



## **Role of Pharmacological Therapy and Surgical Intervention in Breast Carcinoma**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author AAL designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors FH, SNA, AM, AAJ, NFP and AA managed the analyses of the study and managed the literature searches. All authors read and approved the final manuscript.*

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### **ABSTRACT**

**Objective:** To determine the Role of medical therapy and surgical intervention in carcinoma of breast.

**Study Design:** Prospective observational study.

**Place and Duration:** Two years study from January 2018 to December 2020 was conducted at Liaquat university of Medical and Health Sciences Jamshoro.

**Methods:** The study comprises 50 patients. Data was collected from all who were admitted at OPD. The patients were evaluated fully after history & Clinical examinations and Specific investigations of Fine Needle Aspiration Cytology (FNAC), Tru cut biopsy for Histology ERPR

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Receptor and Herceptin receptor, ultra sound of breast, and Abdomen, Mammography, C T scan, M R I, Tumor marker CA15.3. CA 125 for ovary and breast, X ray chest and Bone scan. Sentinel lymph node biopsy for lymphatic involvement, Liver Function Test, serum calcium, Complete Blood Picture (CBP), blood sugar, blood urea. HBSAG, HCV, HIV and COVID-19 Evaluated patients were evaluated fully after history, clinical examinations & specific investigations.

**Results:** In this study 50 patients of Carcinoma of breast. The maximum numbers of patients were in age group 20 to 80 years. 15 patients were in age group 20 to 39 year, 24 patients were in age group 40 to 59 years, 11 patients were in age group 60 to 80 year. Out of 50 patients 29 patients were presented with breast lump, 8 patients were presented with bloody discharge, 7 patients were presented with nipple destruction and 6 Patients were presented with pricking sensation Out of 50 patients 21 patients were presented with stage I, 13 Patients presented with stage II, 9 patients were presented with stage III and 7 patients were presented with stage IV. Out of 50 patients 22 Patients were diagnosed duct cell carcinoma, 11 patients were diagnosed Phyllodes tumor, 9 patients were diagnosed lobular cell carcinoma, 5 patient were diagnosed tubular cell carcinoma and 3 patients were diagnosed Paget's type of carcinoma .Out of 50 patients 25 patients were ERPR positive treated by Nolvadex (tamoxifeen) 16 Patients were ERPR negative treated by chemotherapy drugs and Aromatase inhibitors, 9 Patients were Her2neu receptor positive treated by Herceptin (Trastuzumab) Out of 50 patients 34 patients were treated by Modified radical mastectomy, 16 patients were initially were treated neo adjuvant therapy. Then Modified Radical Mastectomy, Out of 50 patients 25 patients were treated with Nolvadex (tamoxifeen) after Modified Radical Mastectomy better outcome seen in those patients.

**Conclusion:** Carcinoma of breast is a common problem all over the word, patient can present with lump over the breast, bloody discharge, destruction of nipple or areola if not diagnosed and treat early stage, patient can die within a year without Medical and surgical treatment.

*Keywords: Breast Carcinoma; pharmacological intervention; surgical intervention.*

## 1. INTRODUCTION

Breast Carcinoma is a common cancer all over the world. Breast cancer is a more common in female population 20% of all cancer death in females in USA; it affects about one out of every ten women in Western Countries. It is the most second cause of death after lung cancer, breast carcinoma can occur any age before 20 years but most common seen in nulliparous, post-menopausal women who having strong family history and taking contraceptive pills [1]. Women of breast cancer can present different way, lump over breast, pricking sensation, deviation of nipple, Bloody discharge, destruction of nipple or areola and Peau d'orange. Breast lump either mobile or fixed with underlying structure with skin tethering. Carcinoma of breast can involve any type of axillary lymph node involvement, pectoral, lateral, posterior (sub scapular) central, apical better prognosis is seen in pectoral lateral and posterior group's involvement, fair prognosis seen after central group involvement and bed prognosis seen after apical group involvement of axillary lymph node involvement [2]. Breast cancers can metastasis in ovaries Krukenberg tumor of the ovaries .weight loss, anemia and anorexia and metastasis in bone. Breast Lump can be evaluated after, detailed history, clinical

