

RESEARCH COMMUNICATION

Late Presentation and Management of South Asian Breast Cancer Patients in West Yorkshire, United Kingdom

Sreekumar Sundara Rajan^{1*}, Jennifer NW Lim², Anwar Haq³

Abstract

Background: The objective of this study was to bridge the knowledge gap and improve our understanding of the late presentation and management of breast cancer among South Asian women of non-oriental origin (SA) living in the United Kingdom. **Methods:** Retrospective review of the breast cancer waiting list data-base held at Calderdale and Huddersfield NHS trust was undertaken to identify SA women diagnosed with breast cancer from January 2000 to August 2007. **Results:** We identified 41 (2.5%) SA women among 1,630 patients diagnosed with breast cancer during this period and 36 were included (median age = 53.5 years, range= 32-84). Only 19% (n=7) were screen detected and 81% (n=29) presented through symptomatic breast clinic. In the latter, 66% (n=19) were in the screening age group and 45% (n= 13) presented beyond 8 weeks (late presentation). In our cohort, 91% (n=29) patients had advanced disease (TNM stage 2 and 3) resulting in a high mastectomy rate of 61% (n=22). 19% (n=7) died as a direct result of cancer and the remaining 78% (n=28) remains disease free following treatment thus far. **Conclusion:** The delay in presentation and poor national breast screening programme uptake among the SA women resulted in advanced disease at diagnosis. There is need for increasing the breast cancer awareness as well as encouraging breast screening among SA women in the UK.

Keywords: Breast cancer - ethnicity - South Asian - patient delay - late presentation - UK

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Introduction

There has been a gradual increase in the incidence of breast cancer among the South Asian women of non-oriental origin (SA) living in the United Kingdom (UK) (Smith et al., 2003, Jack et al., 2009). A similar trend was seen in the pre-menopausal and peri-menopausal SA women in comparison to Caucasians and African-Americans in the recent surveillance, epidemiology and end result (SEER) data from the United States (USA) (Kakarala et al., 2010).

Late presentation with breast cancer and advanced stage at diagnosis has been seen in SA women living in the United States (Eley et al., 1994; Hunter, 2000; Li et al., 2003). In the United Kingdom, similar observation was made; South Asian women tended to delay in their presentation for medical care (Dos Santos et al., 2003; Velikova et al., 2004; Jack et al., 2009).

To date in the UK, only Dos Santos et al. (2003), Velikova et al. (2004) and Jack et al. (2009) evaluated the survival data of SA women and of these, only the earlier 2 studies evaluated the mode of presentation of breast cancer among SA women. However, contrasting results were reported, with Velikova et al. (2004) noticing delayed presentation among SA women, whereas Dos Santos et al.

(2003) did not find any. This may be due to the variation in the way ethnic minorities are concentrated around various regions in the UK, as these studies were from geographically different regions. Similarly, the studies collected data from the regional cancer registries in the late 80's just prior to and after the introduction of National Breast Screening Programme reducing its reproducibility and generalisability. Since then, there were no further studies done to address the delayed presentation of breast cancer among the SA communities. The lack of consistency and uniformity of the ethnicity data collected under the National Health Service (NHS) as well as in the National Breast Screening Programme (NHSBSP) makes any policy making decisions even more challenging.

We conducted this retrospective study at the Calderdale and Huddersfield NHS trust, a District General Hospital based in West Yorkshire, UK, serving a relatively large population of people from South Asian origin. The aim of this study was to bridge the knowledge gap and improve our understanding of the late presentation and management of SA breast cancer patients living in the UK

Materials and Methods

The Calderdale and Huddersfield NHS trust is a district

¹Leeds Teaching Hospitals NHS Trust, Leeds General Infirmary, ²Leeds Institute of Health Science, School of Medicine and Health Sciences, University of Leeds, Leeds, ³Huddersfield and Calderdale NHS Trust, Huddersfield Royal Infirmary, Huddersfield, UK *For correspondence: drsreek_79@yahoo.co.in

general hospital located in West Yorkshire, UK. The trust provides care for around 435,000 people and according to 2001 census, 10 to 14% of this population constitutes of people from Asian origin.

The breast cancer waiting list database held within the trust was searched from January 2001 to December 2007. SA women diagnosed with breast cancer in this period were identified based on the ethnicity data recorded in the database and accuracy was confirmed by cross referencing the patients' case notes (SSR). The information on patient demographics, mode of presentation, presenting symptom, duration of symptom, menstrual and family history were collected from the case notes. The duration of symptom was predefined as the time in weeks taken by the patients prior to presenting to their General Practitioner (GP) after noticing the initial symptom. This was calculated from the referral forms present in the patients' case notes. The radiological investigation, tumour characteristics, surgical and adjuvant treatment as well as follow-up information were also recorded. Mammographic and ultrasound findings were recorded based on the BI-RADS classification (American College of Radiology, 2003). The histological findings were recorded according to the National Health Service Breast Screening Programme and the Royal College of Pathologist (RCPATH) guidelines (NHSBSP, 2005).

