

Primary Breast Reconstruction in a Young Patient with Locally Advanced Breast Cancer (LABC).

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ABSTRACT

Breast cancer is the most common malignancy diagnosed worldwide. Breast cancer management represents an exemplary model of multidisciplinary management. The combined modality approach to treatment of breast cancer that includes primary surgery, radiation therapy, chemotherapy needs careful integration of these modalities with new methods of reconstructive breast surgery. The multidisciplinary approach has been associated with a reduction in breast cancer mortality. We present an interesting case of infiltrating ductal carcinoma, who presented as a locally advanced breast cancer in a very young patient who underwent neoadjuvant chemotherapy followed by modified radical mastectomy and primary breast reconstruction with latissimus dorsi flap. Our patient has recovered without any complications and is being prepared for adjuvant chemotherapy. All patients should undergo receptor testing which helps us in individualizing the treatment. The choice between breast conservation and mastectomy after neoadjuvant treatment is dependent on the treatment response and patient characteristics.

Keywords: breast cancer, mastectomy, reconstruction.

INTRODUCTION

Breast cancer is the most commonly diagnosed cancer worldwide, including low and middle income countries.^[1] There is a wide variation in the incidence of breast cancer across borders. These international differences are likely related to societal changes as a result of industrialization (eg, changes in fat intake, body weight, age at menarche, and/or lactation, and reproductive patterns such as fewer pregnancies and later age at first birth).^[2] Once we have established a diagnosis, it is important to accurately define the initial extent of disease since this information will affect treatment options. This brief report documents a case of a young Indian female presenting relatively late with a large breast lump and how we treated her.

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CASE REPORT

A 21 years old female presented to us with a lump in right breast, which although was present for a year, started increasing in size for the last two months. [Figure 1] The lump was associated with pain and nipple retraction. The patient also complained of loss of appetite and weight loss for four months. The family history of breast cancer was negative. At the time of presentation the patient had stable vitals and general examination was normal. On local examination, a 5x5 cm hard lump was present in the retroareolar area of the right breast with overlying skin fixed and nipple was retracted. There was no history of any discharge from the nipple. The lump was not fixed to the underlying structures. On the ipsilateral side, a 1x1 cm hard axillary lymph node was present. Left breast and axilla was normal and cervical lymphadenopathy was absent. Systemic examination and spine examination were normal. The patient was fully investigated in view of the advanced nature of the breast cancer. Ultrasonography of the right breast showed a large lobulated echogenic nodulated mass showing microcalcification with right axillary lymph node measuring 2.1cm. CT scan of the abdomen and chest showed a large lobulated heterogeneously enhancing lesion measuring 3.7x3.3x 3.5 cm in the right breast

retroareolar region. The lesion involved the overlying skin with irregular margins. Mildly enlarged axillary lymph node was observed. Tru-cut biopsy done showed Infiltrating Ductal Carcinoma (IDC) Grade III. Estrogen (ER) and progesterone (PR) receptor testing was negative. CerbB2 was positive in this patient. Technetium-99m revealed no scintigraphic evidence of any osteoblastic metastasis. Routine blood investigations were normal except for low haemoglobin.



Figure 1: The patient with LABC.

The young lady was having a local advanced right breast cancer. She was planned for neo adjuvant chemotherapy in which four cycles of paclitaxel and trastuzumab were given. The patient had a complete response (CR). Repeat breast examination revealed no residual breast lump. This was the window period for surgery. The patient was initially not willing for surgery as there was no breast lump now. She was counselled for surgery and primary breast reconstruction. Right modified radical mastectomy with axillary clearance along with primary breast reconstruction with latissimus dorsi flap was done. [Figure 2 and 3] Post-operative histopathological report showed no residual viable tumour with regional reactive lymph nodes. The patient has been planned for adjuvant chemotherapy in coming days.

DISCUSSION

Infiltrating ductal carcinomas are the most common types of invasive breast cancer, accounting for 70 to 80% of invasive lesions.^[3] These lesions are characterized by cords and nests of cells with varying amounts of gland formation and cytologic features that range from bland to highly malignant. Breast cancer is treated with a multidisciplinary approach involving surgery, radiation, and chemotherapy, which has been associated with a reduction in breast cancer mortality. ER and PR are prognostic factors for invasive breast cancer, particularly in the first five years following initial diagnosis. In addition, patients who are ER and/or PR positive are candidates for endocrine therapy as neoadjuvant or adjuvant treatment. HER2 over expression is present in 20% of patients and predicts those who will benefit from HER2-directed therapy.^[4]The risk for metastases to the axillary

nodes is related to tumor size and location, histologic grade, and the presence of lymphatic invasion within the primary tumor. Although internal mammary or supraclavicular nodes may be involved at the initial presentation, they rarely occur in the absence of axillary node involvement. For women with newly diagnosed breast cancer, imaging is reserved for advanced or metastatic disease. Computed tomography, chest x-ray, abdominal ultrasound and bone scan help us in localizing any metastatic disease.

