Increasing Incidence of Malignancy Among Male Breast Lesions in The Urban Population of India

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ABSTRACT

Background: Among the male breast lesion gynaecomastia is the most common lesion present. Breast malignancy accounts for less than 1% of all male malignancy. Aim of this study was to see the increasing incidence of breast carcinoma among males in India.

Methods: A retrospective study was undertaken in KPC Medical College, catering to an urban population, over a period of three and a half years. 32 male breast lesions which presented in the surgery department were analysed.

Result: 75% of the cases were gynaecomastia which is the most common male breast lesion, other benign breast lesions like epidermal cyst, breast abscess and fibroadenoma comprised 9.3% of the total lesions present. Breast carcinoma, In situ lesion and sarcoma of the breast accounted for 15.5% of the cases.

Conclusion: Worldwide studies have shown male breast carcinoma to be less than 1%. Our study showed a prevalence of 15.5% breast malignancy, showing a phenomenal increase in breast carcinoma among male patients.

Keywords: Breast Carcinoma, Gynaecomastia, Hormone, Fibroadenoma

Introduction

The prevalence of male breast lesions in the population is not studied as well as female breast pathologies. However, the urban population is becoming more conscious and male patients with swelling or lump in the breast are presenting themselves in the OPD. In male breast, gynaecomastia is the most common lesion seen. It is mainly due to the hormonal changes seen during puberty. Non neoplastic lesions like sebaceous cyst and breast abscess accounts for the second most common breast pathology in males. Among neoplastic lesions, male breast carcinoma was believed to be rare, accounting for 1% of all malignancies in male [1]. Fibroadenoma in male breast is very rare due to the absence of lobules in the male breast [2]. Mostly fibroadenoma is due to the patient’s hormonal treatment [3]. The aim of this study was to highlight the increasing incidence of breast carcinoma amongst all the lesions of the male breast in India.

Materials and Methods

This is a retrospective study of males presenting with breast lump who attended both the outpatient as well as the inpatient department of surgery in KPC medical college, situated in the heart of the metropolitan city of Kolkata and catering to an urban population. The study was from May 2014 to December 2017, a period of 3 and half years. As this was a retrospective study, no patient consent was needed. No ethical issues were also present in this study. There were a total of 37 males who came with the complaint of swelling of breast. Fine needle aspiration cytology was done from the swelling. This was followed by trucut biopsy, lumpectomy and histopathological correlation. Hematoxylin and Eosin stained slides were reviewed by more than 2 pathologists in doubtful cases. Immunohistochemistry was applied where required for diagnosis. 5 male patients presented with breast swelling and FNAC showed benign breast lesions but they did not turn up for histopathological examination and were excluded from our study. All the carcinoma and sarcoma cases were referred to higher oncology centres for further treatment and follow up.

Result

Patients were between the ages of 17 years to 72 years with a mean of 28.2 years. The results were classified into benign and malignant.

Benign breast lesions- 24 patients were of gynaecomastia with ductal epithelial hyperplasia with flat or papillary pattern, increased periductal stromal cellularity and oedema. Some cases showed fibrous phase with less epithelial proliferation and more collagenous stroma. Patient with breast abscess was a 32 year old male showing breast tissue with a cavity filled with dense neutrophilic infiltrate. Patient with benign epidermal cyst was a 50 year old male showing epithelial proliferation and sebaceous cyst formation.
old man showing cornified epithelium and lamellated keratin in histopathological microscopic section. Patient of fibroadenoma was 24 years old showing typical branching sheets of ductal cells, with fibromyxoid stroma and bare oval nuclei in FNAC. Histopathological finding showed intracanalicular type of fibroadenoma with slit like glands and myxoid stroma.

Malignant lesion- All the patients whose report showed suspicious of malignancy in fine needle aspiration cytology were confirmed by trucut biopsy later by radical mastectomy. 3 patients were positive for Infiltrating Ductal Carcinoma (No Specific Type), aged 54 years, 62 years and 64 years respectively. The reporting was done based on CAP protocol. Sheets of pleomorphic tumour cells with no myoepithelial cells were seen in H/E stained slides. Tubular formation was preserved in some parts. Pathological grading (Nottingham Grading system) was grade 2 in the first two cases and grade 3 in the third case. There was no lymph node isolated in the first case. In the second case, 4 lymph nodes were isolated which were reactive. In the third case, out of 8 lymph node identified, 3 were positive for malignancy.

One patient having ductal carcinoma in situ was a 45 years old male, showing cribiform pattern without necrosis in histopathological sections. Nuclear: cytoplasmic ratio was increased with few mitotic figures.

One patient was of dermatofibrosarcoma protuberans of breast, and was aged 72 years, showing spindled fibroblastic cells with interdigitating fasciculated and storiform growth pattern and thin walled blood vessels. High mitotic activity around 9-10/hpf was seen. Immunohistochemistry showed vimentin, CD 34 and CD 99 positivity and was negative for CK 7, S-100, Desmin, SMA, HMB-45 and EMA.

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<th>Table 1: Histopathological evaluation of total 32 cases of male breast lump with their ages.</th>
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<td>Lesion</td>
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<td>No. of Cases</td>
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Fig. 1: Dermatofibrosarcoma protuberance. 400X magnification, P63 positive.

Fig. 2: Invasive ductal carcinoma(100X,H&E stain).
endocrine disorder, advance age, history of benign breast disease. In males, old age, high socio-economic status, exposure to female hormone and patients with decreased testicular function are more prone to develop breast cancer. Sometimes obesity is also considered a risk factor because fat cells may convert androgens to estrogens\(^{13,14}\). Breast cancer can be associated with gynaecomastia\(^{15}\). Chronic alcoholics have increased incidence as alcohol cause liver cirrhosis which leads to hormonal imbalance causing cancer\(^{16}\). Male breast cancer occurs 5-10 years later than female breast cancer\(^{17}\). Bilateral involvement is less than 2\%\(^{18}\). As male breast is smaller in size, so carcinoma is located near the nipple. So spread to the nipple is common with nipple ulceration and discharge\(^{19}\).

Breast sarcoma are rare tumour with incidence of <1% of all breast malignancy\(^{20}\). Very few cases have been reported in the literature\(^{21,22,23}\). Berg et al first described stromal sarcomas\(^{24}\). Stromal sarcomas rarely involves lymphnodes. Cailery et al found negative regional lymph node in 25 patients studied. Our case also had negative lymph node. Age incidence of sarcoma is higher than that of ductal carcinoma\(^{25}\).

**Conclusion**
Due to varied spectrum of male breast lesion and increasing incidence of carcinoma as well as sarcoma in the urban male population, all male breast swelling should be thoroughly investigated for earlier diagnosis of cancer so as to prevent morbidity and mortality due to it.

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