As this was a study conducted to examine the service provision for SA breast cancer patients with in our trust, NHS ethics approval was not required. All the data collected were entered into a Microsoft Excel spreadsheet and statistical analysis was undertaken using SPSS for windows V.17.0.1.

Results

Breast cancer was diagnosed in 1630 patients during the study period and 40 patients (2.45%) were of SA. Four patients were excluded due to loss of essential data and the remaining 36 patients were included in the analysis. Of the 36 SA patients, most were of Pakistani origin (n=30) and rest were Indian (n=6); reflecting the composition of SA ethnic groups within our catchment area. The median age was 53.5 years (Range, 32-84) and patient demographics, tumour characteristics, TNM stage, primary and adjuvant treatment information are depicted in Table 1.

Presentation of breast symptoms

Majority of the patients presented symptomatically (n=29; 81%) and rest through (n=7; 19%) the national breast screening programme. Lump was the commonest presenting symptom (n=26) followed by pain (n=2) and nipple discharge (n=1). Among the symptomatic patients, 19 (66%) of them were in the screening age group (i.e. beyond 50 years) but didn't attend their screening programme. Almost half of the patients had symptoms beyond 2 months prior to visiting their GP (Figure 1).

Only 6 patients had family history of breast cancer, all except one had first degree relatives affected. Three of them presented through breast screening programme and the remaining symptomatically within 2 months of their presenting symptom and none of them were in the breast

Table 1. Demographic and Clinical Characteristics of Patients of Differing Asian Origin

Variables	Pakistani (n=30)	Indian (n=6)
Age yrs (Median)	53.5 (32-84)	58.0 (48-65)
Type of presentation		
Screen Detected	4 (13.3)	3 (50.0)
Symptomatic	26 (86.6)	3 (50.0)
Duration of symptoms (n=29)		
< 4 weeks	7 (27.0)	1 (33.3)
4 to 8 weeks	8 (30.7)	0
> 8 weeks	11 (42.3)	2 (66.6)
Menstrual history		
Pre-menopausal	9 (30.0)	0
Peri-menopausal	5 (16.6)	3 (50.0)
Post-menopausal	16 (53.3)	3 (50.0)
Primary treatment		
Primary endocrine	2 (6.6)	0
Neo-adjuvant	5 (16.6)	0
Wide local excision	9 (30.0)	3 (50.0)
Mastectomy	14 (46.6)	3 (50.0)
Final Histology		
Ductal carcinoma in-situ	4 (13.3)	0
Invasive ductal cancer	25 (83.3)	5 (83.3)
Mixed invasive cancer	1 (3.3)	1 (16.6)
Tumour grade in Invasive cancer (n=32)		
G1	1 (4.0)	2 (33.3)
G2	12 (46.0)	3 (50.0)
G3	13 (50.0)	1 (16.6)
Axillary lymphnode status		
Axillary node clearance	23 (76.6)	6 (100)
No axillary surgery	7 (23.3)	0
N0	11	1
N1	9	4
N2	1	0
N3	2	1
TNM staging		
Tis	4	0
Stage 1	3	4
Stage 2	15	1
Stage 3	8	1
Stage 4	0	0
Hormonal status		
ER positive	21 (70.0)	6 (100)
PR positive	22 (73.3)	5 (83.3)
HER 2 positive	3 (10.0)	0
Adjuvant treatment		
Chemotherapy	23 (76.6)	0
Radiotherapy	15 (50.0)	4 (66.6)
Endocrine	19 (63.3)	5 (83.3)
Regional/local recurrence	1	0
Metastasis	5	1

screening age group.

Management and survival

Two patients were treated with primary endocrine therapy, 12 (33%) had breast conservative surgery and 22 (61%) underwent mastectomy. Among the 32 patients with invasive cancer, majority had grade 2 or 3 disease (n=29, 91%). Among the 29 patients who underwent axillary surgery, 14 patients (48%) had axillary lymphnode metastasis. Majority of the patients (n=25; 70%) had stage 2 or 3 disease, stage 1 disease in 7 (19%) and only 4 patients (11%) had in-situ cancer.

