ISSN- O: 2458 - 868X, ISSN–P: 2458 – 8687
Index Copernicus Value: 68 . 16
PubMed - National Library of Medicine - ID: 101731606

International Journal of Medical Science and Innovative Research (IJMSIR)
IJMSIR : A Medical Publication Hub
Available Online at: www.ijmsir.com
Volume – 5, Issue –3, June - 2020, Page No. : 466 - 470

Carcinoma Breast- A Relationship between the Tumor Size, Number of Lymph Nodes and Metastasis at Tertiary Care Hospital, Bikaner

[1]Bhupendra Sharma, Associate Professor, Department of General Surgery, Sardar Patel Medical College, Bikaner, Rajasthan

[2]Pankaj Meena, Senior Resident, Department of General Surgery, Sardar Patel Medical College, Bikaner, Rajasthan

[3]Narendra, Resident Doctor, Department of General Surgery, Sardar Patel Medical College, Bikaner, Rajasthan

Corresponding Author: Pankaj Meena, Senior Resident, Department of General Surgery, Sardar Patel Medical College, Bikaner, Rajasthan.

Citation this Article: Bhupendra Sharma, Pankaj Meena, Narendra,“ Carcinoma Breast- A Relationship Between The Tumor Size, Number Of Lymph Nodes And Metastasis At Tertiary Care Hospital, Bikaner”, IJMSIR- June - 2020, Vol – 5, Issue -3, P. No. 466 – 470.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: World-wide breast cancer is the most frequent type of cancer among females with increasing incidence.

Methods: This study was retrospective and prospective both. Total 50 Female patients of Breast cancer, from all age group admitted in Department of Surgery, Sardar patel Medical College & PBM Hospital, Bikaner were included.

Results: As the average size of the breast tumor increased, so did the average number of axillary lymph nodes both clinically as well as Histopathologically positive for metastasis. Conversely more the number of axillary lymph nodes (both clinically and histopathological) larger was the size of the tumor.

Conclusion: The study contains 50 cases of breast carcinoma and it reveals that as the size of breast tumor increases, so does the average lymph node number increases.(both clinically and Histopathologically positive for metastasis).

Keywords- Breast Carcinoma, Metastasis, Lymph node

Introduction

Breast cancer is an extremely heterogenous disease caused by interaction of both inherited and environmental risk factors. It is the most common cancer in women worldwide. The life time risk of a woman developing invasive breast cancer is 12.6%.[1]

It has been documented that factors such as age, age at menarche, marital status, age at menopause, place of residence (rural/urban), diet, hormonal exposure and family history of breast cancer can all play roles as risk factor.[2]

The various etiological and predisposing factors for breast cancer are Genetic, Dietary, Hormonal, Obesity, Radiation, Environmental etc.

Two of the most important prognostic indicators in breast cancer are tumour size and the axillary lymph node status; the size of tumour directly correlating with the probability of nodal metastasis i.e. patients with large breast masses or higher clinical stage is more

likely to have positive nodes. Node positive patient experiences relapses usually in distant organs and tissues mainly in bones, lungs, pleura, liver and soft tissues. It is sometime seen that the clinically palpable axillary nodes often turn out to be non-metastatic and clinically non-palpable nodes may be found to be positive for metastasis. Evaluation of axillary lymph node status is thus an important prognostic factor depending on pathological staging rather than clinical assessment alone. There is also proved a strong correlationship between the size of tumor and the probability of distant metastasis.[3]

Material and methods

Sample Size: A total of 50 patients.

Inclusion Criteria

- All age group.
- Female patients.
- Patients with proven malignancy.

Exclusion Criteria

- Male patients with breast carcinoma.
- Patients with breast lumps other than carcinoma, proved by history, examination and histopathology.