examinations, imaging and biopsy that is called Triple assessment [3]. Breast carcinoma can occur any age but most commonly seen in those patients who have strong family history, taking long standing contraceptive pill, and avoid breast feeding, suspicious of carcinoma of breast can be evaluated/diagnosed with help of History, Clinical examinations, imaging (ultrasound, mammogram) Biopsy FNAC, Trucut biopsy [4]. Biopsy will detect type of tumor either Invasive duct cell carcinoma, Lobular cell carcinoma, Paget's disease, Phyllodes tumor. If confirm the diagnose then stage the disease [5]. X-ray chest, ultra sound of breast, Ultrasound of abdomen for Ascites, secondary's in liver, Liver function test, Mammogram of breast, Computerized tomography of breast chest and abdomen, Magnetic resonance imaging for soft tissue involvement and Recurrence of the tumor, tumor marker CA 15.3 for breast and CA 125 for breast and ovary [6]. Management depend on stage of the disease, Histology, Size of the tumor, and nodal status. Status of ERPR positive or ERPR Negative, Her 2 neu, CA15.3, CA125 krukensberg tumor in the ovary, BRCA 1and BRCA2. Prognosis of the patient of carcinoma of breast best seen on the basis of Nottingham prognostic index Best option of management, are Neo adjuvant, Chemotherapy, Tamoxifeen,

Herceptin & Aromatase inhibitors [7], Options of surgical treatment Depend on, site of tumor, size of tumor, size of the breast either breast conservative surgery i.e. Lumpectomy, wide local excision or breast scarifying surgery simple mastectomy with axillary sampling or clearance, with Sentinel lymph node biopsy, Modified radical mastectomy or Radical mastectomy, adjuvant chemotherapy Radiotherapy, Gene therapy, Endocrine therapy, Immunotherapy [8].

The aim of this study is to determine the Role of medical therapy and surgical intervention in carcinoma Of breast.

## 2. METHODOLOGY

It was a Prospective observational study carried out at surgical ward-02 Unit -I Liaquat University of medical and health sciences Jamshoro.

The study comprises 50 patients. Data was collected from all who were admitted at OPD. The patients were evaluated fully after history & clinical examinations and specific investigations are Fine Needle Aspiration Cytology (FNAC), Tru cut biopsy for Histology ER&PR Receptor status and Herceptin receptor status, ultra sound of breast, and Abdomen, Mammography, C T scan, MRI, Tumor marker CA15.3, CA 125 for breast and ovary. X ray chest and Bone scan, Liver Function Test, serum calcium, Complete Blood Picture (CBP), blood sugar, blood urea. HBSAG, HCV, HIV, COVID-19 Evaluated patients were evaluated fully after history, clinical examinations & specific investigations were recorded on a Performa designed for the study. Statistical package for social sciences (SPSS) version 10 was used for statistical analysis of the data.

## 3. RESULTS

In this study 50 patients of Carcinoma of breast. The maximum numbers of patients were in age group 20 to 80 years. 15 patients were in age group 20 to 39 year. 24 patients were in age group, 40 to 59 years. 11 patients were in age group 60 to 80 year, (Table 1). Out of 50 patients 29 patients were presented with breast lump, 8 patients were presented with bloody discharge, 7 patients were presented with nipple destruction and 6 Patients were presented with pricking sensation (Table 2). Out of 50 patients 22 Patients were diagnosed duct cell carcinoma, 11 patients were diagnosed Phyllodes tumor 9 patients were diagnosed lobular cell carcinoma, 5 patients were diagnosed tubular cell carcinoma and 3 patients were diagnosed Paget's type of

carcinoma (Table 3). Out of 50 patients 21 patients were presented with stage 1, 13 Patients presented with stage 11, 9 patients were presented with stage 111 and 7 patients were presented with stage 1V (Table 4). Out of 50 patients 34 patients were treated by Modified Radical Mastectomy, 16 patients were initially treated by Neo adjuvant Therapy followed Modified Radical Mastectomy (Table 5). Out of 50 patients 25 patients were ER PR positive treated by Nolvadex (tamoxifeen) 16 Patients were ERPR negative treated by chemotherapy drugs & Aromatase in hibitors, 9 Patients were Her2neu receptor positive treated by Herceptin (Trastuzumab) (Table 6). Out of 50 patients 25 patients were better response Nolvadex (tamoxifeen) after Modified Radical Mastectomy (Table 7).

