NEW SCOPES ON
ADVANCED CANCER BREAST

AN ESSAY SUBMITTED FOR THE PARTIAL FULFILMENT

OF THE MASTER DEGREE IN GENERAL SURGERY

BY

DR. GABY AZER PHILIPPE

M.B. B.CH

UNDER SUPERVISION OF

PROF. MOHEY EL DIN SEDKEY

Prof. of General Surgery

Faculty of Medicine

Ain Shams University

DR. EL ZARIF ABD - EL NABI ALI

Ass. Professor of General Surgery

Faculty of Medicine

Ain Shams University

FACULTY OF MEDICINE

AIN SHAMS UNIVERSITY

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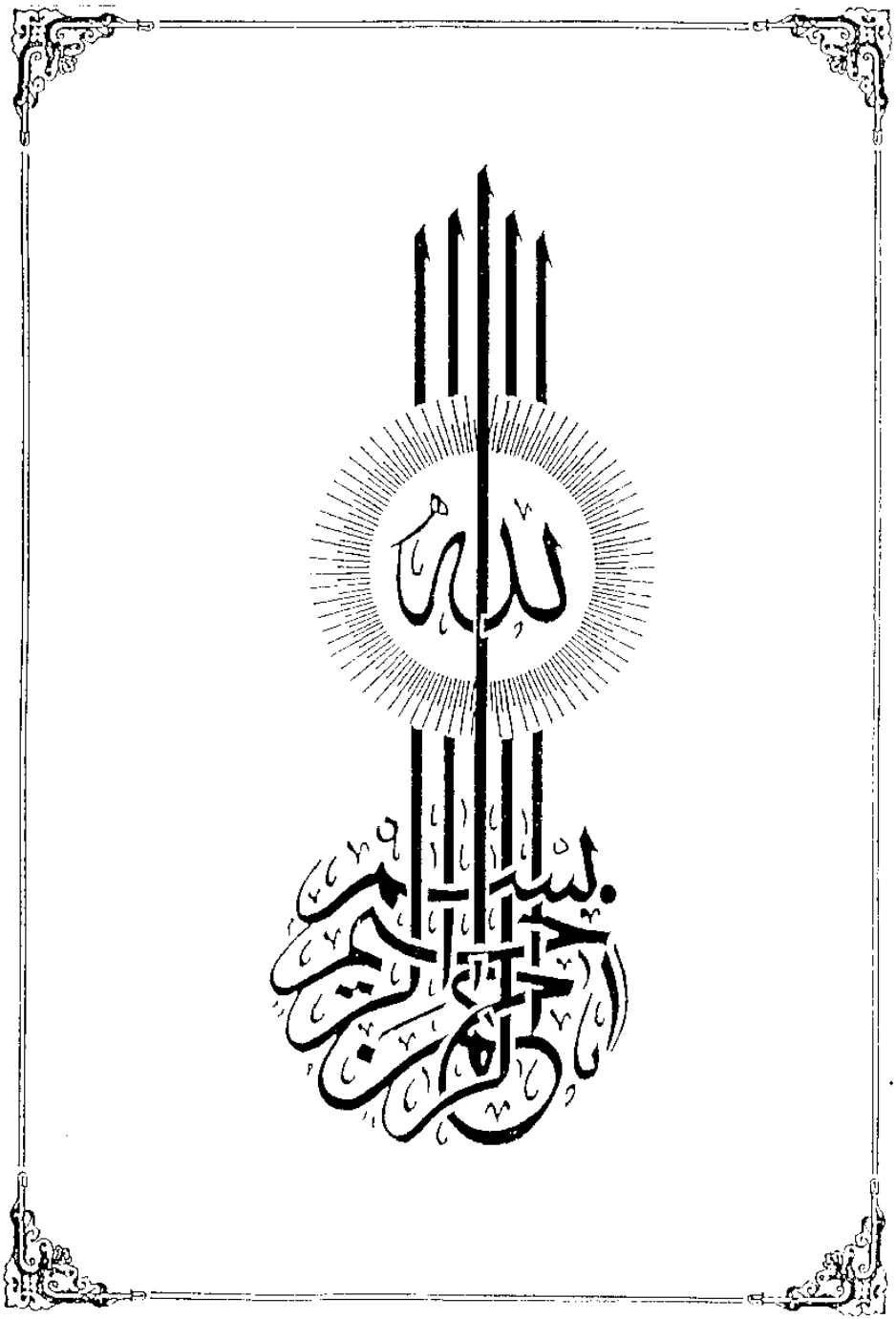
To my wife



