

Trends and Facts of Locally Advanced Breast Cancer in Women at South Karnataka

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Abstract

Introduction: Breast cancer incidence is rising, it accounts for 5-8% of all cancers in India and it is the leading cancer in women. Locally advanced breast cancer is an aggressive form of breast cancer. It remains a major source of morbidity and mortality, as majority of them show metastasis at the time of initial presentation. A hospital based prospective and a descriptive type of cross sectional study conducted at the surgical oncology department of S S Institute Of Medical Sciences & Research Centre, Davangere.

Objectives: The aims of the study were to evaluate the prevalence of locally advanced breast cancer, to assess the factors for delayed presentation of advanced breast cancer and to categorize women concerning age, social status, parameters related to breast history and reasons for delay in seeking medical care and to analyze the mode of management of patients in the study group.

Material and methods: A total of 600 breast cancer patients presented to the surgical oncology outpatient clinic, of which 37 (6.1%) patients were proved cases of locally advanced breast cancer, with clinical staging T3N0,T3N1,T4 and/or N2-3 were included and analyzed.

Results: Four patients were excluded and 33 patients were included, among them,36.36% were in the 46-55 years age group,45.44% belonged to middle socioeconomic status,15% had family history of breast cancer. On staging,60.60% were in T4 stage ,which carries poor prognosis. Lack of awareness(60.60%) and financial constraints(54.54%) were the two common reasons for delay in presentation. Regarding the mode of management,84.84% received neo adjuvant chemotherapy, followed by surgery in 26 (83.86%)patients, then adjuvant chemotherapy, radiotherapy and/or hormonal therapy. On follow up, 7 (26.92%) developed metastasis, 18 (58.06%)are on regular followup,10 (32.25%) died, 3 (9.67%)were lost for follow up for various reasons.

Conclusion: Locally advanced breast cancer confers a bad prognosis and poor outcome in patients with breast cancer.

Key words: Local advance breast cancer, Misbelief

Introduction:

Locally advanced breast cancer (LABC) represents some of the most aggressive forms of breast cancers. Although in USA only 10-20% of all breast cancer patients present as LABC, in India, 30-60% present as LABC¹

LABC is a frequent entity that compromises a biologically heterogeneous group that can also be divided chronologically by the duration between onset of symptoms and presentation for medical care.

Locally advanced breast cancer is a large invasive breast tumor (5cms or more across) or has spread to the skin or the front of the chest. It has one or more of the following features², maybe large, or has spread to several lymph nodes in the axilla or other areas near the breast, or even to other structures

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around the breast such as the skin, muscle or the ribs,

However, there are no signs that the cancer has spread to the other parts of the body. Women with locally advanced breast cancer usually present late, either with a breast mass, ulcerative mass, pain or a swollen breast.

Signs of locally advanced breast cancer include, skin that's thickened and looks dimpled like an orange peel, ulcers on the skin of the breast, a lump in the axilla, not freely mobile, or a lump at the base of the neck.

The incidence of LABC in India, is much higher as compared to the western statistics. Poor economic status, ignorance, illiteracy, shyness, remote areas, superstitious beliefs, religion, worship, gender bias, poverty, patient neglect, lack of adequate health infrastructure and more so the tumor biology or some factors which do influence the high incidence of LABC.

Diagnosis is confirmed using a digital mammogram and/or breast and axillary ultrasound and a minimally breast biopsy. The treatment options recommended for locally advanced breast cancer include neo adjuvant chemotherapy, breast surgery followed by postoperative chemotherapy, radiotherapy, targeted therapies and hormonal therapies.

The choice of treatment is individualized on the clinical circumstances. Breast surgery may be recommended for some women in the form of total or modified radical mastectomy. The aim of giving chemotherapy at the initial presentation is to shrink the breast cancer and to destroy micro metastatic deposits. Radiotherapy is an adjuvant therapy and hormonal therapy may benefit women with advanced cancers bearing hormone receptors. Trastuzumab (Herceptin) is tried in women with her² breast cancers, may prolong lifespan³

Follow up is advised after the initial therapy to look for recurrence of tumor.