**Table 1. Age wise distribution of the patients (n=50)**

Age	Frequency	Percentage
20 to 39 years	15	30.0%
40 to 59 years	24	48.0%
60 to 80 years	11	22.0%

**Table 2. Clinical features of the patients (n=50)**

Clinical features of the patients	Frequency	Percentage
Breast lump	29	58.0%
Bloody Discharge	8	16.0%
Nipple Destruction	7	14.0%
Pricking sensation	6	12.0%

## 4. DISCUSSION

Breast carcinoma is a common cancer all over the world. most commonly seen in females who Have strong family history, taking contraceptive pills and nulliparous females, initial Sign and symptoms of breast carcinoma [9] i-e Breast lump, bloody discharge, destruction of nipple, pricking sensation of breast, Peaude orange, dermatitis, enlarge axillary lymph node, weight loss, Loss of appetite, ascites, secondary's in liver, secondary's in bone, bone metastases, pathological fractures, carcinoma of breast also seen in male patients [10]. If suspected carcinoma of breast better to evaluated and diagnosed with help of triple assessment i-e. detailed History, clinical examinations and imaging Ultra sound of breast, mammogram and biopsy either FNAC and Tru cut biopsy. Biopsy detected the type of breast carcinoma [11]. If confirm the diagnosis then stage the disease with

**Table 3. Types of tumors (n=50)**

Type of tumor	Frequency	Percentage
Invasive duct cell carcinoma	22	44.0%
Phylloides tumor	11	22.0%
Lobular cell carcinoma	9	18.0%
Tubular cell carcinoma	5	10.0%
Paget's disease of breast	3	6.0%

**Table 4. Stages of the disease (n=50)**

Stages of Breast Carcinoma	Frequency	Percentage
Stage 1	21	42.0%
Stage 2	13	26.0%
Stage 3	9	18.0%
Stage 4	7	14.0%

**Table 5. Surgical treatment options n=50**

Surgical Procedure	Frequency	Percentage
Modified Radical mastectomy(MRM)	34	68.0%
New adjuvant plus MRM	16	32.0%

**Table 6. Pharmacological treatment according receptor status (n=50)**

Receptor status	Treatment	Frequency	Percentage
ERPR Positive	Nolvadex (tamoxifen)	25	50.0%
ERPR Negative	Chemotherapy, Aromatase inhibitors	16	32.0%
Her 2 neu positive	Herceptin ( Trastuzumb)	9	18.0%

**Table 7. Out come after surgical and pharmacological treatment (n=50)**

Better Response	Treatment	No patients	Percentage
Modified Radical Mastectomy with ERPR Positive	Nolvadex (tamoxifen)	25	50.0%

help of ultra sound of breast & abdomen, X – ray chest, liver function test ,C T scan of breast chest and abdomen, MRI of breast, Tumor marker CA 15.3, CA 125 and Bone Scan of whole body [12]. Treatment of carcinoma of breast are best response on tissue status ERPR, Her2neu drugs Herceptin, tamoxifen, Aromatase inhibitors, Surgery, Chemotherapy ,Radiotherapy, Gene therapy & Immunotherapy [13]. Tracy-Ann Moo MD et al. [14]. In his study Breast cancer treatment is multidisciplinary. The majority of women treated with early-stage of breast cancer are breast conserving surgery with radiotherapy; individual approaches are minimizing the need for axillary dissection in sentinel node positive women and hormone receptor status. M Sher Uz Zaman et al. [15]. In his study 81% patients presented with lump, 10 patients presented with fun gating growth and foul smelling discharge and weight loss, 3% patients present with pain in vertebra, 9% patients come with stage 1 and 91% patients with stage 3. Warburton R et al. [16]. In his study Primary tumor is excised and axillary nod

removed. With breast conserving surgery or mastectomy with or without reconstruction, many patients may benefit from early multidisciplinary review. Cptshristoph Kolia Boese et al. [17]. In his study 85% positive ER 10% for HER2 and 2% for PR.

## 5. CONCLUSION

Carcinoma of breast is a lethal disease all over the world. It can occur any age but most commonly seen above the age of 40 years, who have strong family History. If not diagnosed and treated in early stage the patients can die in months or years with lot of local and systemic complications. Aim of this study to avoid morbidity and mortality of patient keep life style of patient is easy.

## CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

This study was approved by Ethical Review Committee ERC of Liaquat University of Medical and Health Sciences Jamshoro.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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