

**BREAST ONCOPLASTY IN INDIA: FEASIBILITY AND EARLY EXPERIENCE FROM TIER 2 CITY IN NORTH INDIA.****Surgery****Hemant Goyal\*** Department of Surgery, F.H. Medical College, Etmadpur, India \*Corresponding Author**Utkarsh** Department of Surgery, F.H. Medical College, Etmadpur, India**Ruchika Agarwal** Department of Gynaecology, F.H. Medical College, Etmadpur, India**Avinash Saxena** Department of Surgery, F.H. Medical College, Etmadpur, India**ABSTRACT**

Breast conservation therapy (BCT) is the accepted treatment for early breast cancer. Despite high incidence of carcinoma breast in India, BCT rates are very low as compared to the west. In this article, we wish to share our experience of breast conservation with oncoplasty in Indian women. A retrospective analysis of case records of patients treated with oncoplastic breast conservation from August 2019 to August 2022 at our institution was carried out. Demographic patient data, stage of disease, location of primary tumour, reconstruction method used, post-operative complications and aesthetic score of patients were analysed. There were 39 patients. Most common stage of presentation was T2N0 in 20 patients (51.2%). Tumour arising in upper outer quadrant was most common site, seen in 24 (61.5%). Oncoplastic procedure of volume displacement was done in all patients. Overall surgical complications included wound infection with or without dehiscence and seroma formation. Breast conservation with oncoplasty is oncologically safe for early breast cancer treatment and has good cosmetic outcome with high patient satisfaction rates. Our results show that BCS with oncoplasty is practical outside major cancer centres also.

**KEYWORDS**

Oncoplasty. Early breast cancer. Volume displacement.

**INTRODUCTION**

Breast cancer is the most common cancer in women in urban India, comprising 34% of all cancers in women [1]. The surgical management of early breast cancer has evolved from the era of radical mastectomy as proposed by Halsted to modified radical mastectomy (MRM) to the present era of breast conservation surgery (BCS) and oncoplasty. MRM and BCS remain the most commonly performed surgical procedures in early breast cancer (EBC). However, in spite of advances in principles of surgery and breast reconstruction as well as availability of newer imaging modalities and radiation facilities, the overall acceptance of BCS remains poor, 11–34% in India as compared to 60–70% in western countries [1].

The combination of BCS with reconstruction is termed oncoplasty. In this technique, oncological resection of breast cancer is done by using several different plastic surgery techniques to reshape, replace or rearrange the non cancerous breast tissue [2]. In order to achieve a good cosmetic outcome and to have an aesthetically pleasing result, breast oncoplasty should be an integral aspect of breast conserving surgery. The choice for reconstruction method used depends on tumour size, tumour-breast ratio, location of the tumour and density of breast tissue.

We have been routinely performing BCT with level I oncoplasty at our centre in a tier 2 city in North India and have a high BCS acceptance rate of nearly 75%. We share our data to emphasize the universal practicality of BCS with oncoplasty in Indian conditions.

**MATERIALS AND METHODS**

We retrospectively analysed case records of patients who underwent BCT with oncoplasty from August 2019 to August 2022. Demographic patient data, stage of disease, location of primary tumour, reconstruction method used, post-operative complications and aesthetic outcome of patients were analysed.

All patients were evaluated clinically and radiologically by ultrasound, mammography. Tissue diagnosis was made with either fine needle aspiration cytology or tru-cut core biopsy under local analgesia. Metastatic work up included chest radiograph and ultrasound abdomen in EBC patients.

**Breast Oncoplasty**

We used volume displacement by rotation and advancement of fibroglandular flaps of the breast (level I oncoplasty) in all our patients [3,4].

In Level I oncoplasty fibroglandular flaps of the breast parenchyma are developed for reconstruction. The breast can be mobilized from

pectoral fascia or skin or both depending upon the defect. The flaps are sutured together and the cavity is reconstructed. The size of the reconstructed breast may become slightly smaller than the contralateral side, but the difference is minimal.

