

# A National Cancer Database Analysis of Women with Breast Cancer Under Age 40



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## Introduction

- ❖ Breast cancer diagnosed in patients under age 40 represents approximately 7% of cases. There is an overall worse outcome for this group of patients despite having access to the same treatment options as the patients older than age 40. Breast cancer in young women is more likely to present at a higher stage with more aggressive features including HER 2 overexpression.

## Objectives

- ❖ The goal of the study was to analyze the stage at presentation, tumor biology (including HER 2 status), treatments performed, and outcomes of patients under age 40 with breast cancer compared to patients older than age 40.

## Methods

- ❖ The National Cancer Database was queried to identify female breast cancer patients from 2010-2014 with known HER 2 receptor status. Among 54,799 women diagnosed with breast cancer who were eligible for analysis, 26,262 were < 40 years of age and 28,537 were aged ≥40 years. Statistical methods used were Pearson’s Chi-square test and logistic regression.
- ❖ Exclusion Criteria: unknown HER 2 status, male, in situ disease, if no follow up, unknown staging

## Results

- ❖ Across staging systems women under the age of 40 had greater odds of presenting at a later stage
- ❖ Women under age 40 were more likely to present with a higher grade tumor, ER Negative, HER 2 positive
- ❖ Patients under age 40 were also more likely to receive chemotherapy. Patients older than age 40 were more likely to receive radiation therapy
- ❖ Patients under the age of 40 were less likely to have received hormone therapy compared to their older counterparts

	Age <40	Age ≥ 40	P value
<b>AJCC Pathologic Stage</b>			P <.0001
<b>1</b>	9565 (36.84)	15881 (55.08)	
<b>2</b>	11229 (43.25)	9353 (32.44)	
<b>3</b>	4218 (16.24)	2901 (10.06)	
<b>4</b>	953 (3.67)	699 (2.42)	
<b>HER 2 Positive</b>	5753 (22.66)	3769 (13.48)	P <.0001
<b>ER Negative</b>	6967 (26.85)	4384 (15.22)	P <.0001
<b>Chemotherapy</b>	21604 (84.00)	12247 (43.31)	P <.0001

## Conclusions

- ❖ This data is consistent with other reports that patients under the age of 40 present at a later stage with more aggressive features including hormone receptor negative, HER 2 positivity and with a higher grade compared to patients over the age of 40.
- ❖ These unique features suggest this patient population should be treated as its own entity.
- ❖ Limitations include the lack of information regarding genetics and knowledge of other risk factors which is important in the development of breast cancer in this patient population.

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