Data Collection

1. Inclusion and exclusion criterias were applied to surgical patients admitted to S. P. Medical College and Associated Hospitals.
2. Patients were educated about the study and only those patients consenting to participate in the study were included.
3. The evaluation was include, history, local and systemic examination to search for the metastasis of the disease.
4. The cases included in the prospective study were personally attended and all relevant data recorded.
5. Diagnosis was established by FNAC, Tru-cut (Core-cut) or Open Biopsy and HPE.
6. The patient was subjected to various investigation including – Routine, USG Breast and Axilla, Mammography and Specific to find out any metastasis which will include X-ray Chest, Dorsal Spine, pelvis , USG Abdomen and pelvis, ,CECT, Abdomen and pelvis, HRCT- Thorax and MRI Spine if required.

All these finding were used to establish the final stage of disease.

Data Analysis

Data was analyzed using SPSS software version 20. Descriptive statistics was calculated using frequencies and percentages. Association was calculated using Chi-square test and Yates correction was used wherever required.

Observations

The following observations are based on a study conducted on 50 cases of breast cancer patients admitted in various surgical units of Sardar Patel Medical College, Bikaner and attached group of Hospitals to establish correlation between tumor size, axillary lymph nodes and metastasis. In this study, the incidence is higher in 4^{th}, 5^{th} and 6^{th} decade.

Table 1: Distribution of Symptoms

Symptoms	No. of patients	Percentage
Lump	50	100
Pain	26	52.0
Nipple discharge	4	8.0
Nipple retraction	7	14.0
Skin ulceration	1	2.0

Lump was presenting feature in all cases 100%. The next most common presenting feature was pain, which was present in 52.0% cases. 8.00%, 14.00% and 2.0%

cases had nipple discharge, nipple retraction and skin ulceration.

Table 2: Site of Carcinoma within Breast

Quadrant	No. of patients	Percentage
Upper outer	19	38.00
Upper Inner	6	12.00
Lower outer	5	10.00
Lower Inner	0	0
Central	5	10.00
Diffuse	15	30.00

In majority of patients i.e. the tumor was present in the upper outer quadrant followed by upper inner quadrant, lower outer and central sector.

Table 3: Breast Affected

Histopathology	No. of patients	Percentage
Infiltrating duct carcinoma (NOS)	48	96.00
Infiltrating lobular carcinoma	2	4.00

In the present study 96.00% of the cases were infiltrating duct carcinoma (NOS).

Table 4: Axillary Lymph Node (Histo-Positive And Negative)

Axillary lymph nodes	Histo-Positive	Histo-Negative
Clinical palpable (n=30)	27 (90.00%)	3 (10.00%)
Clinical non palpable (n=20)	16 (80.00%)	4 (20.00%)

In the present study, lymph nodes were palpable in 60% cases of which 90.00% were histo-positive for metastasis and 10.00% were histo-negative. 40% cases had no node palpable clinically of which 80.00% were histo-positive and 10.00% were histo-negative for metastasis.

Table 5: Relation between Tumor Size And Lymph Nodes (Hpe Positive)

HPE Tumor size (cm)	No. of patients	Average HPE size (in cm)	Average positive HPE lymph node number
≤2	10	2	3.25
>2-5	35	4.05	3.92
>5	5	6.4	8.8

The relation between the size of the tumor and number of axillary lymph nodes. As the average size of tumor increases (CLINICAL and HPE) the average number of lymph nodes (CLINICAL and HPE) also increase.

Discussion

The main route of spread of breast cancer is by way of the axilla. The presence or absence of palpable lymph nodes within the axilla represents one of the important criteria for clinical staging.

Two of the most important prognostic determinants of breast cancer are the number of axillary lymph nodes and the size of the breast tumor. Although the histologic grading of malignancy and clinical staging are comparable from prognostic standpoint, a more accurate prediction in this regard may be obtained when both are considered.