In our cohort, 8 patients died since their diagnosis

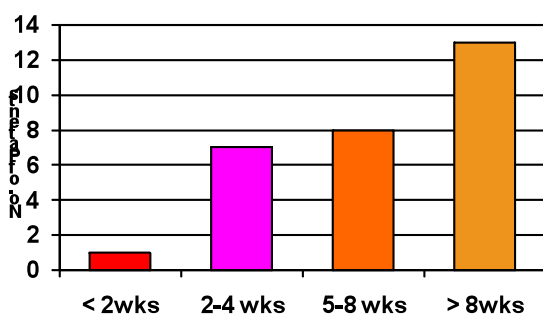


Figure 1. Duration of Symptoms before Presenting to the General Practitioner (n=29)

of breast cancer; 7 due to disseminated disease and one patient due to medical co-morbidities. Remaining 28 patients remain disease free with a median follow up of 33 months (range, 12 to 84 months).

Discussion

Delayed presentation was evident in our cohort with 45% of symptomatic patients presenting after 2 months of noticing their initial symptoms. Our result was comparable to the median delay of 61 days prior to visiting the GP shown in a previous study from West Yorkshire (Velikova et al., 2004). Whereas, another study conducted during similar time period from South East of England did not show any delayed presentation among SA women (Dos Santos Silva et al., 2003).

Advanced stage at diagnosis is associated with poor prognosis and previous studies conducted both in the USA and UK has shown that ethnic minorities present at a later stage than their Caucasian counterparts (Eley et al., 1994, Hunter, 2000, Velikova et al., 2004). Even in our cohort, 25% of the patients presented with stage 3 disease and 45% with stage 2 disease. Even though SA women presented late with more advanced disease, none of the patients who underwent staging investigations prior to starting the treatment had any distant metastatic disease. Similarly we didn't have any patients at presentation with involvement of the skin or underlying muscles by their breast cancer.

Since its introduction in 1989, the national breast screening programme has been pivotal to the early diagnosis of breast cancer. It has been shown that women who live in the more deprived area has poor NHSBSP uptake (Maheswaran et al., 2006). Both Huddersfield and Calderdale districts have been identified among the most deprived 50 districts in England for both the income and employment domains as per the index of deprivation scale in 2007. This may be one of the reasons, why only 19% of SA women presented through the breast screening programme, which was rather low compared to the national average of 31% for SA women (NHSBSP, 2009). Around 65% of patients in the screening age group presented symptomatically. This should have probably resulted in majority of our patients having large, poorly differentiated cancers with axillary metastasis.

Majority of our patients underwent mastectomy (61%) including those who had neo-adjuvant chemotherapy. Breast conservation was attempted in only 33% of patients,

again indicating presentation with more extensive disease among SA women. Similar results were seen in an earlier study with almost half of the SA women undergoing mastectomy (Velikova et al., 2004).

Seven patients died as a direct consequence of progressive disease giving a mortality of 19.4% in our patients. Survival analyses conducted in the UK have shown either comparable or better survival for Asian women with breast cancer to that of native White population (Velikova et al., 2004, Jack et al., 2009, Dos Santos Silva et al., 2003). Genetic predisposition for a less aggressive variety of breast cancer may be one of the plausible explanations for better survival seen in these ethnic minorities even after presenting with more advanced disease.

One of the limitations of our study was its retrospective nature and the method of selection of SA women from the cancer waiting list data base. We selected only patients whose ethnicity was documented in the data base and hence should have missed a small proportion of women in whom ethnicity information was not available. In order to further validate our data, we individually checked the names of all the patients diagnosed with breast cancer during this period to identify any South Asian names. But we did not use any computer software like 'Nam Pehchan' or 'SANGRA' used by other researchers, which should have improved the validity of our data. We were able to obtain the individual case notes of the entire SA women included in the study and hence the data on tumour characteristics, types of treatment received and outcomes were accurate. This increases the reliability of our data in contrast to similar studies conducted in the UK, where data was collected from the cancer registries resulting in lack of vital information in large proportion of patients. Even though the generalisability of our results is limited, it provides the opportunity to understand ethnic variation among breast cancer patients and hence to explore new ventures to reach them effectively to identify the disease earlier.

In conclusion, there was significant delay in the presentation of South Asian women with breast cancer leading to more advanced disease at diagnosis in this study. Only a small proportion of South Asian breast cancer patients presented through national breast screening programme, even though majority of the patients were in the screening age group. Even after its introduction more than two decades ago, the national breast screening programme seems to have not been embraced by some of the ethnic minorities. Further qualitative research is needed to identify the root cause for this to better target this population in whom the breast cancer incidence is on the rise.

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