BREAST CONSERVATION FOR T3/T4 TUMOURS IN A DEVELOPING COUNTRY.

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INTRODUCTION

The recognized benefit of breast conservation for breast cancer in increasing quality of life and preserving women’s self body image[1] has rendered it a desirable surgical option for the disease. The successes recorded of breast conserving surgery as standard treatment for T1 and T2 tumours following randomized clinical trials has been extended to locally advanced tumours. Even though breast conservation was initiated using T1 and T2 tumours, the experience with T3 and T4 tumours suggest that breast conserving therapy may be applied in these groups of patients with no difference in outcome in comparison to mastectomy.[1] Since the indication for breast conserving surgery has been small tumours, downstaging a hitherto large breast tumour to a lumpectomy amenable size has increased the range of tumours suitable for conservation. Early randomised trials have demonstrated the feasibility of increased breast conservation with the use of neoadjuvant chemotherapy moreso with increased chemosensitivity of the tumours for downstaging to breast conservation volumes.[2] Hence neoadjuvant chemotherapy is considered a standard of care in achieving sufficient tumour downstaging for large breast tumours for breast conservation.[2] Fitzal et al have reported on 196 breast cancer patients with T3 and T4 tumours with no significant difference with mastectomy for overall survival, local recurrence free survival and breast cancer related death.[1]

In developing country like Nigeria, this is a very useful concept as a considerable number of young patients present with non-metastatic locally advanced tumours having neglected the disease at the earlier smaller stages. To deprive these patients of the benefits of breast conservation may mean further delays in commencing treatment as mastectomy is strongly resented.

PATIENT AND METHODS

The records of breast cancer patients managed over the years was reviewed for patients with t3 and t4 tumours who were managed with breast conservation. The biodata, histological diagnosis, tumour staging were determined using chest xray and abdominal ultrasound scan results. Also determined was the number of chemotherapy cycles as well as the choice of chemotherapy agent. The final outcome was also determined. The patients had a clinical breast examination were the size of the lump was measured. Presence of skin changes were also noted. Following histological diagnosis which was done by incision or trucut biopsy, patients had the immunohistochemistry status determined. Patients had neoadjuvant chemotherapy with doxorubicin and cyclophosphamide to downstage the tumour. Following each cycle, the size of the lump was serially determined to assess for degree of clinical response. Following two cycles of chemotherapy the tumour was excised and axillary lymph nodes present sampled. Adjuvant chemotherapy was continued with a perception of complete clinical response, a biopsy of the entire tumour bed was done to assess for completeness of response.

CLINICAL FINDINGS

There were 66 patients over the studied period, four of whom were T3 –T4 tumours managed with breast conservation. The ages ranged between 34-56 years with a mean age of 45.75 years. Tumour sizes ranged between 4cm to 12cm, mean size 7.25cm. One case had a 4cm lump which was tethered to the skin while another case had a mass that had fungated. Another case had peau d’orange confined to the area of the lump. All the cases had enlarged axillary lymph nodes. Chest xray and abdominal ultrasound showed negative findings in all the cases. Two cases had primary excision of the lump/mass before commencing adjuvant chemotherapy while the other two cases had neoadjuvant surgery and limited excision biopsy to confirm pathological complete regression. One of the cases had two malignant foci on the right breast, measuring 6cm and 3cm in size clinically. However complete clinical and pathological response was achieved in this case with no recurrences noted at 22 months. All cases attained clinical complete response.
response and pathological complete remission. Follow up ranged between 4 months to 22 months from diagnosis. Median duration 12.25 months. No recurrences have been noted.

Table 1. Clinical Features of Cases.

