The term “salvage (or ‘rescue’) surgery” has been used to refer to surgical treatment after failure of initial treatment in various scenarios including treatment of delayed neck metastasis, recurrent primary tumors, or even lung metastasis. Undergoing definitive RTCT, patients can have two different outcomes: many will achieve a complete response after non-surgical therapy and will not need further treatment, while some of them will have a partial response needing a treatment, to “rescue” them from the failure of the first treatment. But now Salvage surgery is no longer limited to patients who failed radiotherapy or radio chemotherapy, but also includes patients who previously underwent surgical treatment for tumors located from the base of the skull to the lower neck areas (including thyroid cancer).

Merriam-Webster dictionary defines salvage as “the act of saving something (such as a building, a ship, or cargo) that is in danger of being completely destroyed” or “to remove (something) from a place so that it will not be damaged, destroyed, or lost”!If neoadjuvant CT is given to downstage the disease (T4b), surgery after NACT is not salvage but a part of a predefined protocol. The term “salvage surgery” is currently used for both: a second attempt after definitive treatment, or a final attempt to cure.

In nutshell Salvage surgery is a "double-edged sword." It is the best option for many patients with recurrent cancer when original therapy included irradiation, yet it may provide only modest benefit at high personal cost to the patient. The stakes are high because alternatives are of limited value.

Age > 70 years, initial stage IV, disease-free interval< 12 months, and loco-regional recurrence are strong independent pre-operative predictors of poor outcome in patients undergoing salvage surgery. Patients with two or more of these factors should be informed about the low success rate after salvage surgery and alternative treatments may be considered.

The clinical diagnosis of persistent or recurrent squamous cell carcinoma after chemoradiation is often challenging. Radiation and chemotherapy induced changes in mucosa and soft tissue can mimic many of the worrisome signs and symptoms of local recurrence. For example, treatment induced mucositis, pain, edema, dysphagia and hoarseness can be significant and prolonged. Tumor necrosis can leave residual ulceration that is difficult to distinguish from malignancy. Radionecrosis of the mandible and the larynx can occur late after treatment, and present with ulceration, pain and edema. This is often difficult to distinguish from tumor recurrence. Palpation of lymphadenopathy is often problematic because of postradiation neck fibrosis (woody neck).

Most tumor recurrences occur in the first 2 years after therapy. It is for this reason that clinical guidelines suggest frequent follow-up visits in the head and neck cancer population. Obtaining imaging studies is often the first step in evaluating the patient with suspected tumor persistence of recurrence. Comparison of these images with prior imaging is essential. Interpretation of CT and MRI is challenging in the presence of postradiation changes. If performed 12 weeks after the completion of chemotherapy, PET scanning has been shown to be beneficial in evaluating the presence of persistent disease both at the primary site and in the neck. In the the face of clinical suspicion or positive PET scan, biopsies of suspicious areas should be performed. It is important to remember that biopsies performed less than 10 weeks after the completion of treatment can be erroneously positive because tumor regression continues even after the completion of radiotherapy. It is also important to remember that biopsy of recurrent disease can yield false-negative results. If the clinician maintains a high index of suspicion despite a negative biopsy, it is prudent to continue very close follow up with repeat biopsies of suspicious areas. Over all accuracy of FNA in detecting persistent or recurrent neck disease is only 57%.

The extent of resection required to extirpate tumor in the case of persistent or recurrent head and neck carcinoma following chemoradiation is unclear. Some authors would advocate tailoring the extent of resection to pretreatment tumor size with appropriate margins, even if the posttreatment tumor is significantly smaller in size. Others would argue that the chemoradiation reduces tumor load, and thus resection margins should encompass only presently active disease, thereby reducing morbidity and the need for extensive reconstruction. This follows the concept that unresectable tumors can be “downstaged” with chemoradiation to make them operable.

