Sabour Izel - Arab
M. B., B. Ch.

Supervised by

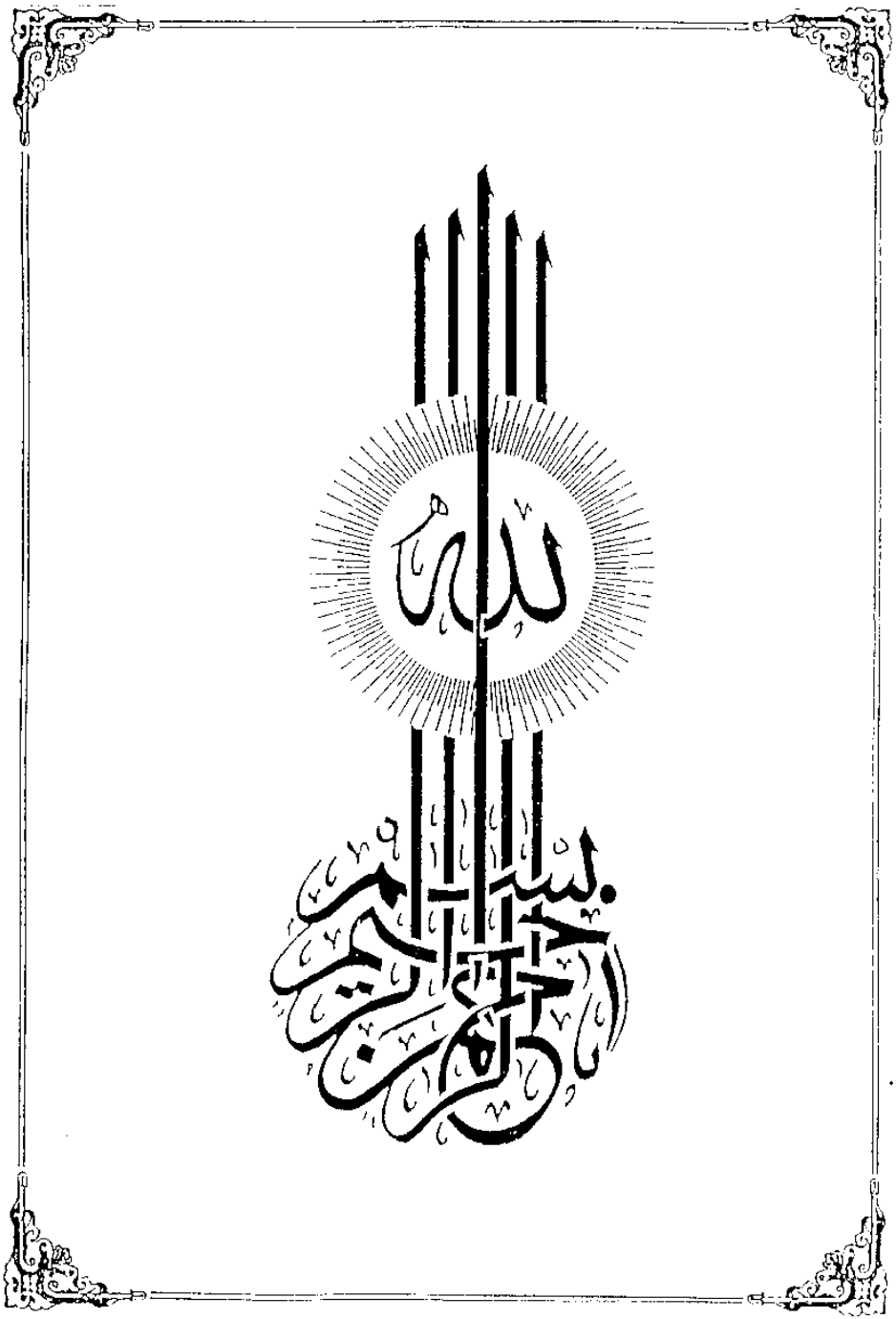
Prof. Dr. HAMDY MAHMOUD ABDALLA
Professor of Surgery

Faculty of Medicine
Ain Shams University

1984

• وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون •

• صدق الله العظيم •



A C K N O W L E D G M E N T

I would like to express my deepest gratitude to Prof. Dr. HAMDY M. ABDALLA, Professor of Surgery, Faculty of Medicine, Ain Shams University, for his encouragement, intensable guidance, unlimited effort and valuable time he freely offered during the course of the study.

This work owes its final shape to him and I will always remain deeply indebted to him.

C O N T E N T S

INTRODUCTION

AND

AIM OF WORK

INTRODUCTION

Breast infections are not uncommon and consists relatively of some forms of superficial and deep infections. The most important of these, is the non-specific acute mastitis and breast abscess which are confined to lactating period and how to deal with those patients in the presence of lactation.

