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PRIMARY BREAST RECONSTRUCTION FOR CARCINOMA BREAST-OUR EXPERIENCE AT SKIMS

Plastic Surgery

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ABSTRACT

INTRODUCTION: Primary breast reconstructive surgery is performed after mastectomy and is an important part of comprehensive management of breast cancer. It offers an attempt to restore the body image

AIM: To study surgical outcome of immediate breast reconstruction regarding breast size and shape, comparison to contralateral breast, patient satisfaction and complications of various procedures.

MATERIALS AND METHODS: This retro-prospective study was conducted at Sher-i-Kashmir Institute of Medical Sciences in the Department of Burns, Plastic and Reconstructive Microsurgery. It included all the cases operated for early stage breast cancer in which immediate breast reconstruction was done from September 2005 to October 2013.

RESULTS: The mean age of the patients was 43.1 years, and pathological results were: invasive ductal carcinoma (n = 27, 90%) and invasive lobular carcinoma (n = 3, 10%). All patients after IBR(immediate breast reconstruction) received adjuvant therapy. After a mean follow-up of 1.5 years, no local recurrence occurred. Main complications were seroma (n = 3, 10%), scarring (n = 3, 10%), and partial flap necrosis (n = 1, 3.33%). 25 (83.3%) patients reported their degree of satisfaction as good, while as 22 (73.3%) patients were found to have good cosmesis after proper assessment.

CONCLUSION: Primary breast reconstruction can be performed safely with good cosmetic results and enhanced quality of life.

KEYWORDS

Primary breast reconstruction, Carcinoma breast, TRAM flap, LD flap.

Introduction

Primary breast reconstruction is a reconstructive surgery performed at the same time as that of mastectomy and is an important part of comprehensive management of breast cancer. In fact, it has been suggested that breast reconstruction may constitute a reverse mastectomy by offering the most effective means for restoring psychological well being after a mastectomy[1]. The procedure has shown a favourable psychological impact on patients with no time without a breast mound along with associated advantages including better cosmetic results, smaller breast scars, one anesthesia and recovery period, one hospital stay and cost effectiveness at the cost of long anesthesia time, increased risk of infection and involvement of two surgical teams. Compared to delayed reconstruction, Immediate Breast Reconstruction (IBR) reduces the total hospital expenses and total period of hospital stay[3].

Primary breast reconstruction can be performed in patients in whom mastectomy is needed because of large size or multifocality of the cancer, diffuse in situ cancer, inherited susceptibility for breast cancer, local recurrence after conservative surgery. Options for primary breast reconstruction include (a) Autogenous tissues like Pedicle based flaps (TRAM flap, L D flap, Lateral thoraco-dorsal flap), free flaps (Free TRAM flap, Gluteal free flaps, Thoraco-epigastric flap) (b) Prosthetic Reconstruction including Silicone implants (Saline or gel filled)(c) Combination procedures like L D flap with implant, TRAM flap with implant.

Immediate reconstruction using autologous tissue yields the most durable and natural appearing results with the greatest consistency[3]. A variety of donor sites have been described for reconstruction of breast including the abdomen, back, buttocks, and thighs[4,5]. In all cases a flap of tissue is transferred to the chest to reconstruct the mound. The most common pedicled myocutaneous flap is the transverse rectus abdominis myocutaneous (TRAM) flap[6,7]. This flap consists of excess skin and soft tissue in the infraumblical area overlying the rectus abdominis muscle, together with the rectus muscle itself, which is perused by the superior epigastric vessels[8].

Materials and Methods

The study involved 30 patients of stage I and stage II breast cancer in whom immediate breast reconstruction was done following mastectomy and was conducted at Sher-i-Kashmir Institute of Medical Sciences in the Department of Burns, Plastic and Reconstructive Microsurgery in association with General Surgery after approval from ethical committee of our institute from September 2005 to October 2013. The patients were enrolled after adequate counseling and taking informed consent. Patients were discussed in Joint Tumor Clinic in a multidisciplinary approach with the explanation of treatment options and procedure to be undertaken.

Patients underwent mastectomy with either axillary dissection for palpable axillary nodes or axillary sampling for clinically node negative disease followed by immediate breast reconstruction with two types of flaps viz, pedicled TRAM and Latissimus Dorsi flaps. The standard flap harvesting procedures were used in both cases. L D flap was commonly used in thinner patients with smaller breast size and TRAM flap reconstruction was done in patients with larger breast size and flabby abdomen so that abdominoplasty could be accomplished in the same sitting. Donor site care as recommended was followed for both the types of flaps. Tissue specimens were sent for HPE (Histo-pathological-examination), ER/PR (Estrogen/progesterone) and Her-2 receptor status.

