ORIGINAL ARTICLE

Assessment of Quality of Life after Breast Reconstructive Surgery Following Mastectomy for Carcinoma Breast

Pawan Agarwal, Amol K Patel, Arjun Saxena, Arpan Mishra

ABSTRACT

Objective — *To find out acceptability of the breast reconstruction and to evaluate quality of life (QOL) after breast reconstruction.*

Study design — *Observational study.*

Place & Duration of study — *Plastic surgery unit, Department of Surgery; NSCB Govt. Medical College and Hospital Jabalpur (M.P.) India over a period of 2 years.*

Methodology — *Forty five women who consented to join the study completed the questionnaires before operation, three months after operation and than 6 months later. The quality of life was assessed after breast reconstruction by European Organization for Research and Treatment of Cancer (EORTC) Breast Cancer-Specific quality of life questionnaire.*

Results — *We found that 76% women were highly satisfied with their physical quality of life in breast reconstruction group whereas in mastectomy alone group only 20% women were happy with their post mastectomy status of life.*

Conclusions — *Majority of women after immediate breast reconstruction live their life with acceptable quality and a lower incidence of psychological morbidity.*

Key words — *Quality of life, Breast reconstruction, Mastectomy.*

INTRODUCTION:

Female breasts hold a place of paramount importance by virtue of their psychosexual and social importance. Carcinoma of the breast and mastectomy have considerable impact in the form of psychosocial effect of the physical and aesthetic deformity, which can include anxiety, depression, and negative effects on body image and on sexual function.[1] The Mastectomy is not simply a scar; it is an amputation which adversely affect quality of life of female.[2] Specific type of psychological distress resulting from radical surgery include clinically significant mood disturbances, decreased sexual interest and satisfaction, increased self consciousness, negative changes in body image and fear about recurrence.[3,4]

Correspondence:
Dr. Pawan Agarwal
Department of Surgery, NSCB Medical college
Napier town Jabalpur- 482001
India
E- mail: drpawanagarwal@yahoo.com

Breast reconstruction has now become an integral part of modern day breast surgery following mastectomy as it is oncologically safe and aesthetically satisfying. The potential benefit of breast cancer reconstructive surgery is to increase the patient's post-surgical quality of life and alleviate the post-traumatic psychological sequelae of breast cancer surgery. The aim of this study was to understand acceptability of the procedure and to evaluate QOL after breast reconstruction.

METHODOLOGY:

This observational study was carried out in the Plastic Surgery unit, Department of Surgery; NSCB Govt. Medical College and Hospital Jabalpur (M.P.) India over a period of 2 years. Before starting the study the institutional ethical committee approval was taken. Patients with breast cancer were screened in the out patient department and diagnosis confirmed by fine needle aspiration cytology / core needle biopsy of lump / lymph nodes (if enlarged). On the basis of clinical examination and necessary investigations

staging of breast cancer was done.

Patients in whom modified radical mastectomy (MRM) was done without breast reconstruction, were taken as control (mastectomy alone group MA) and patients in whom MRM / skin sparing mastectomy done, were reconstructed with transverse rectus abdominis myocutaneous flap (TRAM flap).

The women, who joined the study, completed the questionnaires before operation, three months after operation and then 6 months later. The results were assessed for quality of life after breast reconstruction by European Organization for Research and Treatment of Cancer (EORTC) Breast Cancer-Specific quality of life questionnaire (QLQ-BR23). The data were analyzed by univariate and bivariate analysis using t-test and z-test. The critical values for the significance of the results were considered at 0.05 levels.

RESULTS:

A total of 25 women gave consent for breast reconstruction and immediate breast reconstruction (IBR) was performed in these patients. Twenty patients were taken as control. The age of the 45 patients who were included in the study ranged from 28 - 70 years with a mean age of 40.23 years. Majority of patients were educated up to higher secondary level and belonged to low / middle socio-economic status. According to histopathology of tumor, infiltrating duct carcinoma was reported in 41 cases, lobular carcinoma in 2 cases and mucinous and medullary carcinoma were found in one each case. All patients belong to carcinoma breast stage 3A or 3B by clinical and necessary radiological examination preoperatively. Patient with 3B disease were given neoadjuvant chemotherapy.

In this study TRAM flap breast reconstruction was done in 25 cases, 17 after modified radical mastectomy and 8 after skin sparing mastectomy. (Fig -1-5) Out of 25 reconstructed breasts, complications occurred in 3 patients including superficial abdominal wound dehiscence in one case and partial flap necrosis in two cases. Partial flap necrosis healed spontaneously over time with conservative management and superficial abdominal wound gaping, of flap donor site, was closed secondarily. On late follow-up two patients presented with recurrence, one had cannon ball opacities in chest x ray one year post operatively and one had recurrence in opposite breast after 6 months of reconstruction. Both patients were advised further chemo-radiation. All the patients were assessed on the basis of five parameters i.e. body image, sexual satisfaction, femininity, anxiety, and level of overall satisfaction (Fig I & II).

