BENIGN TUMOURS OF THE BREAST AND ITS RELATION TO MALIGNANCY

Essay

SUBMITTED IN PARTIAL FULFILMENT

FOR MASTER DEGREE IN

(GENERAL SURGERY)

By

Mohamed Amin Aly Ghaly

M.B., B.Ch.

SUPERVISED BY :

Prof. Dr. Tawfik Souidan

Prof. of General Surgery

Faculty of Medicine

AIN SHAMS UNIVERSITY

A. Prof. Dr. El-Zarif A. Aly

Assist. Prof. of General Surgery

Faculty of Medicine

AIN SHAMS UNIVERSITY

FACULTY OF MEDICINE

AIN SHAMS UNIVERSITY

1986

Central Library - Ain Shams University

بِسْمِ اللهِ الرَّحْمٰنِ الرَّحِيمِ

وَبِهِ نَسْتَعِين

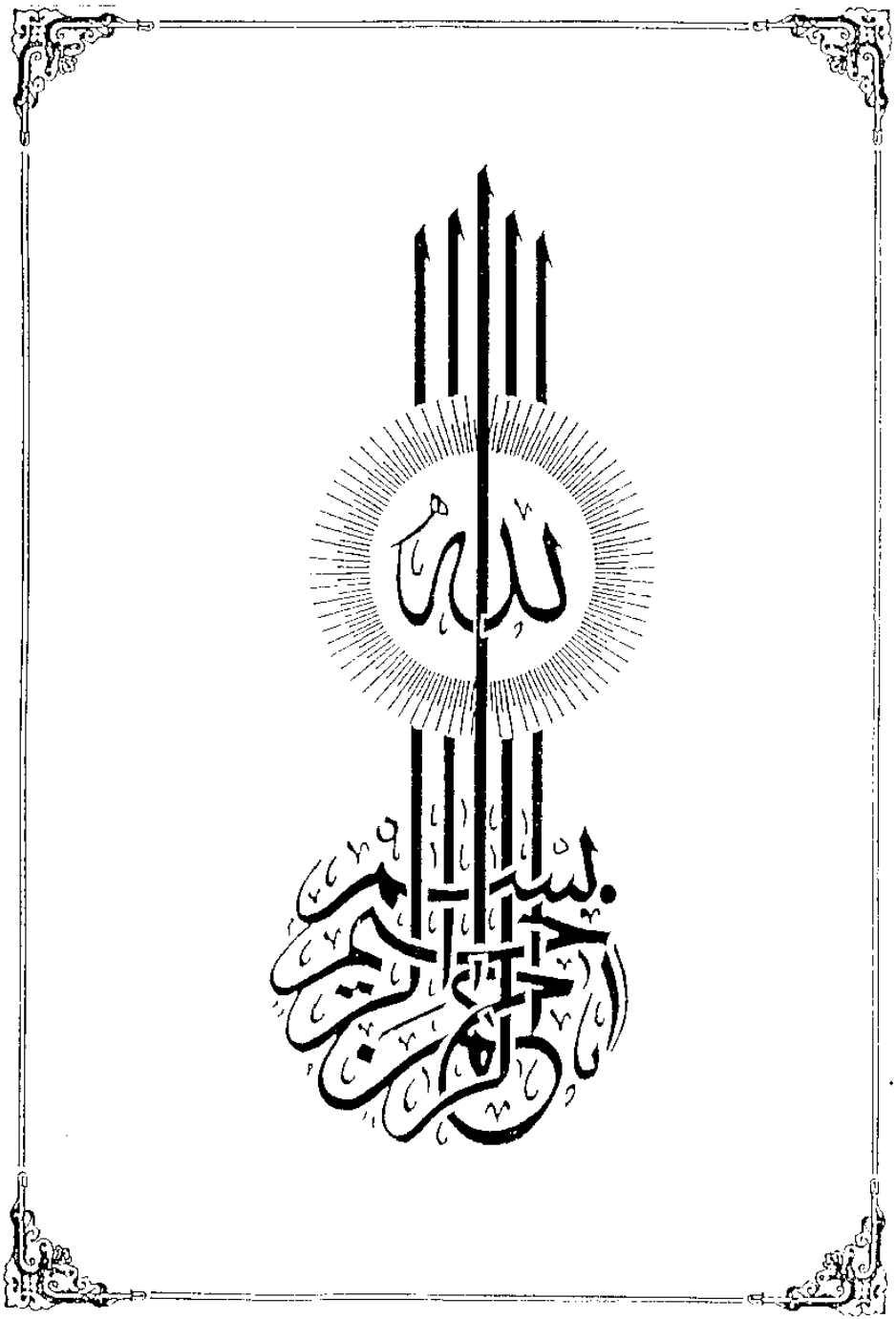
"رَبَّنَا ...

