

List of content

1) Introduction and aim of work	1
2) Review of literature	5
-Breast Embryology and Anatomy	6
- Pathology of breast cancer	19
- Screening and diagnosis of breast cancer	39
- Pre- treatment work up	55
- Treatment of Breast Cancer	59
3) Patients and methods	110
4) Results	125
5) Discussion	154
6) Conclusion and summary	169
7) References	173
8) Arabic summary	205

List of Figures

Figure	Title	Page
-Fig. (1)	-The primary milk lines in which the breast and the accessory breast develop.	7
-Fig. (2)	-Anatomy of the breast.	10
-Fig (3)	-Arterial supply of the breast (Anterior view).	12
-Fig (4)	-Deep Venous drainage of the breast	13
-Fig. (5)	-Schematic representation of the breast identifying the position of lymph node relative to the breast and illustrating routes of lymphatic drainage. The clavicle is indicated as a reference point.	14
-Fig (6)	-Schematic representation of the breast identifying the position of lymph node relative to the breast.	16
-Fig (7)	-Lymph node groups related to lymphatic drainage of the breast.	18
-Fig (8)	-Typical appearance of a speculated cancer.	46
-Fig. (9)	-A Lesion that is round or oval with sharp anterior and posterior walls, no internal echoes. And enhanced posterior echoes are a benign cyst and require no further intervention.	47
-Fig (10)	-Placement of fine needle aspiration cytology technique.	50
-Fig (11)	-Placement of biopsy incision directly over the palpable abnormality in the breast with the area of proposed excision marked out on the breast.	54
-Fig (12)	-Modified radical mastectomy	83
-Fig (13)	-Showed, female 49 y. old with LABC and there is two views.	113
-Fig (14)	-Showed female 52 y. old with LABC and there is ulceration, erythema and edema of breast.	113
-Fig (15)	-Showed female 55 y. old with LABC and there is retroareolar mass, erythema and edema of breast.	113
-Fig (16)	-Showed, female 45 y. old with LABC and there is erythema, nipple retraction and skin dimpling breast.	113
-Fig (17)	-Showed female 42 y. old with LABC and there is solid breast mass by ultrasound, diameter of the mass is 5.3 X 6.5cm.	114
-Fig (18)	-Showed female 62 y. old with LABC and there is dense irregular mass with serrated outline, and the diameter of the mass is 5 X 6cm.	114
-Fig (19)	-Showed female 58 y. old with LABC and there is dense irregular mass with serrated outline, and the diameter of the mass is 5 X 6cm.	114
-Fig (20)	-Showed, female 49 y. old with LABC and there is no lesion appear after 4 cycles of neoadjuvant chemotherapy.	116
-Fig (21)	-Showed female 62 y. old with LABC and after the course of neoadjuvant chemotherapy,	116

	there is dense irregular mass with serrated outline, and the diameter of the mass is 2 X 3cm.	
-Fig (22)	-Showed modified radical mastectomy to the female 40 y. old with LABC.	117& 118
-Fig (23)	-Showed, female 54 y. old with lymphedema after modified radical mastectomy.	121
-Fig (24)	-Showed female 55 y. old with LABC and there is scar of modified radical mastectomy and follow up about 1 and half years and no recurrence.	123
-Fig (25)	- Overall 3.5 year Kaplan-Meier survival curves (Logrank test) of the 50 patients (25 patients of group A, treated with neoadjuvant followed by surgery and adjuvant therapy) and (25 patients of group B treated with surgery and followed by adjuvant therapy).	147
-Fig (26)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant followed by surgery and adjuvant therapy.	148
-Fig (27)	- Overall 3.5 year Kaplan-Meier survival curves of 25 patients of group B treated with surgery and followed by adjuvant therapy.	148
-Fig (28)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant chemotherapy according to neoadjuvant chemotherapy regimens.	149
-Fig (29)	- Overall 3.5 year Kaplan-Meier survival curves of 25 patients (Group A), treated with neoadjuvant chemotherapy followed by surgery: comparison between responders and non-responders.	149
-Fig (30)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant chemotherapy according to progesterone receptor status.	150
-Fig (31)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant chemotherapy according to estrogen receptor status.	150
-Fig (32)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant chemotherapy according to tumor stage.	151
-Fig (33)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group A, treated with neoadjuvant chemotherapy according to stage.	151
-Fig (34)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group B, treated with surgery followed by adjuvant therapy according to progesterone receptor status	152
-Fig (35)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group B, treated with surgery followed by adjuvant therapy according to estrogen receptor status	152
-Fig (36)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group B, treated with surgery followed by adjuvant therapy according to tumor stage.	153
-Fig (37)	- Overall 3.5 year Kaplan-Meier survival curves of the 25 patients of group B, treated with surgery followed by adjuvant therapy according to stage.	153

