MULTIPARAMETRIC STUDY OF CERTAIN TUMOR MARKERS IN BREAST CANCER

Thesis

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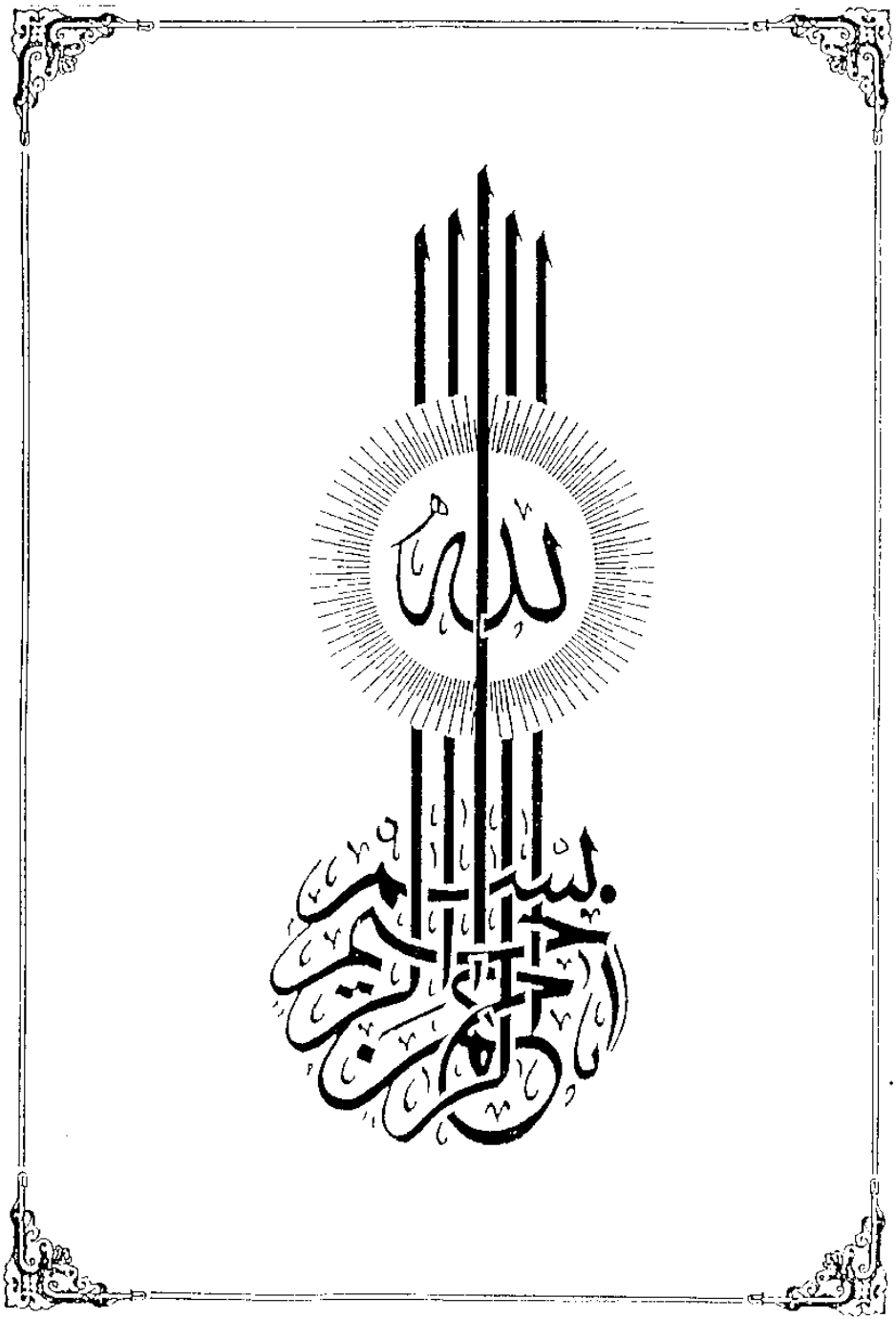

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

List of abbreviations

Ab	:	Antibodies
AFP	:	Alphafetoprotein
AJC	:	American Joint Committee for Cancer
APR	:	Acute phase reactants
β-HCG	:	Beta subunit of human chorionic gonadotropin
CA 15.3	:	Cancer antigen 15.3
CA 19.9	:	Cancer antigens 19.9
CA 125	:	Cancer antigen 125
Car.	:	Carcinoma
CBG	:	Corticosteroid binding globulin
cDNA	:	DNA coding sequence
CEA	:	Carcinoembryonic antigen
CMF	:	Cyclophosphamide, methotrexate,5-fluoracil
DCC	:	Dextran coated charcol
DEAE	:	diaminoethyl aminoethylene
dis.	:	Disease
DNA	:	Deoxyribonucleic acid
EIA	:	Enzymeimmunoassay
ELSA	:	Enzyme linked immunosorbent assay
ER	:	Estrogen receptor
ER-C	:	Estrogen receptor in the cytosol
ER-EIA	:	Estrogen receptor Enzymeimmunoassay
ER-ICA	:	Estrogen receptor immunocytochemical assay
ER-N	:	Estrogen receptor in nuclear extract
ER-T	:	Total estrogen receptor
FAC	:	5-fluouracil, adriamycin, cyclophosphamide
GGT	:	Gamma glutamyltransferase
H	:	Heavy

HAP	:	Hydroxylapatite
HCC	:	Hepatocellular carcinoma
HPL	:	Human placental lactogen
IDC	:	Invasive duct carcinoma
ILC	:	Invasive lobular carcinoma
L	:	Light
M	:	Molar
MAbs	:	Monoclonal antibodies
MTGP	:	Mammary tumor associated glycoprotein
OPD	:	Orthophenylenediamine
PAP	:	Peroxidase antiperoxidase
PAP	:	Prostatic acid phosphatase
PBS	:	Phosphate buffered saline
PgR	:	Progesterone receptor
POA	:	Pancreatic Oncofetal Antigen
SDS	:	Sodium dodecyl sulfate
SHBG	:	Sex hormone binding globulin
SP1	:	Pregnancy specific β_1 glycoprotein
TNM	:	T: tumor; N: lymph node; M: distant metastases
TPA	:	Tissue polypeptide antigen
WHO	:	World Health Organization
?ries	:	Secondaries
+ ve	:	Positive
- ve	:	Negative

AIM OF THE WORK

The relatively long preclinical growth phase and tendency of breast cancer to metastasise have led many clinicians to believe that breast cancer is a systemic disease. Fifty percent of patients with breast cancer who undergo local surgical treatment will eventually die of metastatic disease, suggesting that the present methods of staging are inadequate, since presumably the patients had micrometastases at the time of their first presentation *(Giulinano, 1988).*

Consequently it would be useful to have indices that could assist clinicians in staging their patients more accurately before surgery, in particular, in delineation of those likely to have distant tumor spread at presentation. Biochemical tumor markers have been shown to be useful in detecting micrometastases in several tumors. These markers are defined as substances which can be measured quantitatively by biochemical or immunochemical means in tissues or body fluids to identify the presence of a tumor, possibly the organ where it resides, to establish the extent of tumor burden before treatment as well as monitor the response to therapy. With this definition, a wide variety of substances can be identified as tumor markers. These include tumor associated antigens, oncofetal antigens, enzymes, specific proteins, oncoplacental proteins, and steroid hormone receptors *(Schwartz, 1989).*

Tumor markers are presently being studied with great interest by clinical oncologists as they provide additional useful information to that furnished by conventional laboratory and instrumental diagnostic examinations. Their importance will definitively increase if their clinical