

**Robert Wood Johnson  
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Hamilton**

**RWJBarnabas  
HEALTH**

**COMPLIANCE TO  
GUIDELINES REGARDING  
HER-2 DIRECTED THERAPY**

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CoC Standard 4.6

## **INTRODUCTION**

An essential component of breast cancer treatment is knowledge of the biologic features of the disease. Among the features that provide insight into the biology of breast tumors is the presence or absence of overexpression of specific proteins by the tumor, specifically estrogen receptors, progesterone receptors and Human Epidermal Growth Factor Receptor 2 (HER-2) receptors. In addition to testing for the hormone receptors, determination of the HER-2 status of the tumor is recommended because it has been shown to be an essential target for therapy. The National Comprehensive Cancer Network (NCCN) publishes evidence-based guidelines and recommends adjuvant HER-2 directed therapy for patients with HER-2 positive tumors.

In this study, we are reviewing compliance to the NCCN guideline that HER-2 targeted treatment should be recommended to patients with HER-2 positive tumors.

## **METHODS**

We identified eligible patients using data from our institution's tumor registry. We studied patients diagnosed with breast cancer in 2014. Materials reviewed were inpatient charts, outpatient charts, and Surgical Pathology reports.

## **RESULTS**

From the registry, we identified 86 analytic cases of breast cancer. 19 cases were HER-2 positive tumors. HER-2 status was determined by immunohistochemistry (IHC) in 3 of the 19 patients and Fluorescence In-situ Hybridization (FISH) was used to determine the HER-2 status in 16 of the 19 patients. 7 of the 19 patients with HER-2 positive tumors did not get HER-2 directed therapy. One patient had a pT1a tumor and had severe multiple sclerosis, so cytotoxic therapy with HER-2 directed therapy was determined not to be of additional benefit to outcome. Three patients had documented contraindications to HER-2 directed therapy due to advanced age (>75 years) and one additionally had cardiomyopathy. One patient was treated with cytotoxic therapy alone, without a HER-2 directed agent, because of disease progression. Two patients are documented to have declined treatment.

## **Discussion**

The determination of HER-2 status is recommended by the NCCN for all newly diagnosed breast cancers and for first recurrences. Accepted methods for determining HER-2 status are IHC and In-Situ Hybridization (ISH). Breast cancer is considered positive if scored 3+ by IHC or if the HER-2 gene is amplified by ISH method. Consistent with ASCO/CAP guidelines, these two methods were used by our institution to identify HER-2 positive tumors.

Several randomized trials have demonstrated improvement in overall survival when HER-2 directed therapy is used in patients with HER-2 positive tumors. For the year 2014, 63% (12/19) of eligible patients diagnosed in our institution received HER-2 directed therapy. Patients who did not get the recommended therapy had valid documented reasons for not having received it, the most common reason cited being advanced age.

### **Recommendations**

This institution should continue to evaluate HER-2 status and recommend HER-2 directed therapy according to evidence-based guidelines. This ensures that the highest quality of care is being provided to the breast cancer patients in our community.

While providing the accepted standard of cancer care to elderly patients is a challenge, we should ensure that they receive high-quality care appropriate to their clinical status. Medical oncologists may consider using comprehensive geriatric assessment tools to achieve this goal.

### **Sources:**

NCCN Guidelines *Breast Cancer Pathology Assessment*

NCCN Guidelines *Breast Cancer Treatment Approach*

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