The tumors may appear clinically, endoscopically and radiologically smaller in size, it may not be on histologic analysis. Recurrent tumors are often submucosal and difficult to detect on clinical examination, especially among surrounding radiation-induced edema, fibrosis and inflammation. On histology recurrent tumor is much more likely to have perineural spread, contralateral spread and cricoid cartilage invasion. Recurrent tumors tend to be multifocal rather than follow a concentric growth pattern. It is important to remember that preoperative endoscopy and imaging are not always reliable. Resecting only visible disease may leave behind microscopic nests of tumor cells. This emphasizes the need for strict frozen section control, even with wide margins of resection. Given the uncertainties involved, the accurate planning of surgery is difficult. The extirpatory surgeon, reconstructive surgeon and the patient should always be prepared for a larger than anticipated resection.
The mention of breast cancer can be seen in the ancient literature. This disease afflicting women was considered to be a curse and was approached with nihilistic attitude. One can read about the horrific treatments women suffering from breast cancers had to endure. In the 19th century, however, the clinicians started approaching this health issue scientifically. Many surgeons in the west performed various surgical procedures on women suffering from breast cancer and published their results. Unfortunately, in that era, women were diagnosed in advanced stages of the disease and the surgical management invariably failed to improve patients' survival. Sir William Halsted from Johns Hopkin's Institute published his results of performing radical mastectomy in his seminal paper in 1890. Halsted's radical mastectomy procedure was the first ever systematic surgical approach based on the prevailing understanding of breast cancer at that time. The surgeons of that time were so enamoured by the success of radical mastectomy that for nearly a decade after it was the only surgical treatment for all stages of breast cancer. However, due to extensive nature of the surgical procedure, the survivors experienced significant morbidity. Gradually the awareness about the disease increased and as a result the stage at presentation improved. It was realised that not all patients need radical mastectomy. In the mid twentieth century, various techniques of modified radical mastectomy were adopted into the clinical practice. Breast cancer surgery further evolved in the last two decades of twentieth century. As a result of further awareness about the disease, adoption of population based breast cancer screening programs in the western countries, the stage of presentation further improved. It was soon realised that patients with early breast cancer can be safely managed with wide local excision of the lump and radiotherapy. Addition of radiotherapy to wide lumpectomy/quadrantectomy was then defined as breast conservation therapy (BCT). The advocates of the patients also demanded better quality of life approach to management of the disease. Oncological safety of BCT was established after the results of six landmark trials were published. As a result, breast conservation surgery became the procedure of choice for early breast cancer before the turn of twentieth century. To begin with there were very rigid indications for BCT. Tumours more than 3 cm, and tumours located in central or medial quadrant were considered to be contraindications for BCT. The basic two goals of BCT are oncological safety and better cosmetic outcome of the breast conservation surgery. However, patients with large tumours and small breasts needing more than 20% of volume resection during lumpectomy tend to have unacceptable cosmetic deformity after conventional breast conservation surgery. Excision of even a small volume of breast tissue from upper inner and lower quadrants of breasts causes significant defects.

A woman's breasts symbolise motherhood, femininity and define her sexuality. Loss of a breast or having a deformed breast after breast cancer surgery has a significant impact on psycho-sexual well-being of a woman. In last few decades, our knowledge about breast cancer biology has improved. There has been a paradigm shift in the therapeutic options for the management of breast cancer. As a result of current multimodality approach, the prognosis of breast cancer has become much better. With the improvement in survival quality of life issues have come into sharp focus. The need of treating a patient in a holistic manner was acutely felt. That has led to the birth of Oncoplastic breast surgical techniques (OPBCS).

Oncoplastic surgery is an amalgamation of the principles of oncological surgery with the techniques of Aesthetic and Reconstructive surgery to restore shape, size, contour and symmetry of the breasts at the end of breast cancer surgery. It refers to resection of the tumour (either partial or total mastectomy) and immediate reconstruction of the defect using plastic surgical techniques (local parenchymal/muscle flaps or free flaps). OPBCS includes excision of the cancer with adequately wide free margins to achieve loco regional control immediate remodelling of the defect to improve the cosmetic result.

Based on the volume of tissue resection as well as the complexity of the surgery, Oncoplastic breast surgeries can be classified into,

Level 1 and level 2 techniques needed when the resection volume is up to 20% and more than 20% (20-50%) respectively. These techniques can also be classified into two broad categories as volume replacement and volume displacement techniques. In addition to reconstruction of partial mastectomy defects, the Oncoplastic surgery also includes immediate or delayed breast reconstruction in patients who have undergone total mastectomy. Breast reconstruction can be done using silicone implants as well as autologous tissue flaps. Oncoplastic surgery also includes contralateral symmetrisation and reconstruction of the nipple - areola complex (NAC).

**Indications of oncoplastic breast surgery:**

1. Unfavourable breast: tumour ratio
2. Central, medial, lower pole tumours
3. Large ptotic breasts
4. Partial/ no response to neoadjuvant chemotherapy
5. Deformities due to previous BCS
6. DCIS occupying a large area (may be a quadrant) of the breast
7. Total mastectomy with immediate/delayed reconstruction

**Contraindications:**

1. Inflammatory breast cancer
2. Multicentric carcinoma (relative)
3. Previous chest wall radiotherapy (relative)

Oncoplastic techniques are being used for over 20 years now. Although, there no randomized trials, multiple large series published so far, have reported oncological safety of these techniques. Publications of patient reported outcome measures (PROMs) have also proved a significant improvement in physical, social and sexual well-being of breast cancer patients who have undergone Oncoplastic breast surgery. Compared to conventional BCS, OPBSCS needs longer operation duration, can have slightly higher risk of complications, needs training and can be costly. However, these specialised techniques have become an integral part of a breast cancer surgery in today’s times.

