Original Research Article

Assessment of Pathological Spectrum of Carcinoma Breast in a Known Population: A Retrospective Study at a Tertiary Care Hospital

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ABSTRACT

Introduction: Breast cancer is one of the leading cancer entities in the world. Hence; present study was planned to assess the pathologic profile of carcinoma of breast cases among known population.

Materials & Methods: Data of a total of 50 breast carcinoma cases was retrieved from the institution. Complete demographic and clinical profile of all the patients was also obtained. Confirmed cases of breast carcinoma were included.

Results: Ductal variant of breast carcinoma was the most common type encountered in 40 percent of the patients in the present study. Other histopathologic types encountered in the present study included lobular, medullary and papillary. Metastasis was found to be present in 56 percent.

Conclusion: Ductal variant is the most common variant of breast carcinoma encountered among the present study group. However; further studies are recommended.

INTRODUCTION

Breast cancer is one of the leading cancer entities in the world. Breast cancer is a complex disease and multiple factors need to be considered for treatment decision which is mainly based on TNM classification.[1-3]

More than one million new cases of breast cancer are diagnosed in the world every year. In India, more than 100,000 new cases of breast cancer are diagnosed every year and this number is projected to be double by 2030 according to the recent GLOBOCAN cancer fact sheet 2008. While, the incidence of breast cancer was higher in the developed countries in the past, recent data shows rise in incidence in developing countries with the incidence now comparable with that of the developed countries.[4-6]

Hence; present study was planned to assess the pathologic profile of carcinoma of breast cases among known population.

MATERIALS & METHODS

The present retrospective study was conducted in the Department of Pathology, Rajshree Medical Research Institute & Hospital, Bareilly, Uttar Pradesh (India) and it included retrospective assessment of pathological spectrum of carcinoma breast in a known population.

Ethical approval was obtained for the present retrospective study from the ethical committee of the institution.

Data of a total of 50 breast carcinoma cases was retrieved from the institution. Complete demographic and clinical profile of all the patients was also obtained. Only those cases were included in which confirmed diagnosis of breast carcinoma was obtained. All the results were compiled in Microsoft excel sheet and were analysed in by SPSS software.

RESULTS

In the present study, data of a total of 50 patients were analysed. Mean age of the patients of the present study was 57.8 years. Ductal variant of breast carcinoma was the most common type encountered in 40 percent of the patients in the present study. Other histopathologic types encountered in the present study included lobular, medullary and papillary. Metastasis was found to be present in 56 percent of the patients.

DISCUSSION

In addition, histological and biological characteristics like estrogen receptor (ER), progesterone receptor (PR), c-erbB2 (HER2) expression, histological tumor type and age at diagnosis are

considered for diagnosis of breast cancer, prediction of disease outcome, assistance in treatment decisions and information about tumor etiology and tumor progression.[3-6]

Mucinous breast carcinoma (MC) is a special type of breast cancer that presents with a large amount of extracellular mucin.

MC comprises approximately 4% (range: 1% to 7%) of all invasive breast cancers. MC has a better prognosis (90% survival at 10 years) and a higher incidence in peri- and post-menopausal patients. Pathologically, MC is divided into two main subtypes, pure and mixed.[7]

Table 1: Age-wise distribution of patients

Age group (years)	Number of patients	Percentage of patients
Less than 40	10	20
40 to 60	19	38
More than 60	21	42

Table 2: Pathologic variants of breast carcinoma

Pathologic variants	Number of patients	Percentage
Ductal	20	40
Lobular	10	20
Medullary	10	20
Papillary	10	20
Total	50	100