Hisotpathology of the specimens revealed that in 96.00% of the cases, the lesion was infiltrating duct carcinoma (NOS) of the breast in this study. Infiltrating lobular carcinoma was present in 2 case (4.00%). Similar frequency was observed by Srivastava et al (1976) and Baptist et al (1973), S. Miller (1989) in this series found that 88.5% tumors were infiltrating duct

carcinoma type 8.4% were infiltrating lobular type and 3.1% were in situ ductal type. M. Merson et al (1992) observed that invasive ductal carcinoma was most common (73%) followed by invasive lobular carcinoma in 8% cases.[2-5]

In the present study, lymph nodes were palpable in 60% cases of which 90.00% were histo-positive for metastasis and 10.00% were histo-negative. 40% cases had no node palpable clinically of which 80.00% were histo-positive and 10.00% were histo-negative for metastasis. K. Joshi (1983)[6] and Virginia et al (1982)[7] had the same experience. On the contrary R.K. Garg et al (1982)[8] reported few cases with tumor size <5 cm. in this study 30% cases had tumor size 5 cm. diameter followed by sizes of 7.5 and 10 cm. in 29% and 23% cases respectively.

Clinically palpable ipsilateral axillary lymph nodes were found in 60% cases. Fraser (1977)[9] said that clinical examination is inaccurate in assessing the significance of axillary lymph nodes; about 26% of the patients with no palpable lymph nodes have histological evidence of involvement with metastasis and a greater percentage of the patients with palpable nodes have no evidence of metastasis. In our study among the 24 cases with clinically palpable lymph nodes, 87.5% were histologically positive for metastasis and 12.5% were histologically negative for metastasis and among 16 cases without any clinically palpable lymph nodes 87.5% were positive for metastasis while 12.5% were negative for metastasis.

In the present study the maximum number of patients 60% had palpable lymph nodes, 40% had no lymph nodes palpable clinically, 1 lymph node palpable in 7.5% cases, 2 lymph nodes palpable in 22.5% cases, 3 lymph nodes palpable in 20% cases while in 10% cases had >3 lymph nodes palpable clinically.

Conversely a relation was tried to be derived by first grouping the number of lymph nodes and then finding out the average size of the tumor. It was seen that as the number of lymph nodes increased so did the size of the tumor by both clinical and HPE increases.

Conclusion

The study contains 50 cases of breast carcinoma and it reveals that as the size of breast tumor increases, so does the average lymph node number increases.(both clinically and Histopathologically positive for metastasis).

References

1. Baker R. Robinson: Preoperative assessment of patients with breast cancer. The surgical clinics of North America 64/6, 1984.
2. Silverstein M.J. et al.: Axillary lymph node dissection for intraductal breast carcinoma. Is it indicated? Cancer 1987, May 15, 59910), 1819-24.
3. Baptist JH. The Edwin Smith Surgical Papyrus. Chicago: University of Chicago Press; 1930.p. 405.
4. Miller S. et al.: Histopathology of breast cancer in young women in relation to use of oral contraceptives. J. Clinical Path 42: 387-390, 1989.
5. Merson M.et al.: Breast cancer presenting as metastasis without evidence of a primary tumor. Cancer vol. 70(2), July 92.
6. Joshi K.et al: Pathologic profile of invasive breast cancer. Ind.J. Cancer vol.20, 15-22, 1983
7. Vieginia et al.: Unilateral breast-feeding and breast cancer. Lancet 2: 124, 1977.
8. Garg R.K et al.: Cancer of the breast five year review at Mahatma Gandhi Hospital, Jabalpur. Indian J. Surg. 6: 347-350, 1982

9. Fisher E.R. et al.: Detection and significance of occult axillary node metastasis in patients with involved breast cancer 42(4): 2025-31, Oct. 1978
10. Pal S. et al.: Breast cancer in west Bengal an epidemiological study. 1969-1972. Ind. J. Cancer 17:153-158, 1980.
11. Haagensen C.D. et al: Treatment of early mammary carcinoma. A Cooperative international study. Ann Surg 157: 157-179, Feb. 1963.
12. Kosielny et al: Breast cancer – relationship between the size of the primary tumour and the possibility of metastatic dissemination. Br. J. Cancer 49: 709, 1984.