

## Research Article

# Surgical Preferences in Older Women with Breast Cancer, Cosmetic Appreciation and their Attitude Towards Follow Up

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**Introduction:** Older Women with Breast Cancer (OWBC) make a different group who requires individualised treatment. There is a perception that OWBC would chose a mastectomy over Breast Conserving Surgery (BCS), may not comply with radiotherapy, may not be concerned with breast cosmesis and may not be willing to attend for their follow-up at hospital.

**Objectives:** We performed a prospective study on surgically treated OWBC with the aim of understanding their preference for type of treatment. We also took patients' and surgeons' views on breast cosmesis and the patients' perception of adjuvant radiotherapy and their opinion regarding follow up.

**Methods:** We conducted a qualitative, observational cohort study of women aged over 70 years with operable primary breast cancer. The face-to-face interview consisted of a semi-structured questionnaire in the following domains: patients' preference for the treatment type, patients' perception of the follow-up and perception of cosmetic outcomes.

**Results:** 55 consecutive OWBC were interviewed (October 2014 - July 2015) and 98% of patients (51/52) were quite satisfied with their treatment (breast conservation/mastectomy). Also, patients (51/52) were happy to attend for their annual follow-up at hospital. All patients treated with BCS were satisfied with their cosmetic outcomes and patients' judgment appeared to be more positive than the surgeon's scores.

**Conclusion:** Our study shows that OWBC who received BCS expressed satisfaction with their involvement in the treatment decisions as well as with their outcomes and they appeared to be willing to attend for their follow up at hospital. OWBC were very appreciative with the cosmetic result. This new evidence should be taken into account when considering OWBC for surgery.

**Keywords:** Older women with breast cancer; Surgical preference; Patients

## Introduction

The population of elderly people is increasing [1] and one out of three breast cancers occur over the age of 70 years [2]. As life expectancy is expanding and the geriatric population is growing, ageing becomes the most important independent risk factor for breast cancer [3]. An 80 year old western woman has a life expectancy of 9 more years [4], and a 90 year old woman is expected to live another 5 years. On average each year almost half (46%) of female breast cancer cases were diagnosed in females aged 65 and over [5] in UK (2011-2013).

5-year and 10-year relative survival of 70 years or older patients are lower than those of patients aged 40-70 years, even when adjusting for disease [6].

National Institute of Clinical Excellence (NICE) guidelines issued in February 2009 recommended surgery for breast cancer in elderly where possible over primary endocrine treatment but in literature, management of elderly women affected with operable breast cancer doesn't appear to be based on substantial evidence, consensus or

guidelines [7]. Several studies demonstrate significant and substantial differences in the management of older women with breast cancer as opposed to younger women [8,9]. Underestimation of life expectancy and fitness for therapy might result in age-related under treatment, itself a risk factor for breast-cancer recurrence and death [10].

A study about the decision-making preferences of older women with operable breast cancer in the UK by Morgan J. et al showed that only three-quarters of the OWBC patients achieve concordance in decision-making [11] and suggested that some women may not be getting their preferred option for treatment. There is a need for scientific evidence regarding the decision-making in breast cancer treatment planning for OWBC as their attitude toward breast preservation is unknown; their compliance with adjuvant radiation therapy and their availability to attend the breast unit for follow-up assessment has never been explored.

It has been suggested that attitudes towards breast conservation do not dramatically change with age [12] and cosmetic outcomes are important to patients in the older age group as well. It is often

**Table 1:** Characteristics of sample.

| Characteristics                             | No. of patients | %    |
|---|-----------------|------|
| <b>Age at follow up, years</b>              |                 |      |
| 70-79                                       | 30              | 54.5 |
| 80-89                                       | 19              | 34.5 |
| >90   | 6               | 11.0 |
| <b>Age at treatment, years</b>              |                 |      |
| 65-69                                       | 7               | 12.7 |
| 70-79                                       | 34              | 61.8 |
| 80-89                                       | 13              | 23.7 |
| >90   | 1               | 1.8  |
| <b>primary endocrine treatment received</b> | 10              | 18.2 |
| <b>Breast Surgery</b>                       |                 |      |
| BCS   | 38              | 69.1 |
| Mastectomy                                  | 16              | 29.1 |
| Mastectomy and immediate reconstruction     | 1               | 1.8  |
| <b>Axillary Surgery:</b>                    |                 |      |
| SLNB  | 25              | 45.4 |
| Axillary Clearance                          | 21              | 38.2 |
| Axillary Sampling                           | 5               | 9.1  |
| None  | 4               | 7.3  |
| Adjuvant Radiotherapy given:                | 41(total)       | 74.5 |
| Following Wide Local Excision               | 37              | 67.3 |
| <b>Mastectomy</b>                           | 4               | 7.2  |
| <b>Adjuvant chemotherapy</b>                | 4               | 7.3  |
| <b>Adjuvant Herceptin</b>                   | 3               | 5.5  |
| <b>Tumour:</b>                              |                 |      |
| TIS   | 1               | 1.8  |
| T1  | 24              | 43.6 |
| T2  | 27              | 49.1 |
| T3  | 1               | 1.8  |
| T4  | 2               | 3.6  |
| <b>Grade:</b>                               |                 |      |
| 1   | 9               | 16.4 |
| 2   | 28              | 50.9 |
| 3   | 17              | 30.9 |
| DCIS  | 1               | 1.8  |
| <b>ER status:</b>                           |                 |      |
| Positive                                    | 46              | 83.6 |
| Negative                                    | 9               | 16.4 |
| <b>Her 2 status:</b>                        |                 |      |
| Positive                                    | 5               | 9.1  |
| Negative                                    | 46              | 83.6 |
| NA  | 4               | 7.3  |