آتِنَا مِن لَّدُنْكَ رَحْمَةً ...

وَهَيِّئْ لَنَا مِنْ أَمْرِنَا رَشَدًا"

صَدَقَ اللهُ العَظِيم

Central Library - Ain Shams University



Central Library - Ain Shams University

ACKNOWLEDGMENT

I would like to express my deepest gratitude to Prof. Dr. Tawfik Souidan for his guidance and invaluable advice and record my appreciation to Assi. Prof. Dr. El-El-Zarif A. Aly for his supervision and encouragement.

I wish also to thank all those who helped me in ccomplishing this work.

Central Library - Ain Shams University

CONTENTS

Central Library - Ain Shams University

INTRODUCTION

Central Library - Ain Shams University

INTRODUCTION

The breast has always been a symbol of womenhood and ultimate fertility. Cosmotic considerations, and fear of infertility have hindered early diagnosis and prompt treatment of breast cancer from times of earliest recoded history until today. (Wilson, 1981).

At any age after puberty, benign tumours may occur as freely movable masses of various size. The greater number are recognized in patients under 40 years of age. Unless there is some mitigating circumstance in a particular patient, every tumour of the mammary gland should be removed and submitted for pathologic study. This circumstance, must be of greater moment than the probability of malignancy of the benign-appearing tumour.

An early carcinoma may be present in a contiguous part of the breast and may not be noted until the benign tumor is removed.

The relative incidence of benign to malignant tumours is difficult to estimate because many benign tumours have never been treated.

Benign tumours of the skin and fatty envelope covering the breast are the same as those of the skin and subcutaneous tissue of any other part of the body and treated in the same manner. (Jorstad, 1964).

Central Library - Ain Shams University

Carcinoma of the breast remains as a great problem to women in the developed countries. Over 10000 women die of the disease in the United Kingdom every year; it ranks as the commonest cancer in women and the commonest cause of death amongst women in the 35-55 age group. Any individual woman in her life-time stands a I in 14 chance of developing the disease. (Baum, 1980). There is general agreement that the earlier the diagnosis, the more favourable should be the long-term survival rate. (Oneal and Blackburn, 1979).

Public awareness of breast cancer has increased recently. Benign breast disease is also important, however, since the presence of a breast mass raises the possibility of cancer and also because certain epithelial lesions in benign breast disease have been associated with an increased risk of malignant change. (Raju et al., 1985).

There is increasing number of patients who are diagnosed at an early stage of the disease. This improvement must be attributed to several factors - to the public's growing awareness of the need for early detection and therapy; to the clinician's awareness of the problem; and to the advent of improved laboratory diagnostic aids, particularly mammography, which is the most effective means for detecting minimal lesions, and can often detect them in the absence of any physical sign. (Urban, 1978).

Central Library - Ain Shams University

The surgeon now has modern statistical methods, histopathologic studies and the choice of a variety of agents to help him select the most successful therapy for a given patient. (Wilson, 1981).

