Histopathological Spectrum of Carcinomabreast in Jaipur, Rajasthan – A Retrospective Study

Vijaypal Singh¹, Dharmpal Godara^{*2}, Bhairu Lal Gurjar³

¹Resident, Department of General Surgery SMS Hospital Jaipur ²*Corresponding Author, Senior Resident, Department of General Surgery SMS Hospital Jaipur ³Resident, Department of General Surgery SMS Hospital Jaipur

Email ID: ¹Vijm27[at]gmail.com, ²Dr.drampal[at]gamil.com, ³bhairugurjar[at]gmail.com Corresponding Author: Dr. Dharmpal Godara

Address for Correspondence - Dr. Dharmpal Godara Flat no.702, Virat Elegant, Gandhi Path west, Lallarpura Jaipur 302021

Abstract: In world, carcinoma of breast is the most common malignant tumour in females. Cancer is one of the top 10 causes of death in India. Histopatologically two main types Invasive Ductal Carcinoma (IDC) — incidence > 80 % Invasive Lobular Carcinoma (ILC) - 10-15 %. Most common age group for breast carcinoma in India is 41-50 years .Although breast cancer in young women is rare but in India it is more common than west. The incidence of male breast carcinoma, once thought to be relatively stable, now seems to be substantially increasing. We conducted a retrospective study and analyse the data received from 2009 to 2013 in various histopathological labs at Jaipur, to see incidence of different types of breast carcinoma was IDC-NOS(84.74%) followed by lobular carcinoma(5.31%), medullary carcinoma(1.6%). We found most common age group 41-50(34.8%), followed by 51-60(22.42%) and in young female (<30 years), it was around 6%. Incidence of male breast carcinoma was 2.67%. This study shows higher incidence of breast carcinoma in young females, this stresses the need for change in modalities of early cancer detection, modifying, and adjusting control efforts and multidisciplinary therapeutic efforts.

Keywords: Breast carcinoma, Intra ductal carcinoma non-specific, Incidence, Age group, Young females

1. Introduction

In world, carcinoma of breast is the most common malignant tumour in females. In India cervical cancer is commonest carcinoma in females followed by carcinoma breast (16to 21%)[1], however in urban areas of developing countries, breast cancer is the most common cancer in women; due to increase in the life expectancy, urbanisation and western life style[2].

Cancer is one of the top 10 causes of death in India. Breast cancer is second most common cause of cancerrelated deaths with 53, 592 (17.2% of all cancer deaths) deathsin 2008[3]. Presently 75, 000 new cases occur in India every year[4].

Diagnosis of breast cancer is done by triple assessment (clinical, radiological, cytoand histopathological), and managed by Multimodality approachi.e. surgery, chemotherapy, radiotherapy and hormonal therapy. This study was aimed to determine the incidence of different type of breast cancer in north east Rajasthan (Jaipur) by histopathological examination report from various pathological centres (sms hospital, sdm hospital, bhagwanmahaveer hospital and kcjoshi lab).

Different types of breast carcinoma

- 1. Non-invasive (a) Ductal carcinoma in situ (DCIS) (b) Lobular carcinoma in situ (LCIS)
- 2. Invasive (infiltrating)- (a) Invasive ductal carcinoma ("not otherwise specified"), the most common subtype of invasive carcinoma. Term used for all carcinomas that cannot be subclassified into one of the specialized types;
 (b) Invasive lobular carcinoma; (c) Medullary

carcinoma; (d)Colloid carcinoma (mucinous carcinoma); (e) Tubular carcinoma; (f) Other types.

Various types/subtypes can have different prognoses and treatment implications. Two main types Invasive Ductal Carcinoma (IDC) — incidence > 80 % Invasive Lobular Carcinoma (ILC) — 10-15 % Remaining cases of invasive carcinoma are comprised of other special types of breast cancer e.g. colloid medullary, micro papillary, papillary, tubular, etc.

2. Material and Methods

It is a record based retrospective study which analyse the data received from 2009 to 2013 in above mentioned various histopathological labs at Jaipur, to see incidence of different types of breast cancer in different sex and age group.

3. Result

In present study total no of cases were 8925.out of these 6120(68.57%) were benign and 2805(31.43%) were malignant.