BCS: Breast Conservation Surgery; SLNB: Sentinel Lymph Node Biopsy; ANC: Axillary Lymph Node Clearance; TIS: Carcinoma in Situ; DCIS: Ductal Carcinoma in Situ; ER: Oestrogen Receptor; NA: Not Available.

assumed that a mastectomy is often more appropriate for OWBC since Breast Conserving Surgery (BCS) would require post-operative radiotherapy, delivered through numerous visits at the radiotherapy suite and associated tribulations. The practice of post-treatment follow-up is under scrutiny: it is delivered inconsistently across breast units, it is not based on any evidence, and its efficacy is unproven. To bring some clarity on these issues, we performed a prospective observational study with aim to learn lessons and optimize the management of OWBC.

## Materials and Methods

We conducted a qualitative, observational cohort study on a consecutive sample of women aged over 70 years who were diagnosed with operable primary breast cancer at the Burney Breast Unit of the St. Helens & Knowsley Teaching Hospitals Trust, UK. Patients were interviewed at the time of their annual follow-up appointment in 2015. The local follow-up practice entails an interview, physical assessment, a mammogram where appropriate and further tests as clinically appropriate (i.e. ultrasound scan, targeted core biopsies, blood samples, bone scan, CT and/or MRI when needed).

Characteristics of the sample population are summarized in Table 1. Patients were informally interviewed on arrival to the clinic and a verbal consent was taken. The face-to-face interview consisted of a semi-structured questionnaire Table 2 in the following domains: A) patients' preference for the treatment type, B) patients' perception of the follow up and C) perception of cosmetic outcomes. Patients were asked following:

A) Did you find the treatment plan with BCS and radiotherapy too intrusive or would have preferred a mastectomy to avoid hassle of multiple visits to radiotherapy unit? To reiterate their statements, patients were asked if they would recommend the very same treatment plan they had received to their close friends or a relative.

Patients who underwent mastectomy were asked whether they would recommend the treatment they received.

B) Was follow up in future acceptable? Was it acceptable for them to attend breast unit for an annual follow-up clinical appointment, which also included yearly mammograms where appropriate or any other test as indicated.

C) How satisfied were you with breast cosmesis following BCS or reconstruction? Those patients who received BCS as well as the only one who received immediate breast reconstruction after a mastectomy were asked about their satisfaction with the cosmetic result by using a four-point Likert's scale ranging from poor, fair, good to excellent. The physician's score was also recorded using Likert's scale [13]. The question of cosmetic perception did not apply to 16 patients who had a mastectomy. All data were transferred to a single spread sheet (Access; Microsoft). Data analysis for this study was descriptive in nature.

In our study, our sample size was too small to carry out a T-test.

## Results

55 OWBC were interviewed at their yearly follow-up appointment; their median age at the time of their interview was 76 years (Range: 70-95 years). The interview was taken within 1-2 year of

Table 2: Results.

