

Breast Conservation Surgery: A Snapshot

Aditi Chaturvedi*

¹Department of Oncoplastic Surgery, Max Super Speciality Hospital, Saket, New Delhi

Correspondence:

Aditi Chaturvedi

E-mail: aditi.chaturvedi28@gmail.com

Abstract:

Breast Conservation Surgery has become the standard of care for a majority of patients with early and certain well selected cases of locally advanced disease. With improved surgical techniques, advancements in systemic therapy and radiation, patients with breast cancer are able to save their breast and obtain a good cosmetic outcome without compromising safety. However there are certain points about this surgery, which every health care provider should be well versed with to properly counsel, select and prepare their patients.

Key words: Breast Cancer, Breast Conservative Surgery (BCS), Mastectomy

Introduction

Breast Cancer is the most common cancer worldwide and is known to affect more than 2.3 million women in a year and accounts for roughly 12% of the global cancer burden.¹ Surgery remains the cornerstone of management of non metastatic breast cancer and can be broadly categorized into Mastectomy and Breast Conservation Surgery (BCS). With improved surgical techniques, earlier stage at detection and greater focus on quality of life, BCS is increasingly becoming the preferred option for a majority of our patients. Here are 5 things every medical practitioner must know about this surgery:

I. BCS is an oncologically safe surgery

Most people have doubts about the safety of breast conservation in terms of chances of local recurrence and survival. Now, it is well established that BCS is an oncologically safe surgery with established long term safety profile. The chances of loco regional recurrence range from 4-7% which are comparable to mastectomy. In fact, a few studies have shown improved survival outcomes after breast conservation compared to mastectomy especially in early breast cancer.²

II. Oncoplasty ensures a cosmetically acceptable breast

The evolution of oncoplasty techniques (usage of plastic surgery principles along with oncology principles) (Figure 1) to ensure negative cancer free margins and a breast with almost normal size, shape and symmetry has drastically improved cosmetic

outcomes after BCS.³ Various volume displacement, volume replacement and opposite symmetrisation techniques are now being used to achieve a cosmetically acceptable breast with minimal distortion.



Figure 1: 1 year follow up image of a patient with upper inner quadrant tumour post Hemi Batwing oncoplasty

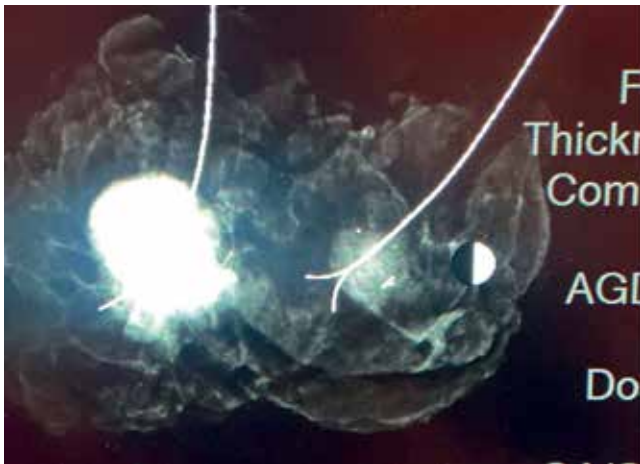
III. Radiation is compulsory after breast conservation

The use of radiation is mandatory after breast conservation surgery. Except in rare cases, external beam radiation therapy is indicated and hypofractionated regimens (40-42Gy in 15-16 fractions followed by a tumour boost) are often used.⁴ Accelerated partial breast irradiation (APBI) can only be used in certain well selected cases where the treatment can be

completed within a week. Modern radiation techniques such as tomotherapy, deep inspiration breath hold etc. help optimising oncological safety with minimal adverse effects.

IV. Breast conservation is possible even in locally advanced breast cancer

In locally advanced i.e. T3/4 or N2/3 cases, breast conservation is still a viable option. The use of neoadjuvant systemic therapy has allowed down staging of tumours to improve breast tumour ratio and feasibility of breast conservation with acceptable recurrence rates <10%.⁵ In these cases, clipping of the tumour is done to mark the bed which helps if clinical and radiological complete response is achieved after neoadjuvant therapy. At the time of surgery, localisation techniques such as wire guided surgery is used to accurately identify and resect the tumour bed near the clip (Figure 2). Oncoplasty has also aided in resection of larger tumours without compromising the cosmetic outcomes of the residual breast.



V. Multidisciplinary team effort is the key

To achieve the best possible outcomes for our patients, close coordination between the breast surgeon, medical and radiation oncologist, plastic surgeon, pathologist and radiologist etc. is a must. BCS can be offered even in multifocal and certain locally advanced cancers provided we have correct radiological mapping in tandem with a breast radiologist, expertise of surgical oncoplasty techniques and robust histopathological analysis facilities.

Every breast cancer patient deserves the choice to opt for breast conservation and oncoplasty if she is a suitable candidate. The list of contraindications to breast cancer has been shrinking with growth in all aspects of oncology. But yes, patient selection, correct usage of surgical technique and radiation along with regular follow up are essential for best short and long term results.

► **Figure 2:** Picture of specimen mammogram post wire guided breast conservation surgery showing clip and wire in 2 multifocal tumours

Chaturvedi Aditi. Breast Conservative Surgery: A Snapshot. MMJ. 2024, May. Vol 1 (2).

References

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A et al. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA Cancer J Clin.* 2021 May;71(3):209-249.
2. Christiansen P, Mele M, Bodilsen A, Rocco N, Zachariae R. Breast-conserving surgery or mastectomy?: impact on survival. *Annals of Surgery Open.* 2022 Dec 1;3(4):e205.
3. Chatterjee A, Gass J, Patel K, Holmes D, Kopkash K, Peiris L et al. A consensus definition and classification system of oncoplastic surgery developed by the American Society of Breast Surgeons. *Annals of surgical oncology.* 2019 Oct;26:3436-44.
4. Smith BD, Bellon JR, Blitzblau R, Freedman G, Haffty B, Hahn C et al. Radiation therapy for the whole breast: Executive summary of an American Society for Radiation Oncology (ASTRO) evidence-based guideline. *Practical radiation oncology.* 2018 May 1;8(3):145-52.
5. Zhou X, Li Y. Local recurrence after breast-conserving surgery and mastectomy following neoadjuvant chemotherapy for locally advanced breast cancer-a meta-analysis. *Breast care.* 2016 Oct 14;11(5):345-51.