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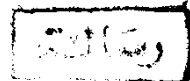
# BIOCHEMICAL STUDIES IN CARCINOMA OF THE BREAST

615.99249

M. A

## THESIS

Submitted for Partial Fulfilment of  
The M. D. Degree in  
General Surgery



By

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**1983**



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.. صدق الله العظيم ..



## **ACKNOWLEDGEMENT**

## ACKNOWLEDGEMENT

*It is a pleasure to express my everlasting gratitude to Prof. Dr. Hamdy Abdalla, Prof. of General Surgery, Ain Shams University, and to Prof. Dr. Salah Eid, Prof. of Biochemistry, Ain Shams University, for their valuable advice and guidance, for their continuous encouragement, keen suggestions and their kind supervision.*

*I wish to express my deep appreciation to Prof. Dr. Refky Faris, Prof. of Public Health, Ain Shams University for his faithful guidance in performing the statistical studies in this work.*

*I wish to declare my deepest thanks to all members of surgical department, unit 6. I acknowledge them with a deep sense of gratitude.*

*My obligation to all members of the surgical and medical departments, Cancer Institute, Cairo University for their help and cooperation in supplying the materials and samples of this work.*

TO MY PARENTS

## CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
REFIEW OF LITERATURES:	
- Epidemiology of Breast Cancer.....	4
- Gross and Histologic Pathology.....	19
- Biological Mechanisms in Metastases.....	37
- Diagnosis of Breast Cancer.....	45
- Staging of Breast Carcinoma.....	68
- Biological and Biochemical Markers in Breast Carcinoma.....	95
MATERIAL AND METHODS.....	166
RESULTS.....	182
DISCUSSION.....	230
CONCLUSION.....	245
SUMMARY.....	248
REFERENCES.....	251
ARABIC SUMMARY	

## LIST OF TABLES

	<u>Page</u>
1. Reported symptoms of 546 cases of breast cancer, Haagensen (1956).	47
2. Symptoms of breast cancer.	48
3. Symptoms and signs of breast cancer. Quoted from Donegan and Spart (1979).	49
4. Clinical-Diagnostic Classification. A.J.C., U.I.C.C., T.N.M., (1977).	80
5. Post-Surgical Treatment-Pathological Classification A.J.C. U.I.C.C., T.N.M. (1977).	83
6. Tumor markers in cancer breast (Coombes et al., 1981).	105
7. Levels of urinary hydroxyproline in normal subjects (Laitinin et al., 1968).	135
8. Levels of serum hydroxyproline in normal subjects	135
9. Mean values of hydroxyproline (mg/24 hr) in patients with breast cancer (Percudani et al., 1981).	160
10. Mean values of Zincuria (mg/24 hrs) in patients with breast cancer (Percudani et al., 1981).	160
11. Biochemical results of control group.	195
12A. Initial assessment of breast cancer patients.	197
12B. Initial assessment of breast cancer patients.	199



	<u>Page</u>
13. Biochemical levels in second stage cancer breast patients.	201
14. Biochemical levels in third stage cancer breast patients.	202
15. Biochemical levels in fourth stage cancer breast patients.	203
16. Biochemical levels in locally advanced cancer breast patients.	204
17. Biochemical levels in patients with metastases.	205
18. Comparison of parameters studied in control and in patients with second stage breast cancer.	206
19. Comparison of parameters studied in control and in patients with third stage breast cancer.	207
20. Comparison of parameters studied in control and in patients with fourth stage breast cancer.	208
21. Comparison of parameters studied in control and in patients with locally advanced fourth stage breast cancer.	209
22. Comparison of parameters studied in control and in patients with metastases.	210
23. Follow up of cases in which no clinical or radio-logical abnormality detected.	211

	<u>Page</u>
24. Follow up of metastatic and locally advanced cases that responded to treatment.	212
25. Follow up of metastatic cases did not respond to treatment.	213
26. Follow up of cases that developed local recurrence.	214
27. Follow up of cases that developed clinical and/or radiological evidence of metastases.	213
28. Follow up of different categories of cancer breast patients.	216

## LIST OF FIGURES

	<u>Page</u>
1. Factors affecting hydroxyproline excretion.	142
2. Multiparametric study on cancer breast. Tormey et al., 1975.	162
3. Comparison of mean values of total serum proteins in the studied groups.	217
4. Comparison of mean values of serum albumin in the studied groups.	218
5. Comparison of mean values of SGOT in the studied groups.	219
6. Comparison of mean values of SGPT in the studied groups.	220
7. Comparison of mean values of Alkaline phosphatase in the studied groups.	221
8. Comparison of mean values of serum calcium in the studied groups.	222
9. Comparison of mean values of urinary hydroxyproline in the studied groups.	223
10. Bone scan, showing metastases in the upper end of left femur, lumbar vertebra and ribs.	224
11. Plain X-ray, for the same patient in Fig. 10, showing pathological fracture of left neck femur.	225
12. Bone scan showing metastases in upper and of Rt. femur, lumbar vertebra, ribs and both humeri.	226
13. Plain X-ray for the same patient in figure 12, showing metastases in L <sub>4</sub> and L <sub>5</sub> .	227
14. Osteolytic metastases in the left greater trochanter.	228
15. Healing of the osteolytic metastases after treatment.	228
16. Bone scan showing metastases in the upper end of left femur, ribs and upper ends of both humeri.	229

## **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 will 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 fall 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.