

# الطرق الحديثة في تشخيص أورام الثدي وعلاجها

رسالة

توطئة للحصول علي درجة الماجستير في الجراحة  
العامة

مقدمة من الطبيب

**هيثم عبد الحكيم نصر**

بكالوريوس الطب والجراحة

تحت إشراف

**الأستاذ الدكتور/ طارق إسماعيل عوف**

أستاذ الجراحة العامة

كلية الطب

جامعة عين شمس

**دكتور/ أحمد علاء الدين عبد المجيد**

أستاذ الجراحة العامة

كلية الطب

جامعة عين شمس

**دكتور/ محمد السيد الشناوي**

مدرس الجراحة العامة

كلية الطب

جامعة عين شمس

كلية الطب

جامعة عين شمس

٢٠١٠

# Modern Trends in Management of Breast Masses

## Essay

Submitted for partial fulfillment of master degree in general  
surgery

By

Haytham Abd-El-Hakeem Nasr

M.B, B.Ch

Supervised by

Prof. Dr. Tarek Ismail Ouf

Professor of General Surgery, Faculty of  
Medicine, Ain Shams University

Prof. Dr. Ahmed Alaa -El-Din Abd El-Majeed

Professor of General Surgery, Faculty  
of Medicine, Ain Shams University

Dr. Mohamed El-Sayed El-Shinawi

Lecturer of General Surgery, Faculty  
of Medicine, Ain Shams University

**Faculty of medicine  
Ain shams university**

2010

# Acknowledgements

*First, thanks are all directed to ALLAH for helping me to accomplish this research, and for providing me with such very encouraging and supportive supervisors.*

*I would like to express my deepest gratitude to **Prof. Dr Tarek Ismail Ouf**, Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his great support and continuous encouragement throughout the whole work under his guidance and supervision.*

*I am truly grateful to **Prof. Dr. Ahmed Alaa\_El-din Abd EL-Majeed**, Professor of General Surgery, Faculty of Medicine, Ain Shams University, for his close supervision, valuable suggestions and continuous encouragement throughout the whole work,*

*My deepest appreciation and grateful thanks are due to **Dr.Mohamed EL\_Sayed EL\_Shinawi**, Lecturer of General Surgery, Faculty of Medicine, Ain Shams University, for his kind advices and his great effort throughout this work,*

*Also, I cannot fully express my deep gratitude and thanks to my family, who I loved a lot and to whom I dedicate this work,*

# List of content

<b>Contents</b>	<b>Page</b>
<b>List of Content .....</b>	<b>I</b>
<b>List of tables.....</b>	<b>II</b>
<b>List of figures.....</b>	<b>III</b>
<b>List of abbreviations.....</b>	<b>V</b>
<b>Introduction.....</b>	<b>1</b>
<b>Aim of the work.....</b>	<b>3</b>
<b>Review of literature.....</b>	
. Anatomy of the adult female breast.....	5
. Examination of the breast.....	15
. Investigations of the breast mass.....	23
. Benign breast masses.....	69
. Breast cancer .....	95
. The male breast .....	145
<b>Conclusion .....</b>	<b>151</b>
<b>Summary .....</b>	<b>155</b>
<b>References.....</b>	<b>157</b>
<b>Arabic summary.....</b>	

## List of tables

<b>Table No</b>	<b>Title</b>	<b>Page NO</b>
<b>Table .1</b>	American cancer society guidelines for screening mammography.	25
<b>Table.2</b>	TNM staging system for breast cancer.	115
<b>Table.3</b>	Adjuvant chemotherapy regimens for breast cancer.	135