The mean body image score at 3 month and 6 months was 4.56 ± 2.94 and 4.5 ± 2.62 in immediate breast reconstruction (IBR) group whereas it was 8.20 ± 3.11 and 8.2 ± 3.34 in mastectomy alone (MA) group. This represents that women in IBR group were highly satisfied with their post reconstruction body image as compared to MA group, and this was statistically significant ($p < 0.05$). The mean score for level of overall satisfaction at 3 months and 6 months was 24.68 ± 6.41 and 23.71± 5.45 in IBR group ($p < 0.05$ table-I).

Fig I & II: Immediate results of breast reconstruction.

We found that 76% women were highly satisfied with their physical quality of life in breast reconstruction group whereas in mastectomy alone group only 20% women were happy with their post mastectomy status of life. On assessment of other parameters like sexual activity in IBR group 64% women and in MA group only 25% women reported improved sexual activity. Body image improvement was observed in 88% women of IBR group and there was no case reported in MA group. In IBR group 76% women and in MA group 40% women reported decrease in anxiety. Improvement in femininity was observed in 68% women of IBR group and only 20% in MA group (table-II). Causes for refused reconstruction were fear of complications (n 5), fear of additional cost (n 8) and fear of recurrence (n 2). Acceptability rate for reconstruction was 63%.

Table I: Changes in Individual Parameters from Base Line Value at 3 Months and 6 Months Postoperatively in IBR and MA Groups

	Score in IBR group			Score in MA group		
Parameters	Pre-op Mean±SD	3 Months	6 Months	Pre-op	3 Months	6 Months
Sexual Quality	5.93±2.40	6.62±2.96 p>0.05	7±2.88 p>0.05	7±2.73	5.4±1.34 p>0.05	5.4±1.34 p>0.05
Body Image	8.31±2.79	4± 2.94 p<0.001	4.5±2.62 p<0.001	11±2.34	8.2±3.11 p>0.05	4.5±2.62 p>0.05
Anxiety	3.31±.60	1.56±.89 p<0.001	1.42±.75 p<0.001	3.4±.89	2.2±.83 P<0.05	1.8±.83 P<0.05
Feminity	1.56± .72	1.31±.70 p>0.05	1.21±.57 p>0.05	2.2±.83	1.6±.89 p>0.05	2.6±1.14 p>0.05
Overall satisfaction	-	24.68±6.41	23.71±5.45	-	34±7.17	30.6±4.92

Table II: Changes in Individual Parameters and Final Outcome from Base Line Value at 3 Months and 6 Months Postoperatively in Both Group.

Parameters	IBR group (n=25)		MA group (n=20)	
	Improved	Worse	Improved	Worse
Sexual Activity	16 (64%)	9 (36%)	5 (25%)	15 (75%)
Body Image	22 (88%)	3 (12%)	0 (0%)	20 (100%)
Anxiety	19 (76%)	6 (24%)	8 (40%)	12 (60%)
Feminity	17 (68%)	8 (32 %)	4 (20 %)	16 (80%)
Overall quality of life	19 (76%)	6 (24%)	4 (20%)	16 (80%)

DISCUSSION:

In present study most patients presented with advanced disease (stage III). All the patients were reconstructed with autologous tissue. Indian women have large breast with lots of fatty tissue in whom latissimus dorsi flap is not appropriate to give proper symmetry and cosmetic results. Reconstruction by prosthesis was not preferred due to the cost of implant and requirement of postoperative adjuvant therapy which may cause implant contracture.

In this study women in IBR group were highly satisfied with their post reconstruction body image and level of overall satisfaction was also high as compared to MA group. The other parameters like sexual satisfaction, anxiety and feminity improved in IBR group but the improvement was not statistically significant. The common motivation for reconstructive surgery in all the patients were to restore the feeling of feminity and wholeness, to avoid disfigurement and external prosthesis and to improve self confidence.[5] The desire to improve sexual relationship is less common and should be viewed with caution when presented as primary motivation for the purpose.[6,7] Cosmesis, neurotic and sexual problems do not play a significant part in considering breast reconstruction. The fact that none of the patients in our study came for nipple-areola reconstruction indicates that patients are not much concerned about cosmetic results.[8]