Dr. Vaishali Zamre
Sr. Consultant &
Chief of Breast Surgical Oncology
(Unit – 2)
The “C” word (cancer) carries with it social stigma and taboo in many parts of our country and an aggrieved common man along with his caregivers is often perplexed with myriad questions like “why me?”, “could we have prevented it?” and “what can I/we do to alleviate the current situation?”. RGCIRC being one of the best at cancer care delivery in the country, and catering to thousands of such patients each year, decided to not only answer these queries, but also create awareness regarding all nitty gritty related to cancer. On the occasion of 25 years of delivering excellence of cancer care, we held a series of six public lectures, and the topics were carefully decided to encompass all burning questions among the common public.

The topics included “Your Environment and Cancer”, “Infections Causing Cancer”, “Obesity and its Cancer Links”, “Tobacco Cessation Clinic in Oncology Setup”, “Diet and Cancer”, and importance of “Community Based Cancer Prevention and Screening”. All these were delivered by eminent cancer care experts of national repute from the two premiere cancer care institutes in the country: The Tata Memorial Centre and our own RGCIRC.

In the wake of the ongoing COVID-19 pandemic, conforming with governmental norms of social distancing, and the increase in cloud based digital meetings, all these lectures were relayed virtually, and were also streamed live on online channels like YouTube to ensure maximum outreach. All these were received with great appreciation, in the form of overwhelming participation in terms of views and interactive question answer sessions of the attendees with the speakers. All the sessions were well received, and feedback received demonstrated that the topics were pertinent to the general public. At RGCIRC, we will continue to provide not only excellence in cancer care, but also empathy and continued education/awareness to all.

RGCIRC celebrated its 25th Foundation Day on Monday, 18th October 2021. The event was celebrated at Hotel Crowne Plaza, Rohini, New Delhi where awards for Long Standing Contribution and Dedicated Service, Outstanding Performance, Meenakshi Memorial, Best Outsourced Workers, Chairman’s Appreciation Award, Best Resident Award, Clinical IT Implementation Award, Best Ward Award, Best Service Provider and Corona Warriors were given to the dedicated real life heroes who stood strong as a pillar & showed the exemplary courage & dedication for their duties in the ongoing pandemic COVID-19.

Mr. Rakesh Chopra (Chairman, RGCIRC), Mr. D. S. Negi (Chief Executive Officer), Dr. Sudhir K. Rawal & Dr. Gauri Kapoor (Medical Director, RGCIRC, Niti Bagh and Director, Pediatric Hematology Oncology) thanked all the employees for their dedication & hardwork in making RGCIRC, a leading cancer care centre.

This year, Dr. A. K. Chaturvedi (Chair, Radiology), Dr. D. C. Doval (Chair, Medical Oncology), Dr. A. K. Dewan (Director, Surgical Oncology) and Dr. Sudhir Kumar Rawal (Medical Director and Chief of Uro Gynae Surgical Oncology) were felicitated for their remarkable contribution & efforts in elevating cancer care at RGCIRC to the level of leading centres of the world.
In patients with persistent neck disease, there is no doubt that the neck needs to be addressed surgically. The extent of neck dissection, however, is still under debate. A radical or modified neck dissection is certainly efficacious to eradicate persistent neck disease. “Superselective” neck dissection may also be a feasible option.

Salvage surgery has classically been associated with an increased rate of surgical complications. In particular, wound complications such as breakdown and fistula, pharyngeal stenosis and carotid rupture have been reported with increased frequency. With the increased use of free reconstruction, however, the incidence of surgical complications in salvage surgical procedures is decreasing. Regional flap reconstruction, particularly the pectoralis major myocutaneous flap, has been used successfully in salvage surgical reconstruction, especially for large defects involving the oral cavity and oropharynx.

Traditionally, head and neck radiation oncologists have been reluctant to offer re-irradiation as adjuvant therapy for fear of unacceptable toxicity and morbidity. IMRT has allowed repeat course of radiation to be delivered while minimizing lifetime doses to critical structures such as the spinal cord and brainstem.

Salvage surgery should not be done by every surgeon. Salvage is a difficult and tricky dissection. Salvage should be done by experienced surgical oncologist with judicious use of flaps for covering raw areas.

Dr. A. K. Dewan
Director - Surgical Oncology

WELCOME TO RGCIRC FAMILY

Dr. Vaishali Zamre has joined as Sr. Consultant & Chief of Breast Surgical Oncology (Unit – 2). She is an alumnus from Government Medical College, Nagpur, India. She earned her MS (General Surgery) from the same Institute and MCh in oncoplastic breast surgery from University of East Anglia, Norwich, UK. She has a rich experience of more than two decades in the chosen field. She has also worked with the premier institutes of the country. Her area of interest includes breast cancer surgeries and oncoplastic reconstructions, breast reconstruction. She has published many articles in digital and print media on breast cancer awareness. She is a member of various National and International associations of surgeons and Surgical Oncologists.