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Dr . Gaby Azer

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Introduction

Advanced carcinoma of the breast is a common disease in the surgical departement in Egypt . This disease needs a team approch & the close cooperation of the surgeon , radiotherapist & the the chemotherapist etc ..

With the increasing complexcity of mangement programes & with opposing claims , a review of the current status of handling & mangement is presented in this work . Also a trial for updating , discussing controversy on important knowleages concerning advanced carcinoma of the mammary gland is done .

Historical Review

Historic Review

Over 12000 women die of breast cancer every year in the U.K. It ranks the commonest cancer in women & the commonest cause of death amongst women in the 35 - 45 age group. Any idividiual woman in her life time stands a 1 in 14 chance of developing the disease.

Cancer of the breast has been recognized as an entity since the time of ancient Egyptians. An early papyrus describes how it is differentiated from mastitis. No treatment was advocated other than cautery for ulcerated tumour. Surgery for breast cancer was practised by the ancient Greeks. But Hypocrates considered no treatment at all was superior to surgery ,propably a very wise opinion in these days.

In Rome ,at the time of celsus ,a protype of radical mastectomy (total removal of the breast) was propably being performed. This can be deduced from the fact that celsus in an ancient text advices against the removal of certain muscle at the time of removal of the breast. In some way, he also distinguished between early and advanced disease ,recognizing the futility of surgery in the latter.

In the doctrines of Galen who dominated medical thinking between the classical period & the Renaissance, he described several causal factors for such disease as

melancholia ,special diets ,he recomended some topical applications etc.....

During the Renaissance ,Vesalius & Fabricus again recomended mastectomy with a wide surgical excision of the tumour.

Le Dran (1685 - 1770) recognized that tne disease spread to the regional lymph nodes in the arm pit (axillary lymph nodes) & advocated that they were removed if enlarged. He was propably the first to describe the poor outlook associated with involvment with the lymph nodes; A clinical observation of far reaching importance.

Petit (1674 - 1750) advocated removal of the primary growth & axillary nodes in continuity with it. It is difficult to judge the sucess rate of these procedures ,because of the absence of formally controlled statistics of recurrence rates & and survival. However there is advocated evidences that some women survived the operations performed under such primitive circumstances & went on to enjoy normal expectation of life.

In the middle part of last century surgeons started to keep reasonable records of these experiences in treating brest cancer , Sir James Paget's experiences (1853) of 74 cases treated by mastectomy with 100 %

recurrence rate within 8 years is propably fairly typical of that era.

In 1842 James Syme ,stated "it appears that the results of operations for carcinoma ,when the glands are involved is almost always unsatisfactory however perfectly they may seem to have been taken away".
It has taken over 100 years to recognize the wisdom of Sir James Syme. In spite of these observations surgeons persisted in their attempts to clear the axilla perfectly. Thus Banks (1878) advocated routine removal of axillary nodes ,as he recognized that even unpalpable nodes contain tumour on occasions.

So it would appear that prior to Haldset's description of Radical mastectomy in 1890 ,Surgeons were already carrying on routine removal of the axillary nodes ,in addition to removing the breast with or without the breast musculature.

In 1880 Gross published a treatise on the treatement of tumours of the mammary gland which is considered as base line on which to judge the validity of the classical radical mastectomy. Most operations were being carried out for locally advanced cancer rather than small breast lump. Gross described a series of 650 cases ,70 % of whom had skin infiltration on presentation ,& in 25 % skin ulceration were present. 2/3of the cases has obviously involved axillary nodes &

1/3 of the cases had palpable supraclavicular nodes . 59 cases were operated upon more than half being treated by simple mastectomy and the rest with simple mastectomy & axillary clearence. There were 17 % operative deaths , 80 % local recurrences ,9 % survived 10 years.

