

Breast Conservation Surgery for Carcinoma Breast

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A prospective study consisting of 15 patients with proven carcinoma of breast was carried out on the surgical floor of Sir Ganga Ram Hospital, Lahore from December 2001 to May 2003. All the patients included in the study had either carcinoma in situ, or on clinical examination had T₁N₀M₀, T₁N₁M₀ or T₂N₀M₀ tumour. Operative procedures performed were lumpectomy/segmentectomy followed by local radiotherapy in 5 patients (33.3%) and segmental mastectomy followed by axillary dissection and local radiotherapy in 10 cases (66.6%). Seven cases (46.6%) received post operative chemotherapy. Most of these cases were followed up. Tumour recurrence was noted down in one case (6.66%). Other complications included local wound infection in one case (6.66%) and mild lymphoedema of upper limbs in one case (6.66%). Patient with local recurrence was treated by re-excision. The results of this study support the data that conservation surgery of breast followed by radiotherapy resulted in rates of disease free and of overall survival that were not significantly different from rates observed after total mastectomy.

Key words: Breast conservation, segmental mastectomy, local radiotherapy

For many years, total mastectomy was believed to be the only appropriate surgical procedure for treatment of breast carcinoma. Over time it has become apparent that distant metastasis develop in women who have breast cancer in spite of radical surgical procedures, prompting a re-examination of breast cancer biology. The demonstration that moderate doses of radiation successfully eradicate microscopic deposits of breast cancer coupled with increasingly frequent detection of smaller cancers by mammography and an increasing emphasis on the use of systemic adjuvant therapy has opened the door for use of breast conserving surgery in the treatment of breast cancer¹.

Conservation surgery of the breast implies the resection of minimal volumes of diseased breast tissue to achieve control rates equivalent to those accomplished by mastectomy². It has the goal of preservation of cosmesis and function. A major concern with the removal of less than the entire breast for cancer treatment is the multifocality and multicentricity of breast cancer. In contrast to mastectomy where the goal is removal of all breast tissue that is potentially tumour bearing the goal of breast conserving surgery is to remove the entire gross tumour and to depend on postoperative irradiation to eradicate microscopic residual tumour deposit³. We are presenting a study which has a small number of patients which shows our experience with breast conserving surgery in cases of early carcinoma of breast.

Patients and methods

This study was conducted on the surgical floor of Sir Ganga Ram Hospital, Lahore. The duration of the study was 18 months. All the patients were admitted from the Outpatients Department.

As patient selection is critical to the success of breast conserving surgery so a selective criteria was laid down for the patients. Before admitting the patients we took into consideration patients desire for procedure, presence of

single primary tumour, ability to excise to negative margins, tumour to breast ratio that allows a cosmetic result acceptable to the patient, ability to deliver postoperative radiotherapy, no history of prior irradiation to the breast field, no active collagen vascular disease, absence of pregnancy, mammogram without diffuse indeterminate microcalcification and most importantly ability to follow patient.

A detailed history and clinical examination was performed by a consultant in all the patients. Besides the routine investigations a bilateral mammography was performed in all patients to assess their suitability for breast conserving surgery. Metastatic workup such as bone scan, liver scan and abdominal ultrasound was done for 12 patients. Metastatic workup for 3 patients with DCIS was not done as this disease by definition does not metastasize.

All the operations were performed under general anaesthesia. Segmental mastectomy incisions were placed in the skin line and were large enough to allow the specimen to be removed as a single piece of tissue. An important step in segmental mastectomy was preservation of subcutaneous fat overlying the tumour in order to maintain normal breast contour. For all operations an attempt was made to excise 1cm-1.5cm of grossly normal breast tissue around the tumour site. Drains were selectively used. Incisions were closed with subcuticular 3/0 prolene suture. For axillary dissection skin flaps were raised superiorly to the estimated level of axillary vein, medially to expose free edge of pectoralis major, laterally to expose the edge of latissimus dorsi and inferiorly to the junction of axillary tissue and tail of the breast. After the removal of specimen a suction drain was placed.

Drains were removed when the 24 hours output was less than 40ml for 2 consecutive days. Arm exercises were begun on the day after the operation and continued until a normal range of motion was achieved. Radiation or systemic therapy was not instituted before the fourteenth postoperative day. Patients were administered three doses

of a second generation cephalosporin. Duration of stay in the hospital varied from one to five days. All the collected specimens were subjected to histopathology and determination of estrogen/progesterone receptor status. All the patients were advised regular follow visits to the outpatient department. Two patients have been lost to follow up.

Results

Fifteen patients were included in the study. Age of the patients ranged from 25 to 56 years with a mean of 38 years.

