

Pattern of Histological Types of Breast cancer in Bangladeshi women

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Abstract

Background: Carcinoma of breast has become the major public health problem among females in developing as well as developed countries. **Objective:** Because of the lack of awareness in Bangladeshi population and inadequate access to health care, most patients are diagnosed at an advanced stage of the disease. Early detection has a crucial impact on overall treatment outcomes. **Materials and methods:** This cross-sectional descriptive study was carried out in the Department of Biochemistry of DMC in collaboration with the department of oncology, Bangabandhu Sheikh Mujib Medical University (BSMMU) and department of radiology of Dhaka medical college and hospital from January 2022 to December 2022 after getting formal approval from the Institutional Review Board (IRB) of DMC. **Result:** In this study among 68 patients, 64 (94.11%) patients were diagnosed with invasive ductal carcinoma. **Conclusions:** Regarding the investigation of this study, significant and insignificant factor's parallel visualization with breast cancer will be supportive to increase awareness, screening and early detection of breast cancer among Bangladeshi women as well as all over the world. This preventive strategy could be a model for other resource-limited developing countries.

Keywords: Breast cancer, awareness, invasive ductal carcinoma, developing country.

Introduction

Breast cancer is the most common malignancy in women around the world and its incidence is rising particularly in developing countries. According to GLOBOCAN, it is the most common cancer in women, accounting for 25.1% of all cancers (1). Worldwide, it is estimated that more than one million women are diagnosed with breast cancer every year and more than 400,000 will die from the disease (2). The significance of breast cancer as a disease is with high incidence and death rate is really bold in developing countries. It is estimated that 45% of the 1.35 million new cases diagnosed each year and more than 55% of breast cancer related deaths, occur in low and middle income countries (2). In low- and middle-income countries, the infrastructure and resources for routine screening mammography are often unreachable. In such countries, breast cancer is usually diagnosed at late stages and due to insufficient resources, women with breast cancer may receive inadequate treatment or palliative care. So it's necessary to increase the doctors and awareness among all population both rural and urban areas in Bangladesh. The awareness can be increased to provide the proper knowledge about factors those are associated with breast cancer (3).

In Bangladesh, none of the breast cancer cases is discovered by organized screening. Almost all breast cancer cases are detected clinically. Breast cancer can be detected at earlier stages by simple self-examination of the breasts (4), but most of the patients (more than 90%) seek medical attention at advanced stages: i.e., stages III and IV (5, 6) in Bangladesh and over 63% of the patients (n = 987) had grade III tumors (7). The objective of this study was to identify histological variations in Bangladeshi female patients with breast cancer, thus it will help to understand the histological type of breast cancer among Bangladeshi female patients and will create a social awareness among the population.

Materials and Methods

This was a cross-sectional study, the sampling technique was convenient and carried out in the Medicine OPD, Ad-din Akij Medical College Hospital, and Khulna from January 2022 to June 2022. We included those who reported having diabetes for 6 months or more regardless of taking oral hypoglycemic agents or insulin. Patients were diagnosed as type 2 diabetic by their primary physicians. We excluded subjects with other chronic illnesses like hypertension, chronic kidney and liver disease, those who were pregnant, and anyone taking lipid-lowering drugs. In this way, a total number of 220 patients were enrolled at first. After fulfilling inclusion and exclusion criteria finally, 110 patients aged 30 years or above were taken as the study population. Blood samples were collected and the serum lipid profile was estimated by Autoanalyzer. SPSS, Microsoft Excel, and Microsoft Word were used in this study.

Both male and female patients aged over 30 years and have a diagnosis of type 2 DM were included in the study. A written consent was obtained from each patient, using an informed consent form. The research was conducted in full compliance with ethical principles.

Results

In this study among 68 patients, 64 (94.11%) patients were diagnosed with invasive ductal carcinoma followed by 2 patients were diagnosed with ductal carcinoma in situ & 2 patients were diagnosed with metastatic carcinoma. Most of patients had positive family history of breast cancer (94%) as well as oral contraception (47.1%).