Material and methods: A hospital based prospective and descriptive type of cross sectional study was conducted at the surgical oncology department at S S Institute of Medical Sciences &

Research centre, Karnataka, during a period of five years (Jan 2007-Jan 2012). A prospective analysis of clinical records of patients attending the outpatient department and inpatient unit of surgical oncology with a primary diagnosis of locally advanced breast cancer was done.

The aims of the study were to

- evaluate the prevalence of locally advanced breast cancer
- assess the factors for delayed presentation of advanced breast cancer and to categorize women concerning age, social status, parameters related to breast history and reasons for delay in seeking medical care and to
- Analyze the mode of management of patients in the study group.

Methodology: A total of 37 patients were included in the study. At presentation, a detailed history was taken with factors for delay in presentation, socioeconomic status, age, literacy status, previous treatment history was noted down.

Patients had various reasons for delay in seeking medical care for their breast disease. Most of the times they were misled to adopt alternative therapies with a hope to cure breast cancer. Socioeconomic reasons, health care system were some influential factors which lead to delayed access to medical care. These factors were noted down at the outpatient department during the initial visit.

After clinical breast examination by the treating oncosurgeon, routine laboratory investigations were done, followed by digital mammogram and/or breast and axillary ultrasound, followed by guided fine needle aspiration cytology. Establishing a tissue diagnosis is the initial priority on presentation of LABC. Bone scan or a PET CT scan was advised to rule out distant metastasis. Only women with locally advanced breast cancer without distant metastasis, willing to participate in the study were included.

Following histo-pathological confirmation, breast sarcomas and lymphomas were excluded. If metastasis were noted during preoperative workup, they were also excluded from the study. Women more than 70 years were excluded as they are usually medically unfit for chemotherapy.

Patients were then clinically staged as per TNM classification⁴. Women with locally advanced breast cancer did fall into T3N0, T3N1,T4 and/or N2-3.

Then the various treatment modalities were discussed with the patients and their relatives. Choice of treatment was individualized according to the clinical circumstances. As neo adjuvant systemic therapy is the initial management of choice. After an informed written consent, all patients were put on three cycles of chemotherapy,⁵ Flurouracil, Adriamycin, Cyclophosphamide, dose being calculated as per the body surface area on Dubois and Dubois scale.

A few patients who had a bad necrotic large growth were subjected for a toilet mastectomy, followed by chemotherapy. The patients under the study were reassessed after three cycles of chemotherapy for a clinical staging, then a decision for a toilet mastectomy or a modified radical mastectomy was then planned, following which chemotherapy was continued. The need for radiotherapy and hormonal therapy was later decided.

Results: A total of around 600 breast cancer patients have attended the outpatient surgical oncology clinic during the five year period. (Table 1) Of them,200 patients were in early operable breast cancer stage and they underwent surgery.37 (6.1%) patients belonged to the LABC group, however 2 (5.40%) patients were aged above 80 years and another 2 (5.40%) patients had bilateral breast involvement and so 4 patients were excluded from the LABC group and 33 patients were enrolled in the study group.

Table: 1. Prevalence of locally advanced breast cancer

| | | |
|--------------------------------------|-----|--------|
| Outpatient breast cancer cases | 600 | |
| Operable breast cancer cases | 200 | 33.33% |
| Locally advanced breast cancer cases | 37 | 6.16% |
| Advanced breast cancer cases | 50 | 8.3% |

In the study group, 36.36% of women belonged to the 46-55 years age group (Table 2) and majority 45.44% of them were of middle socioeconomic status. 5 patients (15.15%) had a family history of

cancer breast. (Table 3)