**RESULTS**

A total of 39 case records of patients who underwent breast conservation surgery with reconstruction from August 2019 to August 2022 were reviewed. Age of the patients varied from 24 to 76 years (median age 46 years). A total of 10 patients had co-morbidities including hypertension (5 patients, 12.8%), diabetes (4 patients, 10.2%) and hypothyroidism (1 patient, 2.6%). Twenty three patients had right sided lesions while 16 patients had left sided lesions.

Most patients in our series had early breast cancer: T2N0 in 20 patients (51.2%) followed by T2N1 in 15 patients (38.5%). Four patients had large operable cancers (T3N0). More than half of the patients had tumour arising in upper outer quadrant ( $n=24$ , 61.5%). Volume displacement method of reconstruction was done in all patients. Overall surgical complications included wound infection with or without dehiscence in 2 (5.1%) and seroma formation in 3 (7.7%).

The mean follow-up in our study was 16 months (range 1–36 months). Local recurrence was seen in 01 patients (2.6%). Recurrence was managed by completion mastectomy. The cosmetic outcome was assessed using Harvard scale at 1 and 6 months post-treatment, and it was taken by an independent observer (a nurse). As per the Harvard scale, excellent result means treated breast nearly identical to untreated breast, good is defined as treated breast slightly different than untreated breast, fair is when treated breast clearly different from untreated but not seriously distorted and poor is when treated breast seriously distorted [5]. It was found to be excellent in 9 patients (23.07%), good in 15 patients (38.46%), fair in 12 patients (30.7%) and poor in 3 patients (7.7%).

**DISCUSSION**

Breast conservation surgery is an internationally accepted treatment for early breast cancer [6]. It has been proven equivalent to modified radical mastectomy in terms of disease-free survival and overall survival [7]. So, doing more surgery does not therefore give patients better outcomes. In recent studies, the overall survival rates were shown better with conservative surgery compared to mastectomy [8]. Recently developed guidelines for loco regional breast cancer treatment also suggest that breast conservation should always be offered to all the patients who are suitable for it [9].

Oncoplasty was first described by Audretsch in 1998 as the incorporation of principles of plastic surgery for removal of tumours of

the breast with adequate surgical margin along with immediate breast reconstruction [10]. Breast conservation alone leads to significant deformity of the breast, and margin clearance may also get compromised, but when breast conservation is performed by oncoplastic methods, the outcome in terms of cosmesis is much better and wider margins could be achieved [11]. Moreover, with oncoplasty and partial breast reconstruction, BCS can be even offered to selected patients with multifocal lesions in the same quadrant [12].

We routinely perform breast oncoplasty in all patients undergoing breast conservation surgery at our Institute as it offers excellent cosmetic outcome. It also results in improving the positive self-image as well as self-confidence. Therefore, oncoplasty is very essential aspect and the need of the hour for management of early breast cancer.

Oncoplasty techniques have been classified by many surgeons. Oncoplasty is broadly classified into volume displacement and volume replacement techniques by Rainsbury in 2007 [3]. This classification is based on the concept of volume of tissue lost. When the resected breast volume is less than 20% of the total volume, breast tissue itself is used to reconstruct the defect, it is called volume displacement. Volume replacement is done when the defect is more than 20% of the total breast volume and tissue from outside the breast is added. Volume displacement has been further classified as level I and level II depending upon the method of reconstruction by KB Clough in 2010 [4]. In the present study, the cosmetic outcome was excellent and good in 81.7%, and these were the women satisfied with their result. In a study from India done over 35 patients, 96% patients were satisfied with the results after oncoplasty [13] and western literature shows patient satisfaction rate ranging from 71 to 100%. [3, 14].