In our study 76% women were highly satisfied with their physical quality of life in breast reconstruction group whereas in mastectomy alone group only 20% women were happy with their post mastectomy status of life. Dean also reported greater satisfaction with breast appearance 3 and 12 months post reconstruction, compared with those who underwent mastectomy alone.[9] Wehrens reported significantly better psychological profile of the women in the reconstruction group. As they were more extroverts; more active socially and sexually, more talkative, more animated and took the initiative but the physical quality of life was not found to be significantly

different in the two groups of patients.[10] Satisfaction with breast reconstruction does not depend upon the methods of reconstruction used.[11]

Harcourt and colleagues prospectively compared quality of life (QOL) in women undergoing mastectomy alone, mastectomy with immediate reconstruction and mastectomy with delayed reconstruction. Based on data, they failed to identify a consistent benefit of QOL in immediate breast reconstruction. However, the patients who elected reconstruction were comparatively younger. Therefore age is the important predictor of the decision to reconstruct. It has been suggested that possible reasons why older women are less likely to undergo reconstruction include the reluctance to undergo multiple additional procedures to complete the reconstruction, decreased importance of body image compared to younger patients, and the bias of surgeon selection of younger healthier patients who would tolerate a prolonged procedure.[12]

Ananian and colleagues reported strikingly high rate of breast reconstruction following mastectomy (81%) in French healthcare system that universally offers reconstruction (without added cost) to mastectomy patients. This suggests that when patients have access and are offered the option of reconstruction in a multidisciplinary and non-biased fashion, reconstructive rates will be high.[13]

Rubino and colleagues retrospectively examined QOL, sexual function, anxiety, and depression of healthy women, mastectomy-only patients, and mastectomy with reconstruction at one year postoperatively in Italy. They found that after one year there was no statistical difference between healthy patients and reconstructed patients using measures of social and sexual relationships as well as overall QOL. Further, they found that indicators of depression were less severe in reconstructed patients compared to mastectomy-only patients, while levels of anxiety remained similar between the groups.[14]

Many studies recommend immediate reconstruction in order to reduce psychological morbidity postoperatively.[15,16] Immediate breast reconstructions can be performed with an acceptable rate of complications, high level of patient satisfaction and these patients had less recalled distress about mastectomy.[17] Historically, reconstruction was purposefully delayed so that the patient would be able to first live with her deformity and thus better appreciate her reconstructed result. In addition, it was assumed that the mastectomy scar would allow for more effective monitoring of the patient for local recurrence. However, subsequent studies have failed to show a psychological advantage of delaying reconstructive surgery, and there is now clear evidence that neither implant-based nor autogenous tissue–based reconstruction has any effect on the incidence or detection of cancer recurrence. Technically, immediate reconstruction allows for the preservation of the inframammary fold and maximizes the amount of native skin available for the reconstructive process, thereby maximizing the overall aesthetic result. In addition, the preservation of body image, femininity, and sexuality through the immediate reconstruction of a breast mound can be psychologically beneficial and significantly reduce postoperative emotional stress. For these reasons, immediate reconstruction is generally preferred.[18,19]

Breast reconstruction not necessarily confer psychological benefits and women still feels conscious of altered body image even one year postoperatively regardless of whether or not they had elected breast reconstruction.[17] Breast reconstruction allows women to feel comfortable in clothing and reconstruction does not neutralize the biggest emotional challenge of breast cancer or fear of recurrence.[20] Randomized trials comparing mastectomy with breast reconstruction and mastectomy without breast reconstruction are difficult to perform since it would be difficult to randomize patients to undergo elective surgery, as patient decision making is essential. The evidence strongly suggests that the benefits of breast reconstruction are dependent on the individual circumstances and preferences of patients. Studies confirm that the patient's satisfaction after reconstruction is likely to be highest when the patient has been adequately informed and involved in the decision making.[21] Existing literature into the psychological aspect of breast reconstruction is not conclusive to make any uniform policy and this option should be best left with the patient.

In our study in IBR group, causes of disappointment were partial flap necrosis, mismatched breast size, abdominal scar and mild pain in axilla due to axillary dissection. But at 6 months when wound was healed completely and donor scar became mature satisfaction levels of women improved. The limitations of this are small number of patients and insufficient follow-up period to assess the late psychological out come and patient adjustment. The study was not double blind in that the interviewer knew the patient's reconstructive procedure and previous score. But it is a prospective study so there are less chances of recall bias and has a control group for comparison. This study aimed at

preliminary exploration of the psychological impact of immediate breast reconstruction and its importance as an alternative for women with mastectomy for carcinoma of breast.

CONCLUSIONS:

Immediate breast reconstruction is accompanied by a lower incidence of psychological morbidity, therefore it should be recommended to all women undergoing mastectomy. The desire to improve sexual relationship is less common and should not be considered as primary motive for reconstruction. Patients from rural background with poor socioeconomic status and low literacy also have similar psychological advantage and need for breast reconstruction.

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