All patients after discharge were sent to Regional Cancer Center for chemo radiation and were followed up at six monthly intervals in joint tumor clinic and investigated as well as assessed for surgical outcome in terms of breast volume, breast shape and comparison to contralateral breast, complications and patient satisfaction. Patient satisfaction was evaluated by patient response to a questionnaire on follow up visits while as breast cosmesis was assessed by Winchester and Cox scoring which is as follows:

Winchester & Cox scoring system for post-reconstruction cosmesis.

Findings (Winchester & Cox).	Cosmesis
Treated breast almost identical to untreated breast.	Excellent.
Minimal difference between treated and untreated breast.	Good.
Obvious difference between treated and untreated breast.	Fair.
Major functional and esthetic sequelae in treated breast.	Poor.

Questionnaire to assess patient response

Statements	Score	
Did you receive sufficient information about various options for breast reconstruction along with associated risks and benefits.	Yes(1)	No(0)
Do you think operating team involved you in decision making process and the treating surgeons were competent, reassuring and made you feel comfortable.	Yes(1)	No(0)
Were you satisfied having breast reconstruction at the same time as your mastectomy (immediate reconstruction) versus having it later.	Yes(1)	No(0)
Do you think the hospital staff was thorough, made time for your concerns and treated you with respect and dignity.	Yes(1)	No(0)
Did you receive psychological support or counseling from healthcare professionals after your surgery.	Yes(1)	No(0)
Do you think that breast reconstruction process helped you in maintaining normal social interactions, sexual desire and enjoyment.	Yes(1)	No(0)
Do you think that reconstruction process helps in decreasing the th of coughtsancer.	Yes(1)	No(0)
Are you satisfied with the feel of reconstructed breast as per your expectations.	Yes(1)	No(0)
Are you satisfied with the overall appearance along with the feelings of balance and wholeness.	Yes(1)	No(0)
Would you recommend the same procedure to your friend or family member needed in case.	Yes(1)	No(0)

Results

A total of 30 patients who were in early stage breast cancer (stage I and stage II) underwent primary breast reconstruction with autogenous TRAM flap or LD flap. The mean hospital stay after surgery was 8.6 days. The mean age of the patients was 43.1 years (Fig 1). Pathological results were: invasive ductal carcinoma in 27 patients (90%), and invasive lobular carcinoma in 3 (10%). All patients received adjuvant chemo-radiotherapy, none of the patients developed local recurrence with a mean follow up period of 1.5 years.

Location of tumor in relation to various quadrants of breast is shown in **Fig 2**

In our study we followed TNM/AJCC system for staging our patients TNM status and stage is shown in Table 1 and Fig 3.

Mastectomy with axillary dissection was done in 20 (66.67%) patients; mastectomy with axillary sampling was done in 10 (33.3%) patients. Axillary sampling was done in clinically node negative patients and axillary dissection in all other patients. IBR with LD flap was done in 24 (80%) patients and IBR with TRAM flap in 6 (20%) patients.

Patients were assessed according to Winchester and Cox scoring system for post-reconstruction cosmesis (Table 3).Most of the patients after assessment had good cosmesis. Lack of nipple areola reconstruction was the reason for non excellent cosmesis Level of patient satisfaction regarding surgical outcomes by using a questionnaire including an analogue scale ranging from 0 to 10 was performed on follow up visits at our hospital. The level of satisfaction was ranged to be excellent (score 9-10), good (score 7-8), fair (score 5-6) and poor (score 3-4). According to patient response to the questionnaire, about 83.3 % of the patients reported their satisfaction as good.

The post-operative complications and morbidities were assessed (Fig 4). Donor site seroma was managed with aspiration and proper strapping while as flap necrosis was treated by debridement and proper cover including graft or local flap.

Discussion

In our study immediate breast reconstruction was done using autologous tissues including latissimus dorsii and transverse rectus abdominis myocutaneous flaps. Good aesthetic qualities were observed after proper assessment. Mansel at al. in their study on cosmetic results of IBR concluded that immediate breast reconstruction can give excellent cosmetic results. They observed that the latissimus dorsi flap gave best result for size, position and scarring (9). Eberlein et al in their study on prospective evaluation of IBR using implants and tissue transfers observed that autologous tissue transfers resulted in a statistically better cosmetic result(10).

