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Incidence and Prognosis of Breast Malignancies in Young Female (≤ 40 Years of Age)

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Abstract: *This study is done to determining the Incidence and Prognostic factors with Histopathological findings and ER & PR status in Young Female (≤ 40 years of age) having breast malignancy. we studied total cases and cases in young female ≤ 40 years of Pathologically diagnosed breast malignancies with family history with observation of Prognostic factors (Age, Tumor size, type, histological grade, invasion, lymph node status and ER & PR status) during one year (from august 2011 to august 2012). We observed total 88 cases of breast malignancies are in 1 year, out of them 22 cases are found in young female ≤ 40 years of age. So incidence of breast malignancies in young female is 25%. In 10 cases (45.45%) size of tumor is ≥ 5 cm, 14 cases (63.63%) shows invasion and lymph node metastasis. 47.36 % cases are ER/PR negative. We conclude that incidence of Breast malignancies in young female (≤ 40 years of age) are increasing, while tumor of young age female found biologically aggressive as per Histopathological findings and ER & PR status.*
Key words: *young female, breast malignancy, histopathology , immune histochemistry (ER & PR)*

I. Introduction

Breast cancer is considered uncommon in young women and correlates with less favorable prognosis; still it is the most frequent cancer in women under 40 yrs.[1,2] As incidence of breast malignancy in young females increasing promptly the present study is aimed with evaluating incidence and prognosis of breast cancer in females ≤40 yrs.

II. Aims And Objectives

The present study aimed to evaluate incidence of breast malignancy in females ≤ 40yrs of age and to evaluate prognosis through tumor size, histological grade and IHC i.e. ER/PR status.

III. Material And Methods

Patients:- In total, 88 female patients of breast malignancies are studied from August 2011 to August 2012. Out of them ≤ 40 years of age female patient affected by Breast malignancies are studied in details with tumor size, type, Histopathology grade and ER & PR status. **Histopathological study:-** Tumor size is measured in the surgical specimens before the preparation of histological sections. In the case of locally advanced carcinoma, in which size is measured by imaging techniques (mammography and ultrasound before chemotherapy). Tumors are subsequently classified into three groups according to size (< 2 cm, 2–5 cm, >5 cm). Specimens are also classified according to histological grades into Grade I (well differentiated), Grade II (moderately differentiated),Grade III (poorly differentiated) and histological types. **Immunohistochemical study:-** Immunohistochemistry is performed on representative paraffin wax embedded specimens from the main tumor. Histological sections are mounted on poly-L-lysine treated slides and IHC (ER/PR) is performed by standard method.

IV. Results

We studied total 88 cases of breast malignancies cases during one year (from August 2011 to August 2012) (Figure No. 1). Out of them, in 22 cases the age of patients is ≤ 40 years. So the incidence of breast malignancy in ≤ 40 years age group patients is 25% (Table No. I). In 22 cases, 19 are of ductal type, 1 is malignant phylloids and 2 are of low grade dysplasia. We classified according to tumor size (Table No. II), Histopathology grade (Table No. III) & (Figure No. 2) and ER & PR status (Table No. IV & V) & (Figure No. 3 & 4)