Table: 2. Age distribution of cases

| Age group (years) | No. | % |
|-------------------|-----|-------|
| 35-45 | 10 | 30.3 |
| 46-55 | 12 | 45.44 |
| 56-65 | 7 | 24.24 |
| 66-75 | 4 | 12.2 |

Table: 3.Relevant breast history

| | | |
|----------------------------------|---|--------|
| Family history of breast disease | 5 | 15.15% |
| Bilateral breast involvement | 2 | 6.06% |

Table: 4. Clinical staging of breast disease

| Stage | No. | % |
|-------|-----|-------|
| T3 | 3 | 9.09 |
| T3N1 | 8 | 24.24 |
| T4 | 20 | 60.60 |
| N2-N3 | 2 | 6.06 |

On clinical staging of LABC cases, 20(60.60%) belonged to the T4 stage as per the TNM staging. (Table 4) Further analyzing the factors for the delay in accessing medical care, it was noted that, lack of awareness (60.60%), financial constraints (54.54%), lack of national breast screening programs (48.48%), gender bias (30.30%) and poorly equipped rural hospitals (30.30%) were the commonly reported reasons by the patients.

Regarding the mode of management of LABC cases, 2 (6.06%) refused any form of treatment for various reasons, 28 (84.84%) took neo adjuvant chemotherapy for 3 cycles, 3 (9.09%) had toilet mastectomy followed by adjuvant chemotherapy for three cycles. (Table 5, 6, 7 & 8) After three cycles these patients were reassessed, 5 (16.23%) died during neo adjuvant chemotherapy,5 (19.23%) opted for breast conserving surgery and 21(80.76%) underwent modified radical mastectomy, followed by postoperative chemotherapy for three more cycles with radiotherapy and/or hormonal therapy.

During the five year study period, 3(11.53%) were lost for followup, 7(26.92%) developed distant metastasis, of these 5(19.23%) died and 2(7.69%) are presently receiving second line chemotherapy for metastasis.

To summarize, of the total 31 patients included in

the study, 18 (58.06%) patients are on followup, 10 (32.25%) died during followup, 3 (9.67%) were lost for follow up, as they were fed up with repeated hospitalization apart from financial and social concerns.

Table: 5. Mode of management of LABC cases

| Mode of treatment | No. | % |
|---------------------------|-----|-------|
| Neo adjuvant chemotherapy | 28 | 84.84 |
| Toilet Mastectomy | 3 | 9.09 |
| Refused treatment | 2 | 6.06 |

Table: 6. Causes of delay in accessing medical care

| | | | |
|-----------------|---|----|--------|
| System delay | Non referral by local doctors | 6 | 18.18% |
| | Trying alternative therapies | 8 | 24.24% |
| | Superstitious beliefs | 8 | 24.24% |
| | Religious beliefs | 8 | 24.24% |
| | Lack of breast cancer screening & awareness programs | 16 | 48.48% |
| | Poor health infrastructure, more so in rural areas | 10 | 30.30% |
| Patient factors | Illiteracy | 9 | 27.27% |
| | Lack of awareness | 20 | 60.60% |
| | Financial constraints | 18 | 54.54% |
| | Gender bias | 10 | 30.30% |
| | Joint families | 11 | 33.33% |
| | Shyness | 3 | 9.09% |
| | Patient performance status | 6 | 18.18% |
| | Associated medical problems like DM, HT and cardiac illness | 6 | 18.18% |

Table: 7. After initial chemotherapy

| Mode of treatment | No. | % |
|-----------------------------|-----|-------|
| Breast conserving surgery | 5 | 16.12 |
| Modified radical mastectomy | 21 | 67.74 |
| Died during chemotherapy | 5 | 16.12 |

Of the total 31 patients, five of them died, only 26 patients continued with further follow up.