| Research Question   | Response             | BCS treatment:<br>Number of patients=<br>37(71%) | Mastectomy<br>Treatment:<br>Number of patients=<br>15 (29%) | BCS and Mastectomy<br>treatment<br>Total= 52(%) |
|---|----------------------|--|---|---|
| <b>Domain A: Patient's preference for the treatment type</b>  |                      |  |   |   |
| Did you find BCS and XRT too intrusive or would you have preferred mastectomy to avoid multiple visits to receive radiotherapy? | Strongly disagree    | 19 (51.4)  | 8 (53.3)  | 27 (51.9)                                       |
|   | Somewhat disagree    | 17 (46)  | 7 (46.7)  | 24 (46.2)                                       |
|   | Neutral              | 1 (2.6)  | 0   | 1 (1.9)   |
|   | Somewhat agree       | 0  | 0   | 0   |
|   | Strongly agree       | 0  | 0   | 0   |
| Would you recommend the treatment you received?   | NA(dementia)         | 1*   | 2*  | 3*  |
|   | Very likely          | 19 (51.4)  | 8 (53.3)  | 27(51.9)  |
|   | Likely               | 17 (46)  | 7 (46.7)  | 24(46.2)  |
|   | Neutral              | 1 (2.6)  | 0   | 1 (1.9)   |
|   | Less likely          | 0  | 0   | 0   |
| Was follow up acceptable?   | Unlikely             | 0  | 0   | 0   |
|   | Not at all           | 0  | 0   | 0   |
|   | NA(Dementia)         | 1*   | 2*  | 3*  |
|   | Very likely          | 22 (59.5)  | 8 (53.3)  | 30 (57.7)                                       |
|   | Likely               | 14 (37.8)  | 7 (46.7)  | 21 (40.4)                                       |
| <b>Domain B: Patient's perception of the follow up</b>  |                      |  |   |   |
| Patient's satisfaction with breast cosmesis   | Neutral              | 1 (2.7)  | 0   | 1 (1.9)   |
|   | Unlikely             | 0  | 0   | 0   |
|   | Not at all           | 0  | 0   | 0   |
|   | Excellent            | 23 (62.2)  | -   | 23 (60.5)                                       |
|   | NA (mastectomy only) | -  | 14  | NA  |
| Surgeon's satisfaction with breast cosmesis   | Poor                 | 0  | -   | -   |
|   | Fair                 | 0  | -   | -   |
|   | Good                 | 14 (37.8)  | 1 (Mx & BR)   | 15(39.5)  |
|   | Excellent            | 23 (62.2)  | -   | 23 (60.5)                                       |
|   | NA (mastectomy only) | -  | 14  | NA  |
| Surgeon's satisfaction with breast cosmesis   | Poor                 | 2 (5.4)  | -   | 2 (5.3)   |
|   | Fair                 | 3 (8.1)  | 1(Mx & BR)  | 4 (10.5)  |
|   | Good                 | 12 (32.4)  | -   | 12 (31.6)                                       |
|   | Excellent            | 20 (54.1)  | -   | 20 (52.6)                                       |
|   | NA (mastectomy only) | -  | 14  | NA  |
| <b>Domain C: Patient's perception of cosmetic outcomes</b>  |                      |  |   |   |

\*: Excluded from Analysis; BCS: Breast Conservation Surgery; XRT: Radiotherapy; NA: Not Applicable; Mx & BR: Mastectomy and Breast Reconstruction.

Note: For exact questions see Materials and Methods Section (pages 2-3).

their treatment with exception of one patient who had her operation four years ago. 18% (10/55) of patients (Table 1) received primary endocrine treatment and underwent surgery after a few months of pre-habilitation and thorough pre-operative assessment. One patient among this group was given neo-adjuvant chemotherapy and Herceptin after failing to respond to primary endocrine treatment.

38 patients (69%) underwent BCS (Table 1), in the form of a wide local excision or a quadrantectomy while 17 patients (31%) had a mastectomy, including one patient of 68 years of age who underwent immediate breast reconstruction.

Post-operative radiotherapy was given to 37 patients who

underwent a BCS and 4 patients following a mastectomy for locally advanced breast cancer (e.g. T>2; N2). Only one patient could not be given radiotherapy among BCS group because of delayed wound healing attributed to post-operative infection.

Three patients (1 BCS patient; 2 mastectomy patients) could not express their opinion on whether they found the follow-up practice too intrusive since their cognitive status were severely deteriorated at the time of interview. They were excluded from the analysis.

97% of women with full cognitive status (Table 2) who underwent BCS and radiotherapy (36/37 patients) were satisfied with the treatment they opted; they found the radiotherapy to be acceptable and

pain-free. These patients did not find repeated visits to radiotherapy units as a burden and they commented that this treatment plan was not too intrusive. 97% of women did strongly disagree/somewhat disagree (Table 2) when they were asked whether they found BCS and adjuvant treatment very intrusive. They would happily recommend for BCS and radiotherapy to their closest friend/relative. The only BCS patient with no adjuvant radiotherapy was also happy with her treatment. Though, it was not an objective of our study, we observed that none of the patients in our study group developed radiotherapy related complications.

Similarly, all 15 patients with full cognitive status who had a mastectomy were satisfied with their decision what treatment they chose and would happily recommend to others.

98% of women (Table 2) with no cognitive impairment (51/52 patients) declared that they were pleased to attend follow up clinic in future and to undergo the appropriate tests at the breast unit. They commented that they enjoyed meeting their physicians and treating team; they did not feel distressed and even enjoyed the day out.

