
Inflammatory breast cancer misdiagnosed as mastitis

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Abstract: Background: Inflammatory breast cancer (IBC) is a rapidly progressive disease associated with high mortality in developing countries. The patients are managed for mastitis's first and IBC becomes a diagnosis of exclusion after failed response to appropriate antibiotic therapy. This study was aimed at evaluating the outcome of management of IBC in North central Nigeria. Patients and method: This was a prospective analysis of consecutive patients presenting with breast cancer at the Abubakar Tafawa Balewa University teaching hospital Bauchi (ATBUTH) from January 2011 to December 2012. Results: A total of 52 breast cancers were managed, mean age was 31+, 2years with an age range of 29 -33 years. There were 51 females and 1male (m: f = 51:1) with IBC accounting for 9(17.3 %) of them. Conclusion: IBC is frequently misdiagnosed as mastitis for various reasons and a high index of suspicion is required to clinch the diagnosis.

Keywords: Inflammatory, Breast, Cancer, Mastitis, Misdiagnosis

1. Introduction

Inflammatory breast cancer (IBC) is a rapidly progressive disease associated with a high mortality in developing countries. The disease is known to have a poor prognosis in the Africans, African Americans and persons of low socioeconomic status (1). When it affects older women, it is easier to diagnosis because breast cancer is generally commoner in women above 40 years. There is therefore high index of suspicion by the attending physician to incline to cancer as a first differential. When it occurs in young women however, it can be challenging because it is often associated with pregnancy and lactation the first diagnosis by the attending physician is likely to be mastitis. The breast during pregnancy and lactation is prone infections; this could be due to depressed immunity compounded by introduction of organisms into the ducts during the process of suckling with resultant mastitis (2). They present with swelling in the affected breast, pain, peau d'orange skin over the swelling, tenderness and fever; axillary Lymphadenopathy is not a common feature of mastitis and if present should raise a suspicion of IBC. Laboratory findings are typically that of an infective process while a breast ultrasound will show a cystic mass (abscess cavity) with mixed echogenicity. Histological section of abscess wall reveals infiltration with inflammatory cells. Treatment modality includes incision and drainage of the abscess, broad spectrum antibiotics,

pain relief followed by daily dressing of wound. This line of management for mastitis achieves a quick resolution and a good outcome. History of the disease in IBC is typically short associated with high fever, generalized swelling of the affected breast, tenderness with or without a palpable mass and the presence of axillary Lymphadenopathy which maybe bilateral at the time of presentation(3).

The diagnosis of IBC is mainly clinical and can be difficult to differentiate from other inflammatory breast lesions at the early stage of the disease. Anyawu et al found lack of cancer awareness among patients and health workers in addition to poor diagnostic capability of the health institutions as significant factors responsible for the delay in diagnosis of breast cancer.

These may be factors contributing to the many mistakes associated with diagnosing IBC (4). The patients are managed for mastitis's first and IBC becomes a diagnosis of exclusion after failed response to appropriate antibiotic therapy. There are no clear guidelines to assist the attending physician who has limited oncology training on how to diagnose IBC clinically. The limited radiologic investigations to aid the diagnosis IBC not only require expertise but are also not readily available in most hospitals in our country. An example is MRI proven to be useful in this regard but the very few in the country are situated at the referral centers only (5). More definitive confirmation

of IBC is by histopathological examination and immunohistochemistry. Histopathology may be available in some referral centre but not at district hospitals, this may contribute greatly to the diagnostic dilemma and delay in instituting appropriate management. Accurate diagnosis and prompt multimodal approach with appropriate neoadjuvant chemotherapy; surgery followed by radiotherapy is key to improved survival and reduction of the morbidity and mortality that are associated with this disease (6). Although IBC is rare, it has some geographical predisposition with a good number of cases reportedly found in Northern Africa (7). There is paucity of information on this disease in Nigeria where oncology services and research are limited however but there is increase in site based reports of the disease (8). This study was aimed at evaluating the outcome of management of IBC in North central Nigeria.

2. Patients and Methods

This was a prospective analysis of consecutive patients presenting with breast cancer at the Abubakar Tafawa Balewa University teaching hospital Bauchi (ATBUTH) from January 2011 to December 2012. The subset of patients with inflammatory breast cancer were further isolated for this study. Non consenting Patients were excluded from the study. Data was extracted for socio demographics, presenting symptoms; clinical type of breast cancer, predisposing factors, duration of disease, initial management, histopathological type and stage of the disease. Data obtained was analyzed using excel version 6 and Epi info 7.