TABLE I: Age and BMI distribution of the study subjects (N=68)

| Variables | Mean ± SD |
|--------------------------|--------------|
| Age (years) | 43.71 ± 9.84 |
| BMI (kg/m ²) | 23.95 ± 3.38 |

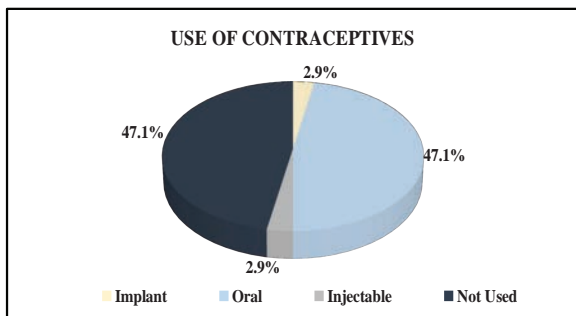


Figure 1: Pie diagram showing different types of Contraceptives used by the study subjects and their respective percentage (%).

Table II: Family history of breast cancer of the study subjects (N=68)

| Family history of breast cancer | Frequency (n) | Percentage (%) |
|---------------------------------|---------------|----------------|
| Yes | 4 | 6 |
| No | 64 | 94 |

Table III: Incidence of various histologic types of breast neoplasm

| Type of neoplasm | Number of cases | Percentages |
|---------------------------|-----------------|-------------|
| Invasive ductal carcinoma | 64 | 94.11% |
| Ductal carcinoma in situ | 2 | 2.94% |
| Metaplastic carcinoma | 2 | 2.94% |

Discussion

The report of World Health Organization (WHO) is also published that the death rate of breast cancer in Bangladesh is high and ranked in 2nd position all over the world (3). A maternal health survey estimated that cancer was responsible for 21% of all women’s deaths in the reproductive age range (8). Another verbal autopsy study showed that 62% of all deaths associated with breast cancer were in women under 50 years old (9). In our study, invasive ductal carcinoma was the most commonly observed histological type of breast cancer with 64 cases (Table III). This was similar to another study conducted, where majority cases (75%) were invasive ductal carcinoma (10). Another study conducted in china, where 94.79% cases were invasive ductal carcinoma (11). In Bangladesh, approximately 95% of all breast cancers are invasive ductal carcinomas (12) which is also supportive to our study result and over 63% of the patients (n = 987) had grade III tumors (12).

In the present study, the mean± SD age of the study group was 43.71 ± 9.84 years. Similar study was conducted by Duzkale and Kandemir, 2021 where the age of diagnosis of the patient group was 40.86 ± 10.28 years (13). In the present study, there was 64 patients, who had no family of breast cancer and only 4 patients had been found positive for family history of breast cancer. Another study found only 4.34% of breast cancer patients with positive family history in the Bangladeshi population (14). The frequency of positive family history had been found low in the studies of Bangladesh. One hypothesis could be made for the low frequency of positive family history in the present study is that they might be unaware of the presence of cancer in their family members as the disease remained undiagnosed. In this study the percentage of oral contraceptive use was 47.1 % and the percent-

ages of patients who had never use any contraception was 47.1 %, which is consistent with the study of Phipps et al. (15) they reported oral contraceptive use were not associated with some specific subtype of breast cancer. Asian countries, the life expectancy of Bangladeshi women has increased significantly in recent years from 59 years in 1990 to 70 years in 2011 (9). The emergence of a tumor or apparent sore during the early stages of breast cancer is often disregarded because of the low level of awareness among the general public. In addition, there may be other barriers that prevent women from seeking medical attention, such as the high cost of care, the agony of societal stigmatization, poor diagnostic facilities, and a lack of confidence in the current healthcare systems. Families and communities need healthy women to be well.

Although Bangladesh has made enormous progress in the healthcare sector – especially related to infectious diseases, as recently highlighted by Lancet (16). Bangladesh, burdened with a huge population, is facing a severe shortage of human resources for health. No national health insurance system exists in Bangladesh. While over 70% of the population live in rural areas (17), most of the secondary and tertiary healthcare facilities are centered in urban areas. Community hospitals are generally overcrowded and lack elementary resources, including equipment and essential drugs. In contrast, private clinics and hospitals are relatively well equipped, but these are financially out of reach for most Bangladeshis. In the case of Bangladesh, the existing country-wide network of community-based primary healthcare infrastructure would be very beneficial for raising breast cancer awareness and early detection.

Conclusion

Despite of some limitations such as the purposefully chosen institution and relatively small sample size, this study has given us a foundational understanding that invasive ductal carcinoma is the most common histological type of breast cancer.

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