

A Study of breast markers; ER, PR, HER2 in breast cancer patients

in Naresuan University Hospital during 2006 – 2010

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INTRODUCTION

Data from the National Cancer Institute found that breast cancer was the second-largest of cancer in Thai women. A prognosis of breast cancer based on histopathology, size of the tumors, spreading to lymph nodes and expression of the hormonal receptor; Estrogen (ER) and Progesterone (PR) and expression of Human epidermal growth factor receptor- 2 (HER2). Now detection of ER, PR and HER2 is important role in treatment of the patients with breast cancer. An expression of these markers used as a guideline for drug of choices and a prognostic factor of the patients.



There were 645 biopsy-cases during 5 years. The patients with breast cancer were 145 cases (22.48%). Types of breast cancer were invasive ductal carcinoma 121 cases (83.45%), ductal carcinoma in situ 8 cases (5.5%) and others 16 cases (11.0%). The youngest patients who had invasive ductal carcinoma was 26 year-old and the oldest patient was 82 year-old. The most incidence age group of breast cancer were in 50-59 years (33.1%) (Table 1).

OBJECTIVE

This study aimed to determine the incidence of an expression of ER, PR, and HER2 in breast cancer patients in Naresuan University Hospital during 2006 to 2010.

MATERIALS & METHODS

Retrospective study of pathology reports for 5 years during 2006-2010.



Table 1 shows the types of breast cancer in age groups.

Age	invasive ductal carcinon (%)	e ductal carcinoma in situ	Others	Total	%
< 35	5 (4.2	13) -	1	6	4.14
35-39	9 (7.4	3) 2	1	12	8.28
40-49	37 (30.	57) 4	2	43	29.66
50-59	41 (33.	88) 1	6	48	33.10
60-69	18 (14.	87) 1	2	21	14.48
≥70	11 (9.0)9) -	4	15	10.34
Total	121	8	16	145	
%	83.45	5.52	11.03		100

A correlation of ER and PR showed that ER + PR + was 43.47%, ER + PRwas 11.95%, ER-PR + was 7.60% and ER-PR- was 36.95% (Table 2).

Table 2 shows the relationship of ER and PR.

ER	PR	Total	%
+	+	40	43.47
+	-	11	11.95
-	+	7	7.60
-	-	34	36.95
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The relationship of all 3 markers; ER, PR, HER2 showed + + - pattern 33.73 %,

+ + + pattern 13.25% and - - pattern 21.68% (Table 3).

Table 3 shows the relationship of ER, PR, and HER2.

ER	PR	Her2	Total	%
+	+	+	11	13.25
+	+	-	28	33.73
+	-	-	4	4.81
-	-	-	18	21.68
-	-	+	11	13.25
-	+	+	3	3.57
-	+	-	4	4.81
+	-	-	4	4.81
Total			83	100



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Estrogen receptor (ER) Progesterone Human epidermal growth receptor (PR) factor receptor2 (HER2)

CONCLUSIONS

The patients who had both ER and PR can have a treatment with Tamoxifen. While who had an expression of HER2 can use a targeted therapy such as Trastuzumab. But the Triple negative breast cancer will be used the other drugs such as PARP (Poly ADP ribose polymerase) inhibitors. Therefore, the expression of ER, PR and HER2 is an important markers in the treatment of breast cancer .

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