Figure No.1 Incidence of breast malignancy

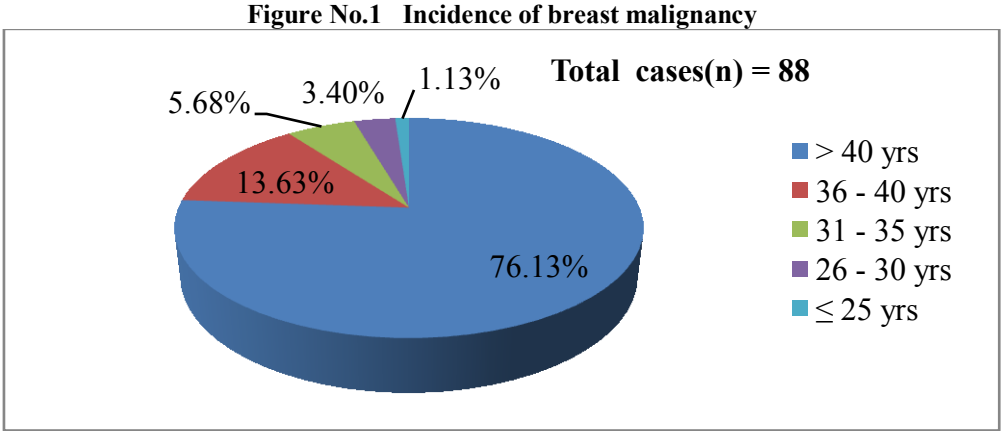


Table No. I Incidence according to age group

Age group	No. of cases	Incidence (%)
>40 years	67	76.13
36 to 40 years	12	13.63
31 to 35 years	5	5.68
26 to 30 years	3	3.40
<25 years	1	1.13

Table No. II Tumor Size

Tumor Size	36 to 40 yrs age group	31 to 35 yrs age group	26 to 30 yrs age group	≤ 25 yrs age group
>5 cm	2	4	-	-
2 to 5 cm	6	1	3	1
< 2 cm	2	-	-	-

Table No. III Histological Grade

Grade	36 to 40 yrs age group	31 to 35 yrs age group	26 to 30 yrs age group	≤ 25 yrs age group
I	3	1	-	1
II	6	1	2	-
III	1	3	1	-

Figure No.2 Grade I, Grade II & Grade III

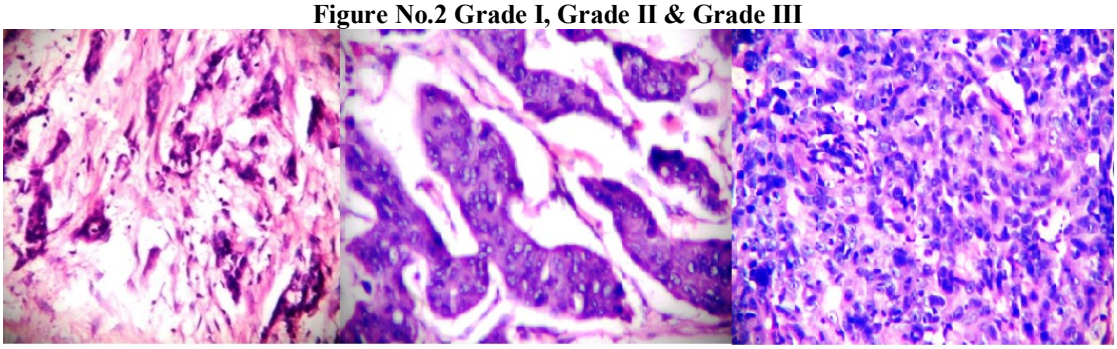


Table no. IV Immunohistochemical Markers

	36 to 40 yrs age group	31 to 35 yrs age group	26 to 30 yrs age group	≤ 25 yrs age group
ER –ve/ PR –ve	2	3	3	1
ER +ve/ PR +ve	4	1	-	-
ER +ve/ PR –ve	2	1	-	-
ER –ve/ PR +ve	2	-	-	-

Table No. V ER / PR status

	36 to 40 yrs	31 to 35 yrs	26 to 30 yrs	≤ 25 yrs
ER / PR –ve	10.52%	15.78%	15.78%	8.33%
ER / PR +ve	42%	10.52%	0	0