The patients' satisfaction with breast cosmesis (Table 2) was perceived to be relevant as our patients commented on their cosmetic outcomes following BCS. The patients' judgment appeared to be more positive than the surgeon's scores: all patients provided appreciation for breast cosmesis following BCS (good: 14 patients; excellent: 23 patients) which contrasts with a slightly more negative score as provided by the surgical team (poor: 2 patients; fair: 3 patients; good: 12 patients; excellent: 20 patients). The only patient who received a mastectomy and immediate reconstruction was very pleased with the result (good) but the surgeon scored her results as fair. Our sample size was too small to carry out a paired T-test.

## Discussion

There is no robust data to design guidelines for breast cancer management in older women; the comparison between primary endocrine therapy and surgery is still debated. The extent of surgical procedure performed to the breast and axillary lymph nodes in elderly breast cancer patients is controversial (Biganzoli) [14]. There is an assumption that surgeons tend to offer a mastectomy to elderly women more frequently than to younger women [15], on the wrong supposition that breast cosmesis is scarcely relevant during the last decades of life. The decision making process is also biased by the assumption that OWBC would struggle to comply with the course of adjuvant radiotherapy they would probably receive after BCS. A higher rate of locally advanced disease is also a possible explanation. Some literatures [15] have reported that elderly patients more often receive a mastectomy than BCS. In our study, we found that patients in all age groups were more than twice likely to receive BCS than a mastectomy.

There is not enough literature on the patient-perceived surgical care and cosmetic outcomes in older breast cancer patients. Therefore, our study intended to generate some evidence to clarify the patients' perception and their satisfaction with the received care. We have collected evidence that OWBC have expressed their satisfaction with their treatment of BCS and radiotherapy as per treatment guidelines by NICE and SIOG [14] and in our study group, we also observed that they tolerated the treatment very well. The patients, who underwent

BCS followed by radiotherapy, reported satisfaction with their decisions. In contrary to our assumption, OWBC group did not find their treatment of BCS and radiotherapy very intrusive. We observed that the combination of BCS and radiotherapy is perfectly acceptable to OWBC and should be a part of discussion with them. The only patient who had reconstruction along with mastectomy was quite satisfied with her decision and she tolerated surgery well. Our series had only one patient in OWBC group who received reconstruction but in a study by Bowman et al. [16] with larger number of OWBC, patients were very satisfied with their decision of opting breast reconstruction and 88.5% would chose the same treatment if they would be in the same situation again.

Defining the optimal treatment plan for OWBC is complex; it requires clinical knowledge as well as communication skills with older patients. In a study by Eduardo Bruera [17], OWBC preferred to make decisions together with their physicians, but there was poor agreement between the decision making preferences of the patients and the physicians' perceptions of these preferences. In their study [17], Women with breast carcinoma appeared to have a strong desire for involvement in making decisions regarding their treatment. However, physicians frequently were unable to predict patients' decision-making preferences. They concluded that 89% of women preferred to play either an active or a shared decision-making role [17] while an earlier study by Beaver [18] showed only 52% of patients preferred to play a passive role in treatment decision making. In the study by E. Bruera, debilitated patients were more likely to play a passive role in decision making as compared to their healthier counterparts [17]. In a study by EB Elkin, 52% patients favoured a passive role in treatment decision making, while 25% favoured an active role and 23% favoured a collaborative role [19]. Though our study did not focus on patient's education but in their study, preference for a passive role was more common among patients who were older, less educated, poor performance status or more comorbid illness [17].

There is no literature on patients' perceived follow-up practice in older patients and here we present our unique findings to explore and examine experiences and perceptions of follow up care among older breast cancer patients. There is a perception that the older women may not be willing to attend for follow up as they may require assistance with transport and investigations as the mammogram can be uncomfortable. Majority (98%) of patients in our study population were happy with their follow up and wished to attend for their follow up in future.

There is very little literature on cosmesis for older women and in our study; we found that patients were very appreciative of breast cosmesis following BCS. All patients in our study who underwent BCS or a mastectomy with breast reconstruction were quite satisfied their breast cosmesis (good to excellent) as opposed to Surgeon's opinion regarding their cosmesis. In Surgeons' opinion, three among these had fair cosmesis and two of these patients had poor cosmesis following breast conserving surgery but patients scored good cosmesis. This demonstrates that elderly women may be less anxious about breast cosmesis after breast conserving surgery.

The primary limitations of our analysis are small sample size and restriction to the population of a single institution; patients

were asked open questions and were not blinded. As with any open prospective survey, there is a possibility of bias.

## Conclusion

In our study, OWBC reiterate their satisfaction with their involvement in the treatment decisions as well as with their outcomes and they appear to be willing to attend for their follow up at hospital. Older breast cancer women were also very appreciative with the cosmetic result. There is no reason to justify their exclusion from the decision making process.

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