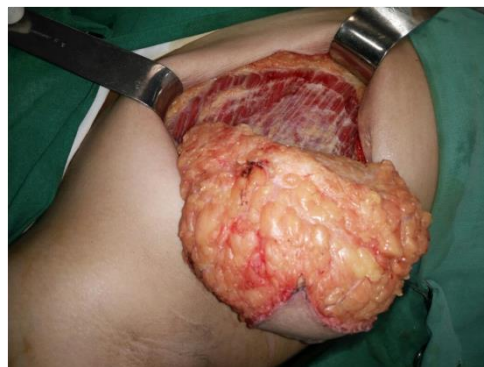


Figure 2 & 3: Modified Radical Mastectomy with Complete axillary clearance (with preservation of Thoracodorsal artery for LD Flap).



Figure 4: Primary Breast Reconstruction with LD Flap.

Most patients with locally advanced breast cancer should receive neoadjuvant systemic therapy. The goal of treatment is to induce a tumor response before surgery and enable breast conservation. Neoadjuvant therapy results in long-term distant disease-free survival and overall survival comparable to that achieved with primary surgery followed by adjuvant systemic therapy.^[5] It is recommended that all patients should undergo surgery following neoadjuvant systemic therapy, even if they have a complete clinical and/or radiological response. In addition, patients who experience progression while on neoadjuvant systemic therapy should proceed with surgery, rather than switching the chemotherapy regimen. The choice between breast conservation and mastectomy after neoadjuvant treatment is dependent on the treatment response and patient characteristics (eg, breast size in relation to residual tumor size). A modified radical mastectomy (MRM) is complete removal of the breast and the underlying fascia of the pectoralis major muscle along with the removal of the level I and II axillary lymph nodes.^[6] Several randomized trials documented equivalent survival rates with MRM as compared with radical mastectomy, with less morbidity.^[7] The equivalent survival outcome of the two procedures was further confirmed in an analysis of 3236 women enrolled in four randomized trials.^[8]

The breast is the heart of femininity. It remains in the mind of everyone of us as a true symbol of womanhood. Female breasts will hold a special place in today's society by virtue of their clinical, psychological and social importance. Loss of breast, post mastectomy has a dreadful and long lasting implications on the female in the form of loss of self esteem and psycho-social problems.^[9]

In every woman, who has experienced breast cancer, there is a hidden desire to rediscover her shaken femininity. With advances in science and surgery, with respect to woman's physical and psychosocial integrity, breast reconstruction has now become an indispensable part of modern day breast surgery.^[10] A huge armamentarium of plastic surgery techniques are available for performing immediate or delayed breast reconstruction after mastectomy. The most recent change in breast surgery is the development of oncoplastic indications at the time of primary surgery.^[11]

The latissimus dorsi flap (LDF) is a reliable and richly vascularized flap, and the proximity of the flap to the anterior chest wall makes it an ideal choice for providing the muscle, fat, and skin for use in reconstructing the breast after mastectomy.^[12]

Complications after mastectomy include seroma, wound infection, skin flap necrosis, chest wall pain, phantom breast syndrome, and arm morbidity. Seroma formation, a collection of serous fluid under the skin flaps, is commonly seen after breast and axillary surgery. Untreated seroma formation results

in delayed wound healing, wound infection, wound dehiscence, flap necrosis, delayed recovery, and poor cosmetic outcome. Drains are effective for seroma prevention in most cases because they obliterate the dead space between the skin flap and the pectoralis muscle. The rates of postoperative wound infection after breast surgery are low because these are clean procedures.^[13] Additionally, the rate of skin flap necrosis from modified radical mastectomy or simple mastectomy is estimated at 10 to 18%.^[14]

CONCLUSION

Breast cancer treatment represents an exemplary model of multidisciplinary management. Primary breast reconstruction has become an indispensable part of breast surgery in view of the significantly enhanced quality of life. There is a need for careful integration of all the available treatment modalities like surgery, chemotherapy, radiation therapy and reconstructive breast surgery with patient at the centre of the breast cancer management. Communication, coordination and cooperation of the patient are important factors for execution of best possible individualized treatment to the breast cancer patient.

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