Central Library - Ain Shams University

HISTORICAL REVIEW

Central Library - Ain Shams University

HISTORICAL REVIEW

In the Edwin Smith Surgical Papyrus, the earliest known medical record (3000-2500 B.C.), description is made of bulging tumours of the breast that were differentiated from abscess and mastitis. Celsus, a Roman scholar in the first century A.D., emphasized the danger of operating on the breast if cancer was present rather than leaving the tumour in place, a point stressed 1800 years later by Haagensen. Galen wrote, "Cancerous tumours are found ... in the breast of women, after cessation of menstruation, which, so long as it is regular, preserves good health. He conceived of melancholia as the cause of cancer. Leonides of Alexandria was the first to stress that nipple retraction was an important clinical sign of breast cancer. Vesalius placed the anatomy of the breast and axilla in proper perspective and advocated wide surgical excision with ligature control of bleeding vessels rather than cautery.

It remained for Le Dran in the eighteenth century to point out that at its earliest stage, breast cancer was a local lesion; that it spread to regional nodes via lymphatics; and that early operation provided the best change for cure. (Wilson, 1981).

Most authors when purporting to describe the natural history of the disease, refer to the classical paper of

Central Library - Ain Shams University

Bloom (1968) describing the experience in the Middlesex Hospital cancer ward in the last century. (Baum, 1980).

The search for a definite precancerous lesion has been long, diligent, and progressive. It was concluded that atypical epithelial hyperplasia of both large and small ducts is the lesion of significance. As McDowell, 1973 has pointed out, it seems reasonable to assume that the prophylactic removal of 95 to 99 percent of the breast tissue in those women with an expected higher incidence of breast cancer would significantly reduce the incidence of and thereby death from cancer of the breast. (McDowell,1973).

Central Library - Ain Shams University

c

ANATOMY

Central Library - Ain Shams University

ANATOMY OF THE BREAST

The mammae (or the breasts) exist in both sexes. In male they are rudimentary throughout life; in the female they are undeveloped before puberty, but undergo considerable growth and elaboration at and after puberty.

The male mamma is rudimentary and consists of small ducts, together with a little adipose and fibrous tissue. Sometimes the ducts are largely represented by solid cellular cords. Generally the duct system does not extend beyond the limits of the areola which is, however, well developed. The mammary papilla is relatively very small (Warwick & Williams, 1973).

The female breast: In young adult female, each breast forms a rounded eminence lying within the superficial fascia chiefly anterior to the thorax, but spreading variably on to its lateral aspect. Its shape varies markedly in different individuals, and races, and in the same individual at different ages (Warwick and Williams, 1973).

It extends from the sternum to the anterior axillary line and from the second to the sixth ribs.

It has a lateral extension, the axillary tail (of Spence) which runs upward and laterally through a defect in the axillary fascia (Lange's foramen) to lie within the axilla itself. (Charles, 1980).

Central Library - Ain Shams University

Embryology and Congenital Abnormalities:

The mammary gland is derived embryologically from the ectoderm. Mammary primordium appears about the fourth week of embryonic life in the 8 mm embryo.

It presents as a longitudinal cutaneous thickening situated on either side of the midline and extending from the axillary to the inguinal region. The initial epidermal mammary ridges regress rapidly so as to leave, by the fifth month of intrauterine life, no more than a bilateral epithelial bud in the thoracic region, raised by mesenchymatous proliferation.

The mammary bud will give rise to 15-25 secondary epithelial growths arising from the deep surface of the mammary ridge. These then proceed to ramify and constitute the beginnings of the lactiferous ducts.

By the eighth month the epithelial cords became hollowed out to form tubes; at the same time preliferation of the connective tissue stroma in the central region forms the nipple.

Hereafter no further development of the breast until birth when, under the influence of maternal hormones, the primordial lactiferous ducts ramify and produce a transitory milky secretion (Witch's milk).

In the prepubertal, there is a slow and steady development with growth and ramification into secondary and

Central Library - Ain Shams University