ADJUVANT CHEMOTHERAPY IN THE MANAGEMENT OF BREAST CANCER

ESSAY

SUBMITTED IN PARTIAL FULFILMENT

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General Surgery

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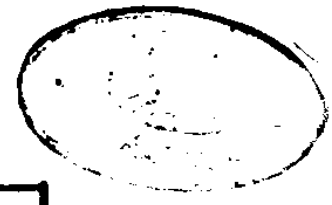

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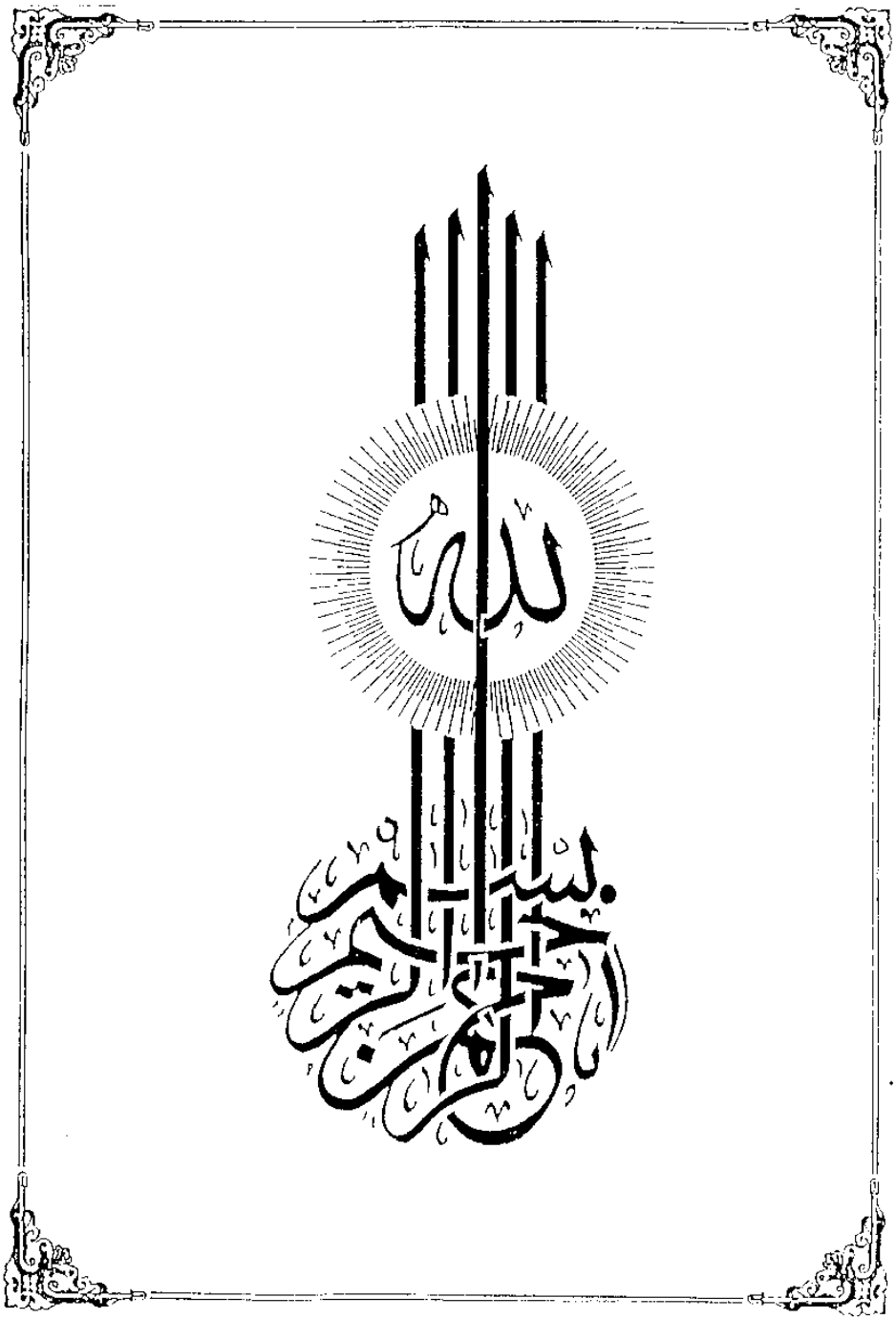