<table>
<thead>
<tr>
<th>Age</th>
<th>Clinical size/cm</th>
<th>Histology</th>
<th>Immunohistochemistry</th>
<th>Tnm</th>
<th>Skin change</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>6, 3</td>
<td>Invasive ductal</td>
<td>Er+, Pr+, Her -</td>
<td>T3N1M0</td>
<td>Nil</td>
</tr>
<tr>
<td>56</td>
<td>7</td>
<td>Invasive ductal</td>
<td></td>
<td>T4N1Mx</td>
<td>Peau’dorange</td>
</tr>
<tr>
<td>34</td>
<td>12</td>
<td>Invasive ductal</td>
<td>Er+,Pr+, Her-</td>
<td>T4N1M0</td>
<td>Tethering, ulceration</td>
</tr>
<tr>
<td>48</td>
<td>4</td>
<td>Invasive ductal</td>
<td>Er+, Pr+, Her-</td>
<td>T4N1M0</td>
<td>Tethering</td>
</tr>
</tbody>
</table>

Image 2A: Days Post Commencement

Image 2B: 6 Weeks Post Commencement

13 Weeks Post

18 Weeks Post Neoadjuvant Chemo
DISCUSSION

The desirability of breast conservation in achieving optimal local and regional control comparable to mastectomy makes it attractive to many women.\(^5\) Even though T3 and T4 tumours had traditionally been excluded from the indications for breast conservation,\(^4\) emerging reports strongly indicate the benefits of breast conservation in contradistinction to mastectomy even for these cases. Our cases who had declined mastectomy in other centres, benefited from conserving treatment have attained pathological complete remission following neoadjuvant chemotherapy and surgery. The feelings of disfigurement and mutilation which may attend mastectomy,\(^5,8\) is still a strong factor at play in inducing our patients choices. Singletary et al in their study of mastectomised specimens, assessing pathologically the extent of residual tumour following induction chemotherapy for locally advanced breast cancer in 136 patients, concluded that as much as 25% of the cases would have been candidates for lumpectomy.\(^7\)

Another study which examined retrospectively breast cancer patients that had chemotherapy and surgery, decided that patients with T2 and T3 tumours who received neoadjuvant chemotherapy were more likely to have breast conservation than those who had primary surgery.\(^8\) Thus the remarkable downstaging of the tumour by chemotherapy was reflective in our cases especially with reversal of skin changes that existed in two of our T4 cases including the case that presented as an ulcerated breast mass. Neoadjuvant chemotherapy is reported to be paramount in achieving tumour downstaging in these cases which may present in a developing country where delayed presentation is not uncommon and may account for larger sized tumours which breast surgeons have to deal with compared to their counterpart in the developed world.

Various workers in comparing neoadjuvant to adjuvant chemotherapy have demonstrated a desirable increase in use of breast conservation with neoadjuvant chemotherapy utilisation.\(^8,9,10\) However the earlier reports could not demonstrate a reduction in distant metastases, but clearly showed an improvement in the numbers of patients for breast conservation.\(^11\) Currently much improved rates of recurrences have been recorded following breast conservation for downstaged large tumours, comparable to that of smaller tumours not requiring downstaging.\(^11\) The further demonstration of improved long term outcome for patients in whom pathological complete regression is achieved makes it a desirable endpoint in breast conservation like was obtained in our cases. Bleicher et al reported an analysis of data from 5,700 women with T3 tumours and above with 15.6% of them receiving breast conservation, a similar outcome was reported for breast conservation and mastectomy in terms of overall survival and breast cancer specific survival following a median followup of seven years.\(^12\)

Our cases showed a complete clinical response which matched with a pathological complete regression. Even though it has been pointed out that the response of some tumours following neoadjuvant chemotherapy showed a diffuse pattern of residual microscopic foci in the original tumour,\(^11\) our t4 cases showed a pathological complete regression, following chemotherapy and excision. Libson et al reported a series of thirty patients who had breast conservation for a mean tumour size of 6.4cm following neoadjuvant chemotherapy with a success rate of 96.7% and an overall survival and disease free survival of 86.7 and 83.3% respectively. The study reported no local recurrence over a mean follow up of 43 months. However 3 patients had systemic recurrence and 2 patients, regional recurrences.\(^13\)

Our study is an early one in terms of duration of follow up. However given the successes obtained from earlier studies in the Western world, we entertain optimism in good outcome.

REFERENCES