List of Table

Table	Title	Page
-Tab. (1)	-TNM classification of cancer breast.	26
-Tab. (2)	-Staging of cancer breast.	26
-Tab. (3)	-Shows the relation between stage 5-year relative survival rates.	27
-Tab. (4)	-WHO histologic classification of proliferative and tumoral lesions of the breast.	32 &33
-Tab. (5)	-Components of the clinical evaluation of breast cancer by physical examination.	56
-Tab. (6)	-Common chemotherapeutic drugs and their side effects.	74 &75
-Tab. (7)	-Lymphedema Grading System.	91
-Tab. (8)	-Recommended Doses and Schedules for Radiotherapy for Breast Cancer.	94 &95
-Tab. (9)	-Shows the side effects of hormonal treatment.	100
-Tab. (10)	- Summary of studies with primary chemotherapy followed by surgery.	102-104
-Tab. (11)	- Summary of studies with surgery followed by adjuvant chemotherapy.	108&109
-Tab. (12)	- Show the clinical data of studied patient.	127&128
-Tab. (13)	- Local Manifestation of included patients (Diseased breast).	130
-Tab. (14)	- TNM Classification.	131
-Tab. (15)	- Clinical staging of tumor.	132
-Tab. (16)	- Mammography of Both breasts.	132&133
-Tab. (17)	- Clinical response of group (A) to neoadjuvant chemotherapy.	134
-Tab. (18)	- Overall toxicity distribution of neoadjuvant chemotherapy.	136
-Tab. (19)	- Intraoperative data of two groups prone to Modified Radical Mastectomy.	137
-Tab. (20)	- Early complications of Modified Radical Mastectomy	138
-Tab. (21)	- Late complications of modified radical mastectomy.	139
-Tab. (22)	- Grading of lymphedema	139
-Tab. (23)	- Shoulder Dysfunction	140
-Tab. (24)	- Result of histopathology.	142
-Tab. (25)	- Estrogen Receptors	143
-Tab. (26)	-Adjuvant chemotherapy of group (A) and group (B).	144
-Tab. (27)	Follow up.	146

List of Chart

Chart	Title	Page
-Chart 1	-Showed the age.	126
-Chart 2	-Showed the personal data.	128
- Chart 3	-Showed the personal complaint.	129
- Chart 4	-Showed the clinical response.	135
- Chart 5	-Showed the duration of operation.	140
- Chart 6	-Showed early postoperative complications.	141
- Chart 7	-Showed late postoperative complications.	141

List of Abbreviation

- +ve. = Positive.
- AJCC= American Joint Committee on Cancer Staging.
- BSE= Breast self examination.
- CEA= Carcinoembryonic Antigen.
- CMFPT= Cyclophosphamide, Methotrexate, 5-Fluorouracil, Prednisone and Tamoxifen.
- D.V.T. = Deep Venous Thrombosis.
- DCIS= Ductal carcinoma in situ.
- FAC= 5-Fluorouracil, Adriamycin, Cyclophosphamide.
- LCIS = Lobular carcinoma in situ.
- LHRH= Luteinizing Hormone Releasing Hormone.
- MRI= Magnetic Resonance Imaging.
- MRM= Modified radical mastectomy.
- RT= Radiotherapy.
- -ve. = Negative.
- WHO= Health Organization.
- CBE= Clinician performed Breast Examination.
- CEF= Cyclophosphamide, Epirubicin, and 5- Fluorouracil.
- CMF= Cyclophosphamide, Methotrexate, and 5-Fluorouracil.
- CMFVP= Cyclophosphamide, methotrexate, 5- fluorouracil, Vincristine and Prednisone.
- CT= Computed Tomography.
- D1= the first day.
- EORTC= the European Organization for Research and Treatment of Cancer
- ER=Estrogen Receptor.
- FEC 60= 5-Fluorouracil, Epirubicin, Cyclophosphamide.
- FNA= Fine Needle Aspiration.
- HR = Hormonal Receptor.

- LABC: Locally advanced breast cancer.
- LCI= Lobular carcinoma in situ.
- LILT= Low intensity Laser Therapy.
- LNs. = Lymph Nodes.
- MMM= Mitozantrone, Methotrexate and Mitomycin C.
- NCI= National Cancer Institute.
- PR= Progesterone Receptor.
- RM= Radical mastectomy.
- TNM =Tumor, Node, Metastasis.
- U/S= Ultrasound.