## List of Figures

<b>Figure 1</b>	Breast schematic diagram.	11
<b>Figure 2</b>	lymphatic drainage of the upper limb and breast.	12
<b>Figure 3</b>	Levels and areas of lymph node.	13
<b>Figure 4</b>	Blood and nerve supply of the breast.	14
<b>Figure 5</b>	Breast self-examination.	21
<b>Figure 6</b>	Screening mammogram, malignant ductal-type micro-calcifications.	33
<b>Figure 7</b>	Mammogram showing invasive ducal carcinoma.	33
<b>Figure 8</b>	Breast cancer, ultrasonography.	42
<b>Figure 9</b>	Breast, fibroadenoma ultrasonography.	42
<b>Figure10</b>	MRI image showing DCIS.	46
<b>Figure11</b>	Typical computer-aided detection (CAD).	53
<b>Figure12</b>	Insturements of fine needle aspiration.	68
<b>Figure13</b>	Steriotactic needle biopsy.	68
<b>Figure 14</b>	Ductal hyperplasia.	92

<b>Figure 15</b>	Atypical lobular hyperplasia.	92
<b>Figure 16</b>	Fibro adenoma gross pathology.	93
<b>Figure 17</b>	Fat necrosis, microscopic picture.	93
<b>Figure 18</b>	Lobular carcinoma in situ.	110
<b>Figure 19</b>	Breast cancer, papillary carcinoma.	110
<b>Figure 20</b>	Male cancer breast.	150

## List of abbreviations

1	<b><i>ABBI</i></b>	Advanced breast-biopsy instrumentation.
2	<b><i>AC</i></b>	Adriamycin, cyclophosphamide.
3	<b><i>ADH</i></b>	Atypical ductal hyperplasia.
4	<b><i>AI</i></b>	Aromatase inhibitors.
5	<b><i>AxLND</i></b>	Axillary lymph node dissection.
6	<b><i>BCIRG</i></b>	Breast cancer international research group.
7	<b><i>BRCA</i></b>	Breast cancer antigen.
8	<b><i>BSE</i></b>	Breast self-Examination.
9	<b><i>CA</i></b>	Cancer antigen.
10	<b><i>CAD</i></b>	Computer aided detection.
11	<b><i>CBE</i></b>	Clinical breast examination.
12	<b><i>CEA</i></b>	Carcino embryonic antigen.



13	<b>CLND</b>	Completion lymph node dissection.
14	<b>CMF</b>	Cyclophosphamide, methotrexate, flurouracil.
15	<b>CNB</b>	Core needle biopsy.
16	<b>COX</b>	Cyclo-oxygenase.
17	<b>CPM</b>	Contra-lateral prophylactic mastectomy.
18	<b>CT</b>	Computed tomography.
19	<b>CYP2D6</b>	Cyto-chrome p, 450.
20	<b>DCE</b>	Dynamic contrast enhancement.
21	<b>DCIS</b>	Ductal carcinoma in situ.
22	<b>DFS</b>	Disease free survival.
23	<b>DIEP</b>	Deep inferior epigastric perforator.
24	<b>DMST</b>	Digital mammographic screening Trial.
25	<b>EBCTCG</b>	Early breast cancer trialists' collaborative group.
26	<b>EBRT</b>	External beam radio_therapy.
27	<b>ECOGT</b>	Eastern co-operative group trial.

28	<b><i>ER</i></b>	Estrogen receptors.
29	<b><i>FAC</i></b>	Fluorouracil adriamycin and, cyclophosphamide.
30	<b><i>FASG</i></b>	French adjuvant study group.
31	<b><i>FDA</i></b>	Food and drug administration.
32	<b><i>FEC</i></b>	Fluorouracil epirubicin, and cyclophosphamide.
33	<b><i>FNA</i></b>	Fine needle aspiration.
34	<b><i>GRE</i></b>	Gradient echo imaging.
35	<b><i>Her2</i></b>	Human epithelial receptors-2.
36	<b><i>HNPCC</i></b>	Human non polyposis colorectal carcinoma
37	<b><i>HRT</i></b>	Hormone replacement therapy.
38	<b><i>HSP 90</i></b>	Heat shock protein 90.
39	<b><i>IBC</i></b>	Inflammatory breast cancer.
40	<b><i>IFGR,1</i></b>	Insulin growth factor receptor, 1.
41	<b><i>IHC</i></b>	Immuno-histo chemistry.
42	<b><i>LABC</i></b>	Locally advanced breast cancer.
43	<b><i>LCIS</i></b>	Lobular carcinoma in situ.
44	<b><i>MAP K</i></b>	Mitogen-activated protein

