

Breast Cancer 2018-A Comparison Between Oncoplastic Breast Conserving Surgery and Standard Wide Local Excision: A UK Experience- Saira Khawaja- Prince Philip Hospital

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Abstract

A total of 319 consecutive patients were included in the study. The majority of those latter surgeries involved volume displacement methods. Demographic data was collected. Statistical analysis was performed using SPSS software. Our results demonstrated that OPS excised significantly larger tumors ($p < 0.05$) of greater weights ($p < 0.05$) with little cosmetic penalty. There was no significant difference in margin clearance ($p = 0.10$) or the number of patients requiring further surgery in both groups ($p = 0.254$). OPS provides a better cosmetic and oncological result compared to standard wide local excisions based on the weight and size of the tumor. Margin clearance is comparable in both groups.

Keywords:

Breast conserving surgery; Oncoplastic breast surgery; Wide local excision; Breast cancer; Cosmesis

Introduction:

In women with early stage unifocal carcinoma, breast conserving surgery followed by radiotherapy is the recommended choice. However, in some women, lesions are difficult to excise without the danger of cosmetic deformity or inadequate margin clearance. These women often present with large tumors in relatively small breasts requiring an excision of roughly 15% to twenty% of the breast volume or over 30% in large breasts. Another factor affecting poor cosmesis after breast conserving surgery is tumors located in aesthetically sensitive areas such as the central, medial, and inferior quadrants. OPS combines the principles of oncologic and cosmetic surgery techniques to gain oncologically and aesthetically pleasing results. As these techniques become more accepted there is a demand for surgeons to become familiar with the indications and skills required to make oncoplastic surgery safe and effective. The choice between different oncoplastic techniques are determined mainly by the location of the tumor in the breast, tumor characteristics, extent of resection, breast characteristics (size, shape and glandular density), previous surgery, and the expectations and wishes of the patient.

Patients and Method:

Patients were not matched for age. Those who underwent a standard WLE included a total of 265 consecutive patients whilst 54 in number underwent OPS. The symptomatic and screening populations with a diagnosis of invasive cancer or DCIS were included. All patients were operated on by a team of breast surgeons. Appropriate axillary surgery was carried out at the time of the initial procedure. Intraoperative sentinel lymph node analysis was carried out with PCR analysis. If it was absolutely reported as macrometastases, axillary lymphatic tissue clearance was performed. Intra-operative radiography of the excised specimens confirmed the presence of the lesion and determined that the lesion was clear of the margins. Final pathology results were discussed at the multi-disciplinary meeting. Patients who underwent a standard WLE were assessed for their suitability for a satisfactory cosmetic outcome. Therefore, in this procedure, no glandular mobilization was performed. According to the NICE guidelines, our criteria for margin clearance was 1mm for an invasive cancer and two mm for DCIS.

Results:

The procedures employed were the tennis racquet technique for upper outer quadrant tumors ($n = 19$); vertical scar techniques ($n = 15$), Z-plasty techniques ($n = 13$), Grisotti flaps ($n = 3$), intramammary flaps ($n = 2$), B-plasty ($n = 1$) and reduction mammoplasty ($n = 1$). There was a significant difference in the age of the patients ($p = 0.0003$). Our results showed that OPS favored younger patients. Both groups showed a majority of ductal carcinomas, with lobular following second in the OPS group and DCIS in the WLE group. There was no significant difference between both groups in terms of the type (p value = 0.2) and grade of the tumor. OPS excised a significantly larger tumor size compared to the WLE procedure ($p < 0.05$). Significantly heavier specimens were removed from patients undergoing OPS relative to WLE ($P < 0.05$) which is illustrated. The mean margin clearance for the OPS group was 4.7 mm. As for the WLE group, it was 3.5 mm. There was no statistical difference between the margin clearances of both of the groups (p value = 0.10). Of the specimens with involved margins, 14 re-excisions and 5

completion mastectomies were performed in the WLE group. A further two completion mastectomies were due to one patient being identified as later having the BRCA1 mutation and another developing complications related to radiotherapy. In the OPS group there was two wider excisions and six completion mastectomies. Out of the six completion mastectomies in the latter group, three of these patients opted for a reconstruction. Two underwent implant based reconstructions, and one underwent a deep inferior epi gastric flap reconstruction. Margin involvement in the OPS group primarily affected those patients with lobular tumors or DCIS extending over 40 mm in size (n=6), while patients with involved margins in the WLE group had ductal carcinoma or in situ disease.

Discussion:

We found that OPS was being performed on significantly larger tumors than those treated with a WLE (32.1 mm vs. 18.8 mm; $p < 0.05$). This was similarly the case where the weight of the tumor was concerned (177 grams vs. 73.1 grams; $p < 0.05$). Hence, some patients underwent a quadrantectomy which is not a routine practice in the UK. These procedures resulted in a decrease in the number of mastectomies we would have performed in these circumstances. The findings from our study are in agreement with the existing literature on operative outcomes in OPS surgery. Clough [15] and Down et al. have previously reported a preference for OPS in managing larger tumors. An average tumor size of 32 mm in a series of 101 therapeutic mammoplasties was reported by the former study, while the latter reported an average size of 23.9 mm in 37 OPS patients. Similarly, previous studies have reported specimen weights for therapeutic mammoplasty ranging from 222-236

Conclusion :

OPS was performed in patients with larger tumors suggesting it should be considered. Our study has demonstrated acceptable cosmetic outcomes and low recurrence rates.

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