Figure 1: showing incidence of beningn and malignant breast lesion

Type of cases	No.		Percentage	
	6120		68.57	
Benign	Female	Male	Female	Male
-	5550	570	90.68	9.32
Malianant	2805		31.43	
Manghant	2730	75	97.33	2.67



Figure 2: Showing incidence of breast carcinoma in male and female

Table 2: Various type of benign breast disease

Benign	No.	Percentage
Fibroadenoma	5579	91.16
Fibrocystic disease	376	6.14
Phylloid Tumour	76	1.24
Tuberculosis	73	1.19
Duct ectasia	7	0.11
Duct papilloma	9	0.15
	6120	100

Table 3: Age distribution	of malignant cases
---------------------------	--------------------

Age group	No of cases(Malignant)	percentage	
<20	4	0.14	
21-30	158	5.63	
31-40	589	20.99	
41-50	976	34.80	
51-60	629	22.42	
61-70	327	11.66	
71-80	98	3.49	
>80	24	0.86	
	2805	100	



Figure 3: Showing incidence of malignant breast cases in different age group

Table 4: Incidence of various histological type of breast

cancer							
Туре	Subtype			case	Percentage		
Lobular	Insitu			4	0.14	5 21	
Lobular	Invasive		145	5.17	5.51		
	Insitu		42	1.5			
		No	n specific	2377	84.74	89.38	
Ductal	Infiltrating	Specific	Medullary	45	1.6		
			Tubular	17	0.61		
			Mucinous	24	0.85		
			Inflammatory	2	0.07		
	Paget's		5	0.17			
Others	squamous		51	1.82	5.31	1	
	Mesenchymal		6	0.21			
	Lymphoma		5	0.17			
	Metastatic		82	2.92			



Figure 4: Showing incidence of different types of breast carcinoma

4. Discussion

Despite the fact, breast cancer is the most common cancer among females. The disease shows significant geographic and ethnic variation in age distribution.

Different studies have shown that the most common breast lesions are benign and needs only reassurance [5], [6]. In our study benign are also most common (68.57%).

Fibro adenoma is the commonest lesion in the category of benign breast disease. Ferguson also reported most common benign breast lesion as fibroadenoma occurring before the age of 25 years of age [7].Our study shows

Volume 5 Issue 10, October 2017 <u>www.ijser.in</u> Licensed Under Creative Commons Attribution CC BY fibroadenoma is most common benign lesion accounting for 91.16%.

Table 5					
Most prevalent	Our study	VissaShanthi et al[17]	Ms Siddiqui et al[18]	Acharya et al[19]	
age(years)	41-50	50-59	40-49	41-45	

The results of the study showed that in a total of 2805 breast cancer patients, the common age group was 41 - 50years with 976 (34.80%) cases, followed by 51 - 60 years with 629(22.42%) cases and then 31 - 40 years age group with 589 (20.99%) of cases. According to these statistics it can be said that women of the middle age group, fourth-tosixth decade (31 - 60 years), 78.21% of cases are at a higher risk of developing breast cancer in the local set-up as also reported in studies from India and other Asian countries [8-10]. However, reports from the western world show that the female breast carcinoma is predominantly seen in the fifth and sixth decade.

Although breast cancer developing in women younger than 35 years old is rare and only accounts for 2% of all cases in the West [20], the incidence is much higher in Indian women. Study from India reported that breast cancer in young women aged 35 years or younger was 8% [21].In our study below 30 years are around 6% cases.

Breast cancer in males is relatively uncommon, accounting for less than 1% of all breast cancers and less than 1.5% of all malignancies in men [11]. In our study it is 75 cases(2.67%). The incidence of MBC, once thought to be relatively stable, now seems to be substantially increasing. The incidence of male breast carcinoma increased significantly from 0.86 to 1.08 per 100, 000population in the past 25 years[12].

Most common histological variant in our study was invasiveductal carcinoma2465 cases(87.87%)which is similar to Forae et al., Godwin A. Ebughe, and Saxena et al [13-15].

IDC NOS is commonest breast cancer followed by lobular carcinoma in the hospital-based cancer registries in Mumbai, Bangalore, and Thiruvananthapuram. Saxenaet al[15]and Sandhuet al[16]. also observed same, in present study IDC NOS 2377 cases (84.37%) is commonest breast cancer and lobular carcinoma 149 cases (5.31%) was second most common variant.

5. Summary and Conclusion

- 1. A total of 8925 breast biopsies were received in five years. Amongst these 6120 were benign breast neoplasms (68.57% incidence of total biopsies) and 2805 were malignant breast neoplasms (31.43% incidence of total biopsies).
- 2. Fibroadenoma was the most common (91%) benign breast neoplasm. Next in frequency was fibrocystic disease (6.14%). The incidence of malignant breast neoplasms in males was 2.67%.