		kinase.
45	<b><i>MBC</i></b>	Metaplastic carcinoma.
46	<b><i>MPD</i></b>	Mammary pagets disease.
47	<b><i>MRI</i></b>	Magentic resonance imaging.
48	<b><i>MRM</i></b>	Magentic resonance mammomgraphy.
49	<b><i>MRM</i></b>	Modified radical mastectomy.
50	<b><i>mTor</i></b>	Mammalian target of rapamycin.
51	<b><i>NAC</i></b>	Nipple-areola complex.
52	<b><i>NCCN</i></b>	National cancer center network.
53	<b><i>NCCTG</i></b>	North central cancer treatment group.
54	<b><i>NSABP</i></b>	National surgical adjuvant breast and bowel project.
55	<b><i>NSF</i></b>	Nephrogenic systemic fibrosis.
56	<b><i>NSM</i></b>	Nipple sparing mastectomy.
57	<b><i>OS</i></b>	Overall survival.
58	<b><i>PBI</i></b>	Partial breast irradiation.

59	<b>PET</b>	Positron emission tomography.
60	<b>PI3K</b>	Phosphatidyl inositol 3-kinase.
61	<b>PR</b>	Progesterone receptors.
62	<b>RFA</b>	Radio-frequency ablation.
63	<b>RFS</b>	Relapse free survival.
64	<b>RT</b>	Radiation therapy.
65	<b>SEER</b>	Surveillance, epidemiology and end results.
66	<b>SERMs</b>	Selective estrogen receptor modulators.
67	<b>SLN</b>	Sentinel lymph node biopsy.
68	<b>SSM</b>	Skin sparing mastectomy.
69	<b>TAC</b>	Taxotere,adriamycin,cyclophosphamide.
70	<b>TC</b>	Taxotere ,cyclophosphamide.
71	<b>TCT</b>	Taxotere,carboplatin and,trastuzumab.
72	<b>TRAM</b>	Transverse rectus abdominus myocutaneous flap.

73	<b><i>UDH</i></b>	Usual ductal hyperplasia.
74	<b><i>U/S</i></b>	Ultrasonography.
75	<b><i>VEGF</i></b>	Vascular endothelial growth factor.
76	<b><i>WBRT</i></b>	Whole breast radiotherapy.

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا  
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ  
الْعَلِيمُ الْحَكِيمُ)

(البقرة: ٣٢)

## **INTRODUCTION**

Breast disease in women encompasses a spectrum of benign and malignant disorders, breast pain, nipple discharge and a palpable mass are the most common breast problems for which women consult a physician. Regardless of the type of breast problem, the goal of the evaluation is to rule out cancer and address the patient's symptoms. **(Kelsey et al., 2009)**

The frequency of breast cancer varies with the age of the patient and the presenting complaint, the extent of the evaluation required to accomplish this goal varies with the type of clinical problem and the patient's age, it is important to remember that 80-85% of all breast lumps are benign, especially in women less than age of 40. The common causes of benign breast lumps include fibrocystic breast changes, fibroadenoma, fat necrosis, and breast abscess. **(Fitzgibbons, 1998)**

Although cysts are a common cause of dominant breast masses in premenopausal women, fibroadenoma is the most common benign breast mass in young women, in a study, cysts accounted for only 10 percent of breast masses in women less than 40 years of age, while fibroadenoma accounted for 32 percent of breast masses in women less than 30 years. Aspiration is still an appropriate first step in the management of a breast cyst, while clinical follow-up after aspiration is essential. In fibroadenoma, surgical removal with clinical follow up is the current management. **(Donegan, 2002)**