Table: 8. Metastasis during the study period

| Site | With breast conserving surgery | No. | With modified radical mastectomy | No. |
|-------|--------------------------------|-----|----------------------------------|-----|
| Lung | 2 | 2 | 5 | 5 |
| Bone | 2 | | 1 | |
| Brain | | | 1 | |
| Liver | | | 1 | |

Table: 9. Follow up of patients during the five year period

| Group of patients | No. | % |
|------------------------------------|-----|-------|
| Breast conserving surgery patients | 3 | 11.53 |
| Modified mastectomy patients | 15 | 57.69 |
| Lost for follow up patients | 3 | 11.53 |
| Died | 5 | 19.23 |

In the study group, the total survival rate was 58.06% and 32.25% succumbed to the illness during the period of study.

Discussion

The prevalence of LABC at our hospital was 5.5%, but Akhtar et al⁵ reported a high incidence of 50.7% in their study. Charnoubi et al⁶ reports an incidence of 20-30% in their study. The mean age at presentation was 46.7 years (range 46-55 years) which was similar to the results reported by Saghir et al⁷. Akhtar et al⁵ also reports 48 years as mean age at presentation.

In our study, patient factors like lack of awareness (60.60%) and financial problems (54.54%) were the two most common reasons for the delay in presentation. Similar results were seen in a study reported by Akhtar et al⁵ where 75% lacked awareness and 52% had financial problems. Charnoubi et al⁶ in his study reports that 42% of women had neglected their symptoms of breast cancer and presented late. Delay in standard treatment in carcinoma breast is associated with advancement of disease, a strong correlation between delay and stage of disease at diagnosis was observed in a population based study in Germany⁸. These disparities partly reflect socioeco-



Fig 1: Patient with locally advanced breast cancer



Fig 2: Fungating locally advanced breast cancer, had toilet mastectomy



Fig 3: Postop Breast specimen of the patient above



Fig 4: Locally advanced breast cancer



Fig 5: Chest wall recurrence

conomic and health care access inequalities along with the coexistence of environment and genetic factors of the people belonging to a particular community.

Newman² reports that neo adjuvant chemotherapy would be the most optimal preoperative systemic therapy followed by surgery and chemo-radiation. He also quotes a 30% risk of metastasis in women with locally advanced breast cancer and we have had a 26.92% of metastasis in the present study.

An overall survival rate of 58.06% was noted in our study, while Saghir et al⁷ reports a survival rate of 68% at 5 years, Monnier L⁹ reports a survival rate of 30% in his study.

Mortality rate of 32.25% was noted in our study, Rede MF¹⁰ has reported 50% mortality in his study.

Conclusion

Breast cancer represents a major health problem. Locally advanced breast cancer remains a major source of morbidity and mortality. Locally advanced breast cancer in our country is an outcome of constant neglect due to patient and system factors. These patients present as a challenge as they have the hope of improved survival in spite of late presentation. We need to plan, organize and create breast awareness among women by educating them and the local general practitioners for early referral.

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How to cite this article;

Linganagouda S. Patil, Amarendra S, Gayatri L. Patil, Shashikala P. Trends and Facts of Locally Advanced Breast Cancer in Women at South Karnataka. J Pub Health Med Res 2013;1(1):43-48

Funding: Declared none

Conflict of interest: Declared none

Cherry picking in research or suppressing evidence or the fallacy of incomplete evidence is the act of pointing to individual cases or data that seem to confirm a particular position, while ignoring a significant portion of related cases or data that may contradict that position. It is a kind of misleading notion of selective attention, the most common example of which is the confirmation bias (also called confirmatory bias or my side bias) is a tendency of people to favour information that confirms their beliefs or hypotheses) and may be committed unintentionally.

The term is based on the perceived process of harvesting fruit, such as cherries. The picker would be expected to only select the ripest and healthiest fruits. An observer who only sees the selected fruit may thus wrongly conclude that most, or even all, of the fruit is in such good condition.

Cherry picking can be found in many logical fallacies. For example, the "fallacy of anecdotal evidence" tends to overlook large amounts of data in favour of that known personally, "selective use of evidence" rejects material unfavourable to an argument, while a false dichotomy picks only two options when more are available.