- 3. In cases of malignant breast neoplasms, the Invasive ductal carcinoma, not otherwise specified was the most common (84.37 %), followed by lobular carcinoma (5.31%).
- 4. In the malignant neoplasms, the highest incidence was observed in the age group of 41-50 years (34.8%).
- 5. Breast cancer is now occurring increasingly in younger age groups in India when compared with western countries and a more aggressive nature of the disease. This stresses the need for change in modalities of early cancer detection, modifying, and adjusting control efforts and multidisciplinary therapeutic efforts.

References

- [1] World Cancer Research Fund International. Breast cancer statistics. Lyon, France: International Agency for Research on Cancer; 2014
- [2] WHO Breast Cancer Awareness Month in October. [Last accessed on 2013 Dec 29]. Available from: http://www.who.int/cancer/events/breast_cancer_mont h/en/index.html.
- [3] Preet K. Dhillon, Breast Cancer Factsheet 2015 https:// www.researchgate.net/publication/265878884_Breast

Cancer Factsheet (accessed on 01 May 2016).

- [4] Chopra, R. 2001. The Indian Scene. Journal of Clinical Oncology; 19;S 106-11.
- [5] Manohar P, Adhikari RC, Sigdel B, Basnet RB, Amatya VJ. Present Cancer status in TU Teaching Hospital. JSSN 1992;2:16-23.
- [6] Singh A, Haritwal A, Murali BM. Pattern of breast lumps and diagnostic accyracy of Fine needle aspiration cytology; A hospital based study from Pondicherry, India. The internet journal of pathology 2011:11:2.
- [7] Ferguson CM, Powell RW. Breast masses in women. Arch Surg1989;124:1338.
- [8] Chopra, R. 2001. The Indian Scene. Journal of Clinical Oncology; 19;S 106-11
- [9] Gupta P, Sharma RG, Verma M. Review of breast cancer cases in Jaipur region. J Indian Med Assoc. 2002;100:2823, 286-7
- [10] Pathy NB, Yip CH, Taib NA, Hartman M, Saxena N, Iau P, et al. Breast cancer in a multi-ethnic Asian setting: Results from the Singapore-Malaysia hospitalbased breast cancer registry. Breast. 2011;20(Suppl 2):S75-80
- [11] Rudlowski C. Male breast cancer. Breast Care. 2008;3:183189
- [12] Giordano SH, Cohen DS, Buzdar AU, Perkins G, Hortobagyi GN. Breast carcinoma in men: a population based study. Cancer. 2004;101:51-7
- [13] Forae G, Nwachokor F, Igbe A .Histopathological profile of breast cancer in an African population. Ann Med Health Sci Res 2014;4:369-73.
- [14] Ebughe GA. Histological type and tumour grade in Nigerian breast cancer: Relationship to menarche, family history of breast cancer, parity, age at First birth, and age at menopause. IOSR J Dent Med Sci 2013;7:58-63.
- [15] Saxena S, Rekhi B, Bansal A, Bagga A, Chintamani, Murthy NS. Clinicomorphological patterns of breast

Volume 5 Issue 10, October 2017 www.ijser.in

Licensed Under Creative Commons Attribution CC BY

cancer including family history in a New Delhi hospital, India-A cross-sectional study. World J SurgOncol 2005;3:67

- [16] Sandhu DS, Sandhu S, Karwasra RK, Marwah S. Profile of breast cancer patients at a tertiary care hospital in north India. Indian J Cancer. 2010; 47:16– 22
- [17] Shanthi V, Ali K, Rao NM, Rama Krishna BA, Mohan KV. Clinicopathological study of breast lesions in females with assessment of correlation between tumor grade and prognostic factors. J Biosci Technol. 2011;2:367-78.
- [18] Siddiqui MS, Kayani N, Sulaiman S, Hussainy AS, Shah SH, Muzaffar S. Breast carcinoma in Pakistani females: A morphology study of 572 breast specimens. JPMA 2000;50:1-8
- [19] Shah K, Raychaudhuri G, Chattopadhyay BK. Clinicopathologicaln study of breast carcinoma: A prospective two-year study in a tertiary care hospital. Clin Cancer Investig J 2013;2:34-40.
- [20] SEER Cancer Statistics Review, 1975-2012, National Cancer Institute, Bethesda, MD, USA.
- [21] RainaV, GogiaA, Mohanti BK DeoSVS, Shukla NK(2013) Breast cancer in the young (<35 years).Single centre study from the All India Institute of medical Sciences. J Clin Oncol e12539.

Conflict of Interest

None

Abbreviations

DCIS- Ductal carcinoma in situ LCIS- Lobular carcinoma in situ IDC-NOS- Infiltrating duct carcinoma non otherwise specified IDC- Invasive duct carcinoma ILC- Invasive lobular carcinoma MBC- Male Breast Cancer