From postmortum studies he demonstrated that 118 of the cases had metastases in bones without glandular involvement & even postulated that the spread of the disease was via blood stream rather than the lymphatic system.

From similar studies he noted that nodes removed because they were thought to be involved with tumor often showed bengin changes & that all such patients went on to survive for more than 6 years.

On referring to Halsted's early publications concerning the results of the radical mastectomy ,one reads of a high proportion of 3 years cures rate. His criteria for cure wouldn't be accepted by today's standars. To get a true perspective of the long term outcome of his methods of treatement it is necessary to consult the records of John Hopkins hospital in Baltimore between 1889 - 1931 . During this period nearly 900 patients were operated upon by Halsted or his students. 6 % died soon after the operation ,the local recurrence rate was 30 % ,the 10 years survival rate was 12% . So it can be seen that at the turn of the century

the introduction of the radical procedure improved local control of the disease without influencing long term survival.

Between 1930 & 1950 there were apparent improvements in the treatment of the breast cancer ,propably resulting from the interaction of many factors. For example ,earlier presentation of the disease due to better health education.

The developement of clinical methods of classifying the stage of progression of the disease appeared almost simultinuosly in Egland & America.
2 staging systems were developed which divided breast cancer into different groups of patients with outlook predicted on the bases of clearly defined clinical signs.

In the early 1940 s the Manchester staging sytem was described in England. In 1943 Haagensen in America described the columbia clinical classification. As a result of better & better selection ,the 10 years survival rates following mastectomy improved from about 10 % in 1920 to 50 % in 1950.

Quoted from " Breast cancer the fact " Oxford university press by Michael Baum 1981 King's college Hospital".

Anatomy

Anatomy of the breast

Topography

The mammary gland is a modified sebacuous gland ,as a subcutenuous organ which lies between the 2 layers of the superficiel pectoral fascia chiefly anterior to the thorax. It has a protuberant conical form which becomes flatened & pendulous with age. It extend from the second rib (at the level of the 4 th costal cartilage) to the sixth rib in the mid -clavicular line & from the lateral border of the sternum to the anterior axillary line. A thin layer of mammary tissue extend farther in all sides viz : to the clavicle above to the 7 th or 8 th rib below to the midline medially & to the latissimus dorsi laterally. This fact is of importance to a surgeon when he seeks to remove the whole breast. (A J H Rans & H D Ritche 1980).

The breast is separated from the pectoralis major by the deep fascia (pectoral). The part of the breast which lies beneath the deep fascia is the axillary tail of spence which passes through the foramen of Langer in the deep fascia & is in contact with the axillary lymph nodes (Williams RL & Warwrick R 1984).

Parts

With the nipple & areola in the center ,the breast is divided into 4 unequal quadrants. During clinical

examination & diagnosis it is important to precise the site of the mass as it is valuable regarding nodal managment & radiation field.

Structure

(Romanes 1976) said that the structure of the breast is made up of :

1) The mammary gland (epethelial part).
2) Fibrofatty superficiel fascia in which lobes &lobules of the mammary gland are embeded together with the blood vessels ,lymph vessels & nerves.
3) Overlying skin with the nipple & surrounding zone of pigmented skin, the areola ,the gland has no capsules. The lobule is the basic structural unit of the gland, from 10 to 100 form a lobe & the breast is made of 15 - 20 lobes. From the lobules ductules empty in lactiferous duct which dilate as an ampulla before there terminations.

The ligaments of coopers :

These are hollow conical bands of fibrous tissue filled with breast tissue ,& anchor the breast to the overlying skin (attached to the dermis by its apices & to the underlying pectoral fascia). If malignant cells grow along this fibrous processes,there is contraction & dippling of the skin (due to shortening) and if they grow toward the pectoralis major fascia ,the mammary