Figure No.3 ER Negative & ER Positive

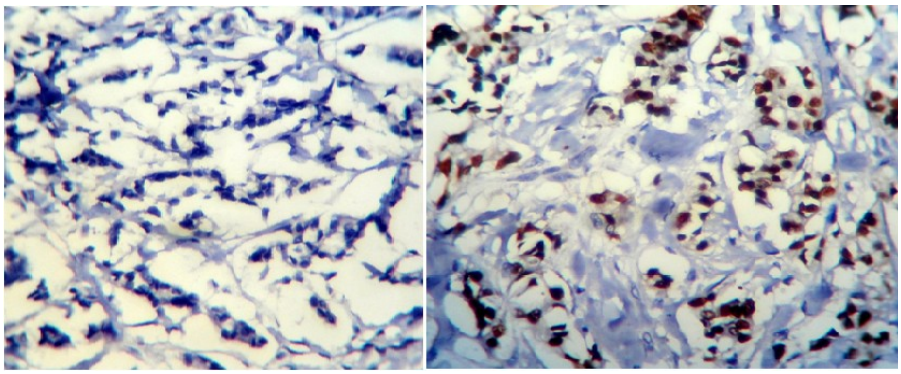
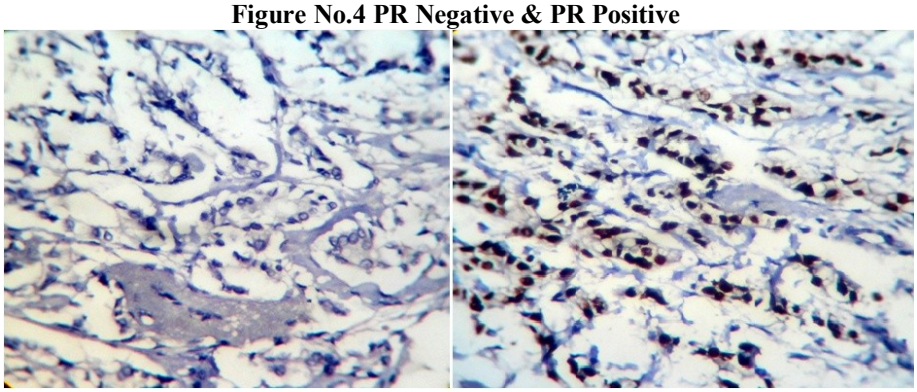


Figure No.4 PR Negative & PR Positive



V. Discussion

The goal of the study is to detect the incidence of breast malignancies in younger female (≤ 40 years of age) and detect the prognosis with respect to ER & PR status. As comparison with previous studies incidence of breast malignancies in younger female is increase.

Author	Age Group	Incidence
I Guerra et al[3]	< 35 years	5
Katherina Zabicki et al[4]	≤ 40 years	10
Hanna Fredholm et al[5]	< 40 years	7
M. Colleoni et al[6]	< 35 years	2
N. Kromanet et al[7]	< 35 years	2
Present Study	≤ 40 years	25

Tumor size in young females in present study is 2 to 5cm is more common i.e. 61.90% and >5cm is 28.57%, which is more as compare with I Guerra et al[3] 45.37 % & 24.07 % and Hanna Fredholm et al[5] 35.05 % & 15.05 % respectively. In present study histological grade II is higher (47.36%) followed by grade I (26.31%) and grade III (26.31%), while in other studies I Guerra et al[3] and Hanna Fredholm et al[5] grade III is higher, which is 51.85% & 22.45% respectively. Immunohistochemistry of breast malignancies in young female in present study shows 47.36% ER/PR negative, which is comparable with I Guerra et al[3] 62.96% but higher than Hanna Fredholm et al[5] 27.85%. Breast cancer at a young age has been reported to have increasing incidence and a more aggressive biological behavior as compared to older patients.[8,9] The striking data observed in present study indicating increasing incidence and unfavorable prognosis of breast cancer in young females(≤ 40 yrs).

VI. Conclusions

Significantly high incidence i.e. 25 % of breast malignancy was found. 61.90 % of cases had tumour size of 2-5 cm followed by 28.5 % of cases had > 5 cm of tumour size with only 9.52 % of cases had < 2 cm of tumour size. Most of the cases classified under histological grade II at the time of diagnosis. Significant cases i.e. 47.36 % are ER/PR –ve suggest unfavorable prognosis. **Important Research:-** Studies have suggested that mammogram and MRI screening are able to detect breast cancer in young female.[10] MRI combined with detection of BRCA 1 and BRCA 2 mutation carriers have high sensitivity for detecting breast cancer in young females. Striking Increase in incidence of breast malignancy in young females needs effective screening programs in young age. Younger women have more aggressive tumor biology than older so, early diagnosis help for effective intervention.

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