Tuberculous mastitis is a relatively uncommon breast lesion and usually secondary to tuberculous rib, axillary or cervical lymph node. Syphilitic chancer of the nipple and areola is rare due to advancement and dramatic effect of penicillins.

Mammary duct ectasia is a benign lesion of obscure etiology and it is of clinical importance to the surgeon because the patient may present with episodes of acute inflammations that suggest infection, or may present with breast lump, enlarged axillary lymph nodes and the condition misdiagnosed as carcinoma. This may betray the surgeon into doing unnecessary radical mastectomy.

Actinomycosis is a bacterial infection which is characterized by formation of granulomatous draining sinuses from which pus containing sulphur granules exudes. The organism responds to penicillins and tetracyclins. Hydatid cysts , leprosy and sarcoid are very rare.

REVIEW OF LITERATURE

- ANATOMY.
- HISTOLOGY.
- BLOOD SUPPLY.
- LYMPH DRAINAGE.
- PHYSIOLOGY.

Anatomy :

The immature female breast and the male breast throughout life resemble each other. It is rudimentary consists of few ducts embeded in fibrous tissue. In both the nipple is small but the areola is fully formed.

At puberty, the female nipple and breast both enlarge and thereafter retain the female form throughout life. The female form is very variable but the size of the base of the breast is fairly constant (Last, 1973).

It lies directly over the pectoralis major and extends to serratus anterior and external oblique.It extends vertically from the second rib to the sixth rib in the midclavicular line, and transversely at the level of the fourth costal cartilage from the lateral border of the sternum to the anterior axillary line. Actually a thin layer of mammary tissue extends considerably further on all sides, viz:to the clavicle above, to the seventh or eighth ribs below, to the midline medially and to the edge of the lastissimus dorsi posteriorly (Snell, 1981).

The axillary tail of spence is a prolongation from the outer part of the gland which passes up to the level of the 3rd. rib in the axilla, where it is

in direct contact with the main lymph-glands of the breast (anterior axillary glands).
This process of breast tissue gets into the axilla through an opening in the axillary fascia known as the "foramen of larger". It follows that the axillary tail is under the deep fascia, and not like the rest of the breast, superficial to this layer (Plessis, 1975).

The mammary gland consists of 12 to 20 glandular lobes, much like a bunch of grapes, with the stems representing the ramifying ductal system. The ducts are surrounded by specialized connective tissue, the periductal tissue which is under hormonal control and is different from the general stroma of the breast. Each lactiferous duct enlarges as it picks up more ductules and runs toward the nipple. Each duct has an ampullary opening on the surface of the nipple.
Each of the orifices in the nipple, corresponds roughly to a trunkated segment of breast which it drains, a fact of importance in the investigation of bleeding or other discharge from nipple (Richard and Wilson, 1982).

The mammary gland is ectodermal in origin and situated between the superficial and deep layers of superficial fascia. It is embeded in the subcutaneous fat, which usually obscures the lobules from sight and touch. There is no fat beneath the nipple and areola. The deep layer of superficial fascia passes immediately deep to the mammary gland and is continuous on to the abdominal wall, where it blends with the superficial abdominal fascia of scarpa,between this fascia and the deep fascia over pectoralis major is a submammary space in which the lymphatics run. Connective tissue extensions of this deep layer may pass across the retromammary space and unite with the deep pectoral fascia on the pectoralis major muscle. These fascial bands support the breast by lying it down to the underlying pectoral fascia. (Haagensen, 1971).

The glandular portions and the fat of the mammary gland are arranged within a connective tissue supporting stroma that resembles a trabeculated sponge having thicker bands that serve as suspensory ligaments of cooper. These thickened connective tissue bands are well developed in the upper portion of the breast and

not only subdivide the fat of the breast and the glandular tissue but attach these structure firmly to the skin.

The attachment of these ligaments from the skin to the deep layer of the superficial fascia is not directly continuous with the underlying deep fascia. A retromammary space is present, which permits mobility of the breast. These ligaments account for the dimpling of the skin in lesions of the breast accompanied by fibrosis.(Rehman, 1978).

The nipple is a cylinderical or conical eminence situated about the level of the fourth intercostal space. It is of a pink or brownish blue and its surface is wrinkled and provided with secondary papillae. It is perforated by from fifteen to twenty orifices, the operatures of lactiferous ducts. The base of the nipple is encircled by a coloured area of skin called the areola. Near the base of the nipple and upon the surface of the areola, there are numerous glands, termed the areolar glands or glands of montgomery, which become much enlarged during lactation and present the appearance of small tubercles beneath the skin, they secrete apecular fatty substance which serves as a protection to the skin of the nipple.(Grey, 1973).