The Indian scenario with respect to breast conservation is very different. Lack of awareness is the root cause of such low rates of breast conservation therapy for early carcinoma breast and much lower are rates of oncoplasty. However the trend is changing even in tier 2 cities as we have nearly 75% BCS rates in eligible EBC patients. Application of oncoplastic procedures and dedicated female breast specialist goes along way in motivating these EBS patients for BCT.

## CONCLUSION

Breast conservation therapy is the choice of treatment for early breast cancer. Availability of basic oncoplastic procedures like level one volume displacement technique which are fairly easy to learn and practice can lead to high acceptance of BCT in eligible EBC patients even in India.

## REFERENCES

1. Raina V, Bhutani M, Bedi R, Sharma A, Deo SVS, Shukla NK et al (2005) Clinical features and prognostic factors of early breast cancer at a major centre in North India. *Indian J Cancer* 42:36–41
2. Meretoja TJ, Svarvar C, Jätkälä TA (2010) Outcome of oncoplastic breast surgery in 90 prospective patients. *Am J Surg* 200:224–228
3. Rainsbury RM (2007) Surgery insight: Oncoplastic breast-conserving reconstruction—indications, benefits, choices and outcomes. *Nat Clin Pract Onc* 4(11):657–664
4. Clough KB, Kaufman GJ, Nos C, Buccimazza I, Sarfati IM (2010) Improving breast cancer surgery: a classification and quadrant per quadrant atlas for oncoplastic surgery. *Ann Surg Oncol* 17:1375–1391
5. Harris JR, Levene MB, Svensson G, Hellman S (1979) Analysis of cosmetic results following primary radiation therapy for stages I and II carcinoma of the breast. *Int J Radiat Oncol Biol Phys* 5(2):257–261
6. Jakesz R, Samonigg H, Gnant M et al (2003) Significant increase in breast conservation in 16 years of trials conducted by the Austrian breast and colorectal cancer study Group. *Ann Surg* 237:556–564
7. Fisher B, Anderson S, Bryant J et al (2002) Twenty-year follow-up of a randomized trial comparing total mastectomy, lumpectomy, and lumpectomy plus irradiation for the treatment of invasive breast cancer. *N Engl J Med* 347:1233
8. Van Maaren MC, de Munck L, de Bock GH, Jobsen JJ, van Dalen T, Linn SC et al (2016) 10 year survival after breast-conserving surgery plus radiotherapy compared with mastectomy in early breast cancer in the Netherlands: a population-based study. *Lancet Oncol*. doi:10.1016/S1470-2045(16)30067-5
9. Munshi A, Gupta S, Anderson B, Yarnold J, Parmar V, Jalali R et al (2012) Guidelines for locoregional therapy in primary breast cancer in developing countries: the results of an expert panel at the 8(th) annual Women's cancer initiative - Tata memorial hospital (WCI- TMH) conference. *Indian J Med Paediatr Oncol* 33(2):112–122. doi:10.4103/0971-5851.99748
10. Audretsch W, Rezai M, Kolotas C et al (1998) Tumor-specific immediate reconstruction in breast cancer patients. *Perspect Plast Surg* 11:7
11. Fitzal F, Mittlboeck M, Trischler H, Krois W, Nehrner G, Deutinger M et al (2008) Breast-conserving therapy for centrally located breast cancer. *Ann Surg* 247:470–476
12. Patani N, Carpenter R (2010) Oncological and aesthetic considerations of conservational surgery for multifocal/multicentric breast cancer. *Breast J* 16(3):222–232. doi:10.1111/j.1524-4741.2010.00917.x.Review
13. Adimulam G, Challa VR, Dhar A, Chumber S, Seenu V, Srivastava A (2014) Assessment of cosmetic outcome of oncoplastic breast conservation surgery in women with early breast cancer: a prospective cohort study. *Indian J Cancer* 51(1):58–62
14. Wang HT, Barone CM, Steigelman MB, Kahlenberg M, Rousseau D, Berger J et al (2008) Aesthetic outcomes in breast conservation therapy. *Aesthetic Surg J* 28:165–170