Graph 1: Pathologic variants of breast carcinoma
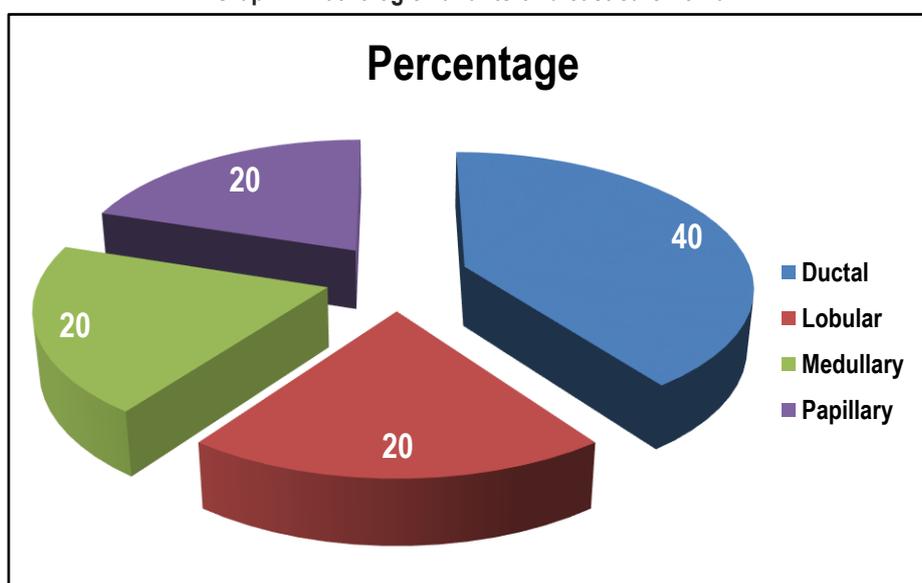
Table 3: Distribution of patients according to presence of metastasis

Metastasis	Number of patients	Percentage
Present	28	56
Absent	22	44
Total	50	100

In the present study, data of a total of 50 patients were analysed. Mean age of the patients of the present study was 57.8 years. The rate of local recurrence has been reported to be higher in patients younger than 40 years, probably due to aggressive tumor biology, inadequacy of surgical excision or a genetic predisposition to developing ipsilateral breast recurrence. Several studies have reported a local recurrence rate of 10-16% in this age group.[8] Nigam JS et al assessed the clinico-pathological spectrum of carcinoma breast in a West Delhi, India. A total of 328 cases diagnosed as carcinoma breast on histopathology from year 2004 to 2011 were retrieved and studied retrospectively with regards to demographic profile and their histological features with estrogen receptor (ER), progesterone receptor (PR), and Her2neu status. The median age of presentation was 49 years of age. Infiltrating ductal carcinoma (IDC, not otherwise specified (NOS)) was the commonest histopathological variant (81.40%) followed by medullary carcinoma (10.36%) and mucinous carcinoma (2.74%). Triple negative were found to be the commonest group

comprising 39.4% of all the cases followed by ER and PR both positive. Pathological tumor, node, and metastasis (TNM) staging showed most common group was T2N0M0 (19.5%) followed by T2N1M0 (17.1%) and T2N2M0 (14%). The incidence of breast cancer in the India and include a higher incidence of ER, PR, and Her2neu negative disease in west Delhi.[9]

Ductal variant of breast carcinoma was the most common type encountered in 40 percent of the patients in the present study. Other histopathologic types encountered in the present study included lobular, medullary and papillary. Metastasis was found to be present in 56 percent of the patients. Singh R et al conducted a retrospective analysis of 206 consecutive breast cancer patients presenting to a semi urban cancer centre from 2009-2010. The demographic and clinical variables included age, residential area (rural, semi urban, or urban), menopausal status, and clinical stage. The pathological variables included tumor type, the presence of ductal carcinoma in situ, lymphovascular invasion, and expression of estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) receptors by immunohistochemical (IHC) analysis. The majority of patients were postmenopausal with the median age of 50 years. Invasive ductal carcinoma was the most common subtype (94%). The ER status was available in 101 (49.3%), PR in 99 (48.0%), and HER2 in 82 (39.8%) cases. In patients in whom this data were available, ER was positive in 44.6%, PR in 40.4%, and HER2 in 34.2%. Out of the 82 patients in whom data on all three receptors were available, 34.1% patients had triple negative tumors. Analysis of our data showed a trend toward increasing ER and PR expression with age but this was not statistically significant. The average age of menopause was between 40-50 years of age. This report is an important documentation of the pathological characteristics in a predominantly rural/semi urban population of Indian breast cancer patients.[10]

CONCLUSION
Under the light of above obtained data, it can be concluded that ductal variant is the most common variant of breast carcinoma encountered among the present study group. However; further studies are recommended.

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