TO MY PARENTS

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CONTENTS

List of abbreviations used

AG	= Aminoglutethimide
AJC	= American Joint Committee
AV	= Adriamycin + Vincristine
AVCF	= Adriamycin + Vincristine+ Cyclophosphamide + 5-Fluorouracil
CAFVP	= Cyclophosphamide + Adriamycin +5-Fluorouracil +Vincristine+Prednisone
CALGB	= Cancer And Leukemia Group B
CMFVP	= Cyclophosphamide, Methotrexate+ 5-Fluorouracil+ Vincristine+Prednisone
CSC	= Committed stem cells
CTSC	= Committed tumour stem cells
DFS	= Disease-free survival
ECOG	= The Eastern Cooperative Oncology Group
ER	= Estrogen receptor
LN	= Lymph node
L-PAM	= L-phenylalanine mustard
N^+	= Node positive
N^-	= Node negative
NOS	= Not Otherwise Specified
NSABP	= National Surgical Adjuvant Breast Project
OS	= Overall survival
PFT	= L-PAM +5- FU+ Tamoxifen
PR	= Progesterone receptor
PSC	= Primary stem cell
PTSC	= Primary tumour stem cell
RFS	= Relapse-free survival

RLN	= Regional lymph node
T	= Tamoxifen
T.N.M.	= T =tumour, N =lymph node, M =distant metastasis
UICC	= International Union against Cancer classification
WHO	= World Health Organisation
WMOA	= The West Midlands Oncology Association

Introduction

Adjuvant chemotherapy of breast cancer is drug therapy administered after curative intent loco-regional treatment to eradicate microscopic deposits of metastatic disease outside the scope of further surgery and / or irradiation.

The clinical logic of adjuvant chemotherapy in breast cancer is that breast cancer is a systemic disease in many women at diagnosis despite the fact that clinically evident disease can only be found locally in breast and regionally in draining region lymph nodes. It has been shown that more than half of the patients with apparently localized disease at diagnosis have micrometastasis .

Adjuvant chemotherapy can be used as pre-,peri,and /or post-operatively.

Aim of the work:

Adjuvant chemotherapy in selected patients at high risk for metastatic disease has both theoretical and practical advantages. The integration of primary treatment and adjuvant chemotherapy is under investigation, regarding the selection of patients for adjuvant chemotherapy, the synergism of interference of one therapeutic modality with another, the integration and sequential timing of these agents and their immediate as well as well as their long-term cumulative toxicities.

PART

I

SURGICAL ANATOMY OF THE BREAST

SURGICAL ANATOMY OF THE BREAST

Topography of the breast:-

The adult mammary gland is situated entirely within the superficial fascia of the anterior chest wall. Its base extends roughly from the 2nd rib superiorly to the 6th or 7th rib inferiorly, and from the sternal margin medially to the midaxillary line laterally, but may extend to the anterior border of the latissimus dorsi.

The two thirds of the base of the breast lies anterior to the pectoralis major . The remainder lies anterior to serratus anterior muscle. A small part lies over the aponeurosis of the external oblique (Spratt, 1979).

There is a prolongation of upper lateral quadrant towards the axilla. This tail of Spence of the breast tissue enters a hiatus of Langer in deep fascia of the medial axillary wall. This is the only breast tissue found beneath the deep fascia (Lange, 1986).

Fascial anatomy:

The superficial fascia of the anterior thoraco - abdominal wall consists of a superficial fatty layer and a deeper membranous layer. The mammary gland grows into this superficial fatty layer and acquires a covering of

fat. This layer of the fatty areolar tissue is continuous below with Camper s fascia and above with superficial cervical fascia .Superioriy the lower fibers of the platysma separates it from the deep pectoral fascia.

The superficial layer of the superficial fascia immediately beneath the skin is extremely thin.(Osteen and Aziza, 1983).

Posterior to the glandular tissue is a potential space -the retromammary space -between the deep membranous fascia and deep dense pectoral fascia. This space permits mobility of the breast (Spratt,1979) The breast's dense interlobular network of connective tissue was first discovered by Cooper . Fibrous projection from the posterior aspect of the breast cross the retromammary space of the pectoral fascia.

These projections have provided one anatomical rationale for resection of pectoralis muscles in radical mastectomy.

The breast is firmly attached to the overlying skin in the area of the areola by the connective tissue stroma that accompanies the mammary ducts.

The fibrous network also form arch-like projection from the outer surface of glandular tissues to the superficial fascia located under the skin. Cooper's ligaments suspend the breast from overlying

skin.

The thickened connective tissue bands are more developed in the upper portion of the mammary gland (Osteen and Aziza,1983)

Pectoral fascia:

This covers the pectoralis major muscle . Medially it is attached to the sternum and superolaterally to the clavicle and axillary fascia. Inferiorly it is continuous with the fascia of the abdominal wall. The deep surface of the pectoralis is covered by strong clavipectoral fascia, which envelops the pectoralis minor muscle. Superficial to the pectoralis minor muscle, it forms a plate with attachment to the clavicle. The plate of clavipectoral fascia superior to the pectoralis minor muscle is pierced by the anterior thoracic vessels and nerve and by the cephalic vein.

This fascial plate is analogous to the roof of the axillary space.Below and lateral to the pectoralis minor muscle, it fuses with the deep fascia coming from the anterior surface of the pectoralis major. This continues as a thin cover for the serratus anterior muscle . The fascia envelops the axillary vessels, forming the vascular sheath (Spratt, 1979).