3. Results

A total of 52 breast cancers were managed. The patients mean age was 31 ± 2 years with an age range of 29 -33 years. There were 51 females and 1 male (m: f = 51:1). The histopathologic types of the breast cancers were Invasive ductal carcinoma 37 (71.1%), Inflammatory breast cancer 9 (17.3%), medullary breast cancers 3 (5.8%) while 3 (5.8%) were phylloides tumors of the breast (Fig.1).

Inflammatory breast cancer was found to be bilateral in 3 (27.3%) and unilateral in 6 (66.7%). There was significant weight loss in all patients, history of lactation in 5 (55.6%), pregnancy in 3 (33.3%) while 1 (11.2%) was found to be within the weaning period. All patients had Peau d'orange (Fig.1) Five patients (55.6%) had bilateral axillary lymphadenopathy and fever was found in 7 (77.8%). The mean duration of disease prior to presentation at a health centre was 3 weeks with a range of 2 – 4 weeks; mean time taken to obtain definitive diagnosis was 13 weeks with a range of 9-16 weeks. All patients were initially treated for mastitis prior to diagnosis of IBC and all had T4d disease at the time of presentation to the tertiary institution.



Fig 1. Inflammatory breast cancer in a 30years old woman manifesting with Peau d'orange.

4. Discussion

The main finding in this study was that all of the patients were initially misdiagnosed and treated for mastitis. This reflects the inadequacy of the mechanisms available in our system for diagnosis of IBC. The attending physician who serves as the gate keeper most have the basic knowledge of mastitis and IBC to recognize the difference between the two entities and to act quickly. Actions required may range from simple referral to a specialist or obtaining tissue diagnosis prior to referral. Diagnostic facilities for IBC at the district hospitals is almost nonexistent, tissue specimen are sent to government hospitals that have facility for processing tissue. These government hospitals are often overwhelmed with work resulting in long waiting time. A faster way of getting result is sending specimen to privately owned laboratories who are willing to ship sample if need be to collaborating laboratories within and outside the country but the fee is often not within the reach of the common man. Delays in sourcing funds for diagnostic procedures and for treatment can be unduly long. Some patients succumb to other alternatives such as native treatment and visiting chemist shop which seems cheaper but in the long run more expensive because they start all over again at referral centers when eventually there is no relief of symptoms. These factors further complicate the situation of any woman with IBC who is misdiagnosed. The finding in our patients is much higher than the 50% misdiagnosis of IBC reported by Meyer (9). The reason for this disparity maybe due to lack of basic oncology training for the first attending physicians stationed at the district hospitals. The few doctors with some training in oncology are stationed at referral hospitals where cases that could not be handled by the attending physician are referred to. This means the patient is offered treatment for mastitis which may included but not limited to antibiotics, incision and drainage, and basic laboratory investigations to help in patients' management. If there is no response after a certain period of time which many take weeks to months, patient is sent to a referral hospital where she is booked to see the specialist. Booking could be few weeks to months depending on the number of patients on the waiting list and stage at presentation. IBC is an aggressive disease that

equally requires an aggressive and precise multimodal approach. Makower D and Sparano JA employed a multimodal approach of treating IBC using combined Neoadjuvant combination drug chemotherapy, surgery; radiotherapy and immunotherapy were indicated with success (10). The time between diagnosis and instituting response is of essence in treating IBC. The multifactor delay starting with first attending physician missing the diagnoses and the high mortality associated with the disease due to its aggressive trend are reasons to believe that some patients may have died before being diagnosed.

The patients in this study were young, similar to the findings of Abdulraham et al (11-12). Breast cancer in Africans has generally been reported to appear a decade or more less than in non Africans. Breast cancer in young women all over the world follows an aggressive course made worse in this group of patients because of the type of cancer. Although they also reported occurrence of a less aggressive form of IBC in older women that was not associated with pregnancy or lactation, all patients in this study irrespective of age presented with stage 4 diseases within an average of 13 weeks from the time of first presentation. This connotes an aggressive disease in comparison to the findings of Robertson et al where the patients are older and the history longer (13-14).

Recommendation:

There will be need for basic oncologic training for physicians, public awareness campaign on breast cancer for patients and multicentre study on IBC.

5. Conclusion

Inflammatory breast cancer is frequently misdiagnosed as mastitis for various reasons and requires a high index of suspicion in clinching the diagnosis.

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