ORIGINAL ARTICLE

CYTOLOGICAL EVALUATION OF MALE BREAST LESIONS IN GREATER GWALIOR: A FIVE YEAR RETROSPECTIVE STUDY

Jagannath Jatav[1], Rajesh Gaur[2], Vidyanand Pandit[3], Bharat Jain[4]

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ABSTRACT: BACKGROUND: Fine needle aspiration cytology is an effective modality for diagnosis of breast lesions. Usually male breast lesions are benign and affect the young male. Most common lesion is gynaecomastia. Male breast cancer accounts for a small proportion of breast cancers. Male breast cancer usually presents at an advanced age. **OBJECTIVE:** The aim of this study was to examine the nature of male breast lesions and to determine the cytomorphologic patterns of these lesions. **METHODS:** five year retrospective study was conducted in our institution and in that 112 patients underwent fine needle aspiration cytology of the palpable breast lump after thorough physical examination. The cytological diagnosis was classified as benign, inflammatory, malignant and others. **RESULTS:** In 112 male patients diagnosed with breast lesions, the most common lesion was gynecomastia (103/112, 91.9%), followed by breast cancer (6/112, 5.4%), inflammatory (2/112, 1.8%) and apocrine metaplasia (01/112, 0.9%). Gynecomastia was commonly found in male patients less than 40 years of age, while breast cancer is seen in male patients over 40 years of age.

KEYWORDS: Male Breast Carcinoma, Gynaecomastia and Fine Needle Aspiration Cytology (FNAC).

INTRODUCTION: FNAC of breast lumps is an important to assess the palpable breast lumps. It is an accurate, rapid, easy to perform, cost-effective and reproducible diagnostic tool that can be carried out at outpatient department.[1,2,3] It is commonly used in the diagnosis and management of breast lesions both in female and in male.

FNA has various benefits over the open tissue biopsy.[4,5]

1. Rapid, Reliable, Easy to perform and cost effective.
2. A definite treatment plans can be prepared.
3. Molecular ancillary technique i.e. PR & ER, proliferation antigen (Ki67) & DNA pattern analysis can be performed.

AIMS AND OBJECTIVES: The aim of this study was to examine the nature of male breast lesions and to determine the cytomorphologic patterns of these lesions which were diagnosed by FNAC of patients referred to department of cytopathology during January 2010 to December 2014.

MATERIALS AND METHODS: The medical records of all the male patients who underwent FNAC of breast lumps at GR Medical College, Gwalior, M P, India were reviewed and data on the male breast aspirates were analyzed. All aspirates were performed in the outpatient department

using 22-gauge needle and 20 ml syringe with the help of pluger by the cytopathologist. Air dried smears were prepared and stained by the Giemsa stain.

RESULTS: Over a five year period, 112 male patients with palpable breast lumps underwent Fine needle aspiration (FNA) at our department. Out of total 112, 104 (92.9%) patients had a unilateral breast lump (55 patient had right breast lump and 49 patient had left breast lump) and 8 (7.1%) patients had a bilateral breast lump. The age ranged from 09 to 84 yrs with a median age of 43.7 yr. Diagnostic aspirates were obtained in all 112 cases. These aspirates were broadly categorized into two groups: benign 106 (94.6%) and malignant 06 (5.4%).

Age in year	No. of cases	% of cases
0-10	01	0.9
11-20	41	36.6
21-30	25	22.3
31-40	10	8.9
41-50	11	9.8
51-60	09	8
61-70	10	9
71-80	04	3.6
81-90	01	0.9
Total	**112**	**100**

Table 1: Age distribution (n=112)

Benign	Malignant	Total
106 (94.6%)	06 (5.4%)	112(100%)

Table 2: Benign and Malignant cases

Sl. No.	Cytological diagnosis	No. of cases	% of cases
1	Gynaecomastia	103	91.9
2	Inflammatory	02	1.8
3	Apocrine metaplasia	01	0.9
4	Carcinoma	06	5.4
	Total	**112**	**100**

Table 3: Shows distribution of cases on the basis of their cytological diagnosis

Sl. No.	Age in year	Carcinoma n=6		gynaecomastia n=103	
		No.	%	No.	%
1	≤20	0	0	42	40.8
2	21-39	0	0	32	31

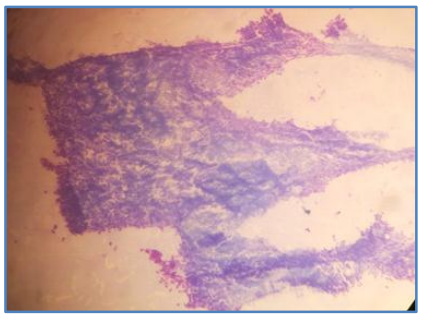
3	40-59	2	33.3	18	17.5
4	≥60	4	66.4	11	10.7
	Total	**6**	**100**	**103**	**100**

