BIOCHEMICAL STUDIES IN CARCINOMA OF THE BREAST

THESIS

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General Surgery

By

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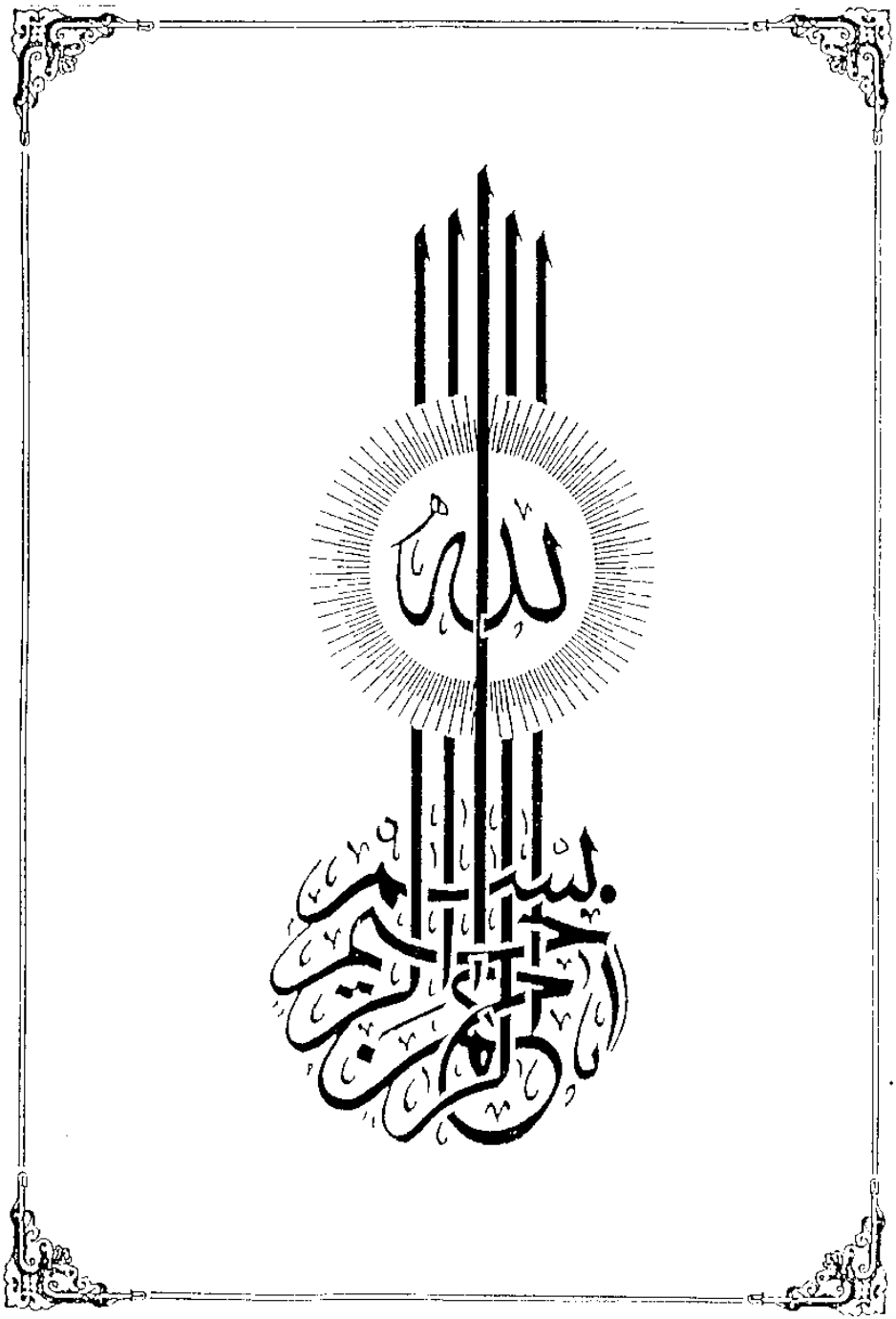
وقل اعملوا فسيرى الله عملكم ورسوله والمؤمنون

- صدق الله العظيم -



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TO MY PARENTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION AND AIM OF WORK

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Breast cancer is the commonest malignant tumor affecting females in most parts of the world including Egypt. Statistical reports from National Cancer Institute in Cairo show that breast cancer accounts for 34.8% of total malignancy among Egyptian females (Ibrahim and Aref, 1983).

Unfortunately, there is now a great concept that breast cancer is often a disseminated disease at its inception (Brinkly and Haybittle, 1975), and that inspite of various recent methods of treatment of breast cancer, only an extremely small percentage of women with breast cancer have a normal expectance of life. It seems that although the form of primary tumor therapy can affect the incidence of local or nodal recurrence, the development of metastases is likely with any form of primary therapy (Coombes et al., 1981).

Endocrine therapy and/or chemotherapy will increase the tumor free interval and possible survival. Therefore ways of determining which patients require this treatment must be found. To date, patients are selected on basis of histological evidence of local nodal spread (Tsakrakides et al., 1974). But against this method is that some patients with nodal involvement survive

long periods and other patients, for example with medial tumors, could not be staged adequately, since medial tumors drain into the internal mammary nodes. In addition once removed,the involved nodes no longer provide an index of therapeutic effectiveness (Coombes et al., 1981). Thus a tumor-index substance with sufficient sensitivity to detect metastasis, at a stage when conventional imaging techniques (bone scan, liver scan, liver ultra sound) are normal, is needed for accurate staging of breast cancer patients and to delineate those patients who well require adjuvant systemic therapy.

Markers could also be of assistance in the early clinical assessment of response to treatment, since prolonged and unnecessary chemotherapy is harmful for patients and could be avoided if no fail in marker level could be observed.

Furthermore, the drug dose could be adjusted according to marker response, since this may occur before the disease is visibly altered in extent.

We attempt to explore the importance of some biochemical changes in cancer breast patients at various stages of the disease. The main biochemical parameters studied in this work were, free serum hydroxyproline,

total urinary hydroxyproline, serum calcium and serum alkaline phosphatase in addition to some liver function tests. We aim to find if all these markers, or any of them could be used in:

- Early detection of cancer breast, and in differential diagnosis of breast lumps.
- Detection of the spread of the disease, thus helping in proper staging of the disease.
- Selection of patients in whom adjuvant therapy will be needed.
- Localization of metastatic tumors.
- Finding an, easy, cheap,non-dangerous method to determine the prognosis of cancer breast patients and to follow them up, after initial therapy, for developing distant metastases or local recurrence.