Table 1 Age distribution of patients with carcinoma breast.

Age (Years)	n=	%age
11-20	-	-
21-30	5	33.3
31-40	6	40
41-50	3	20
51-60	1	6.66

Table 2 depicts the stage and TNM grading of the tumours. We performed the breast conserving surgery only for stage 0, stage I and Stage IIA tumours.

Table 2. TNM grade and stages of carcinoma breast

TNM Status	Stage of the tumour	n=
T _{1s} N ₀ M ₀	Stage 0	3
T ₁ N ₀ M ₀	Stage I	2
T ₁ N ₁ M ₀	Stage IIA	7
T ₂ N ₀ M ₀	Stage IIA	3

Table 3 depicts the operative procedures done. Stage 0 and Stage I patients underwent lumpectomy/segmental resection. All stage IIA patients were treated by performing segmental resection/quadrantectomy followed by axillary dissection.

Table 3. Operative procedure

Operation	n=	%age
Segmental resection	5	33.3
Quadrantectomy followed by axillary dissection	10	66.7
Total	15	100

Table 4 depicts the adjuvant modalities which were delivered/prescribed to the patient after performing breast conservation surgery

Table 4. Adjuvant modalities of treatment prescribed/delivered.

Adjuvant modality	n=	Stage of Tumours
Local radiotherapy	15	Stage 0, Stage I, Stage IIA
Systemic chemotherapy	10	Stage IIA
Hormonal therapy	8 (ER+ve)	Stage I, Stage IIA

Table 5 depicts the postoperative complications encountered in these patients.

Table 5. Postoperative complications

Complications	n=	%age
Local recurrence	1	6.66
Wound infection	1	6.66
Mild lymphoedema	1	6.66

Discussion

Breast conserving surgery for cancer was a hotly debated issue in the management of breast cancer in the past. This modality was first brought into sharp focus by pioneers in nonmutilating operations for this common cancer and the outcomes were carefully analyzed and put on a statistically sound basis. Few surgeons would advocate segmentectomy or lumpectomy without postoperative radiation except for tumours smaller than 1cm. Axillary dissection is still carried out by most surgeons for infiltrating ductal or lobular cancer although that procedure is also being revisited if surgeon is proficient in sentinel node biopsy. As experience with limited node sampling grows, the results appear to be better than might have been anticipated but the expertise required for reliable results with sentinel lymph node biopsy has yet to be achieved by most surgeons. There is currently no question that patients with T₁ and T₂ tumours especially those that are clinically node-negative are excellent candidates for breast conserving operations. A real concern about these operations is the consideration about thickness of minimal margins that should be achieved. The knowledgeable breast surgeons always marks the specimen with care so that orientation is clear to the pathologist and the report of margins, should one or several be positive, should include the orientation as to whether a positive margin is inferior, superior, lateral or medial^{4,5}.

A debate has continued over the years concerning what should be defined as an adequate margin and where the line should be drawn that makes the margin unacceptably close to the tumour. The absolute measurement was thought to be 1cm of normal tissue between the superficial group of tumour cells and the surface. The current philosophy would indicate that 4mm is a realistic margin but anything smaller than 4mm is open to question⁶. Local recurrence was reported not to be related to margin status with data in a substantial series recording that 8% of specimen with clear margin resulted in local recurrence and only 7% with positive margins had local recurrence⁷. Despite these data, most surgeons are uncomfortable leaving residual tumour for radiation therapy to control and complete re-excision of a cavity should be considered. Among the more controversial issues is whether conservative surgery with radiotherapy is acceptable for macroscopically multiple invasive breast cancers in the same breast. It is believed that they should

be managed by modified radical mastectomy and breast conservation is a questionable mode of treatment⁸. The other group of patients in whom conservation has not been routinely applied are those with tumour that is within 1cm of nipple areola complex, in which central segmental resection would of necessity, sacrifice nipple and areola⁹.

Prospective trials conducted by Veronebi for the QUART procedure and Fisher and colleagues for segmental mastectomy indicate that this surgery results in equivalent disease free and overall survival compared to more radical procedures. These studies had a follow up for 8 to 12 years for the treated patients. It is difficult to compare the result of our study with other international studies because of two reasons i.e., small number of patients and short follow up, making the conclusion premature.

We strongly believe that breast conserving surgery should be encouraged in our set up but one needs a patient who has the desire for procedure, is educated enough to know the important of a regular follow up alongwith the facilities of early diagnosis. Patients need to be taught regular self breast examination, breast clinics needs to be set up and mammography facilities need to be provided to detect lesions at an early stage in order to benefit from breast conserving surgery

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