Table 4: Age wise comparison of carcinoma and gynaecomasia

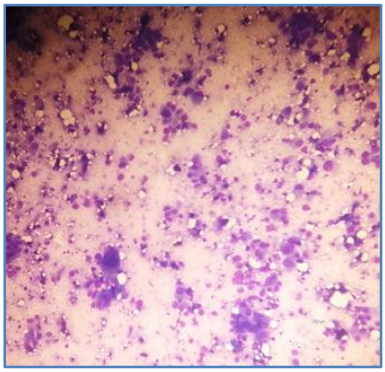
The benign lesions constituted the largest number of cases and are further subcategorized into gynaecomastia 103 (91.9%), inflammatory 02 (1.8%) and apocrine metaplasia 01 (0.9%). The prevalence of gynecomastia in different age groups is shown in Table no.1 and 4. Gynecomastia was more common in patients less than 20 years of age (42/103, 40.8%), followed by 20–39 years of age (32/103, 31%), 40–59 years of age (18/103, 17.5%) and over 60 years of age (11/103, 10.7%).

This indicates that gynecomastia occurs more commonly in male patients under 40 years of age and its incidence is decreased as age increases while other male breast lesions occurred in patients over 40 year of age.

The overall proportion of breast cancer was 5.4% (6/112). Breast cancer occurred in about one third (2/6) of 40- 59year-old patients and two third (4/6) over 60 year-old patients. None case of carcinoma seen in patients less than 40 year of age in our study.



Gynecomastia-smear showing sheets of ductal cells and fragments of loose stroma (×10, giemsa).



Ductal cell carcinoma-smear showing loose clusters and scattered pleomorphic cells and some large bizzare cells (×40, giemsa)

DISCUSSION: The FNAC of breast lump is worldwide accepted and established method of choice to determine the nature of breast lump. Gynaecomastia was the commonest benign lesion in our study which was concurrent with the findings of Manas Kotepuia et al.[6]

In our study, 103 out of 112cases (91.8%) were Gynecomastia. Gynecomastia was unilateral in 92.2% of the cases (95 out of 103) and more frequent in the right side than left side breast (50 cases were right sided and 45 were in right sided). This was contrast to the studies conducted by Das et al.,[7] and Martin-Bates et al.,[8] who observed it more in the left breast.

The overall prevalence of gynecomastia in male patients with breast lesions during 5 years was 91.9%. This is higher than in Austria (51.2%),[9] Nepal (60%),[10] and Nigeria (61.9%),[11] Italy (66.07%),[12] USA (67.3%),[13] UK (74.4%),[14] Spain (80.4%),[15] South Africa (82.7%),[16] and India (84.3%).[17] It was lower than that in Turkey (100%),[18] and Pakistan (100%).[19] Gynecomastia appeared to be more pronounced in patients less than 20 years of age. This was similar to findings in a study of Manas Kotepuia et al (2014).

In the present study percentage of malignant cases was 5.4% (6/112), this was more or less similar findings to kirana pailoor et al (2014).[20] This percentage was more than Siddiqui MT (2002),[21] and was less than MacIntosh et al (2008),[22] Westend et al (2002)[23] and Wauters et al (2009).[24]

Ranbeer et al[25] has found (2.5%) cases of inflammation on FNAC of male breast lesions. MS Gill1 et al.[26] has noted (5.4%) cases of inflammation in their study while Raajul Jain et al.[27] reported 9% cases of inflammatory lesion. In the present study, 1.8% cases were diagnosed as inflammation.

CONCLUSIONS: Gynecomastia is the most common diagnosis in male patients referred to department of cytology, G R Medical College Gwalior with breast complaints during 2009- 2014. It involved mostly male patients less than 20 years of age.

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AUTHORS:

1. Jagannath Jatav
2. Rajesh Gaur
3. Vidyanand Pandit
4. Bharat Jain

PARTICULARS OF CONTRIBUTORS:

1. 3rd Year Post Graduate, Department of Pathology, G. R. Medical College, Gwalior, Madhya Pradesh, India.
2. Professor, Department of Pathology, G. R. Medical College, Gwalior, Madhya Pradesh, India.
3. 2nd Year Post Graduate, Department of Pathology, G. R. Medical College, Gwalior, Madhya Pradesh, India.
4. Professor & HOD, Department of Pathology, G. R. Medical College, Gwalior, Madhya Pradesh, India.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Jagannath Jatav,
Flat No. 101, Arihant Apartment,
Naya Bazaar, Lashkar,
Gwalior, Madhya Pradesh.
E-mail: drjjatav@gmail.com

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