In our study patients were assessed for post reconstruction cosmesis according to Winchester and Cox scoring system. Out of 30 patients, 22 patients had good cosmesis, 6 patients had fair cosmesis and 2 patients had poor cosmesis. Mamoon Rashid et al (11) in their similar study had excellent aesthetic restoration in 82% of patients. Excellent restoration actually depends on the reconstruction of nipple-areola complex. In our study patients were reluctant for nipple-areola reconstruction because they did not want to undergo one more surgery.
A patient survey was performed on follow up visits at our hospital to assess the level of patient satisfaction regarding surgical outcomes by using a questionnaire including an analogue scale ranging from 0 to 10. The level of satisfaction was determined to be excellent (score 9-10), good (score 7-8), fair (score 5-6) and poor (score 3-4). In our study 83.3% patients showed their level of satisfaction as good where as 16.7% were fairly satisfied. In the study conducted by Kim et al (12) 40% of the patients rated their level of satisfaction as excellent. This possibly is due to lack of nipple-areola reconstruction in our series, mostly due to patient reluctance for second operation, meanwhile suggesting that nipple reconstruction could be a factor that significantly enhances the level of satisfaction.

Surgical complications of mastectomy followed by immediate breast reconstruction have been reviewed in previous studies. In our study seroma occurred in 3 patients (10%), partial flap necrosis in 1 patient (3.33%), partial necrosis of skin paddle in 1 patient (3.33%) and marked scarring in 3 patients (10%). No patient developed wound infection or hematoma. Comparable results were observed in the study by Kim et al (12) regarding immediate breast reconstruction following mastectomy.

Conclusions

In our assessment for breast cosmesis, we concluded that breast formed from autogenous tissue is soft and has aesthetic qualities difficult or often impossible to produce by any other means. These methods of reconstruction allow the surgeon considerable latitude in forming the breast mound as to size, shape, and degree of ptosis, so that a near match of opposite breast can be attained. Immediate breast reconstruction resulted in good patient satisfaction. In most of our cases, results were acceptable to both surgeon and the patient.

Fig 1-Age distribution of patients

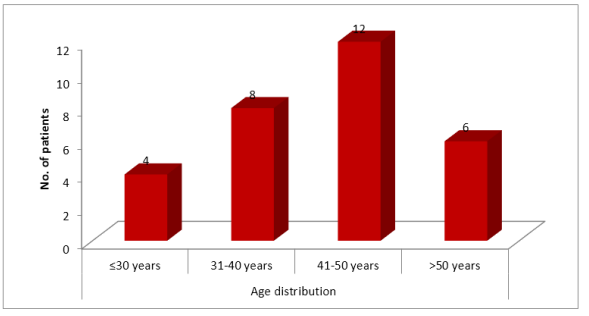


Fig 2: Percentage of patients and tumor in different quadrants of breast

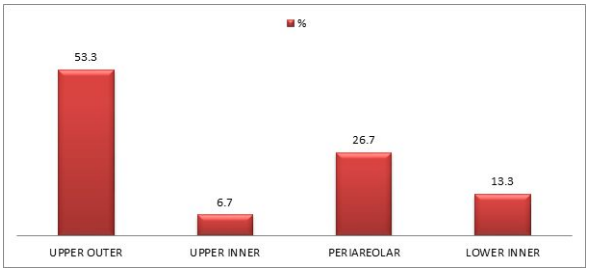


Table 1: Showing TNM status of patients

Fig 3: AJCC staging of patients

TNM STATUS	%
T1	18 (60%)
T2	12 (40%)
N1	20 (66.67%)

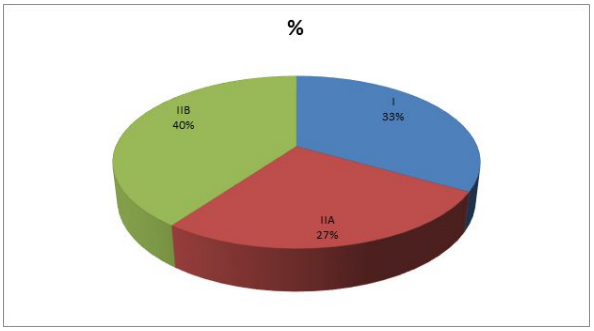
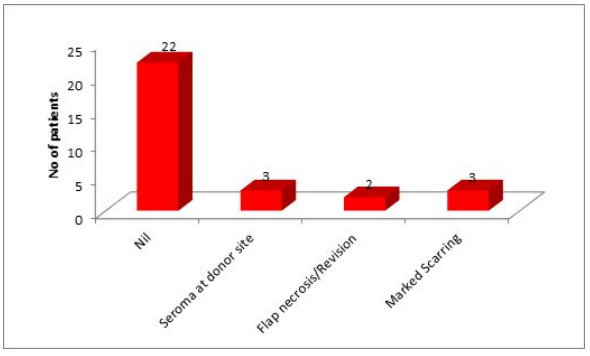


Table 2 - Winchester and Cox scoring system for post-reconstruction cosmesis

Cosmesis	Number of Patients	Percentage
Good	22	73.3
Fair	6	20
Poor	2	6.7

Fig 4- Post operative complications



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