Stage IV Breast Cancer is Increased By Omitting Screening Mammography

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BACKGROUND
- Breast cancer is one of the most common cancers in the United States
- Mammography has been shown to be effective for early breast cancer detection
- Screening mammography has been shown to decrease the incidence of late-stage breast cancer at diagnosis
- There are many national guidelines recommending breast cancer screening for average risk women

OBJECTIVES
- Determine if women diagnosed with Stage IV breast cancer had been undergoing screening mammography
- Identify the type of breast imaging patients received in the 10 years prior to diagnosis
- Establish if patients had a primary care physician at the time of diagnosis
- Evaluate if patients had any family history of breast cancer

METHODS
- Medical records prospectively collected from our institution’s tumor registry were included from 7 different hospital campuses and reviewed
- Five year period (2009-2014) included in chart review
- Inclusion criteria:
  - Females with newly diagnosed Stage IV breast cancer (ICD-10: C50, 9710)
  - Age 40 or greater at the time of diagnosis
- Exclusion criteria:
  - Patients with any prior personal history of breast cancer
  - Data was collected and managed using REDCap

Variables collected:
- Demographics
- Clinical history
- Pathology
- Breast specific imaging up to 10 years prior to their diagnosis
- Primary care physician listing
- Family history of breast or ovarian cancer
- IRB approved

RESULTS
- 169 women age 40 and greater presented with stage IV breast cancer at our institution and were included in the study cohort
- The majority were Caucasian (87.6%) followed by African American (11.2%) and Other (1.2%)
- The average age was 63.8 years old
- Twenty-one (12.4%) of the patients were under age 50 at the time of diagnosis
- Forty (23.6%) were age 75 or older at the time of diagnosis
- However, 6-10% of new breast cancers are still diagnosed as Stage IV at presentation
- The most common breast cancer was invasive ductal carcinoma (65.7%) followed by invasive lobular carcinoma (77.8%) and others (15.4%) or unknown (1.2%) in the 10 years prior to diagnosis

RESULTS
- The majority of patients diagnosed with stage IV breast cancer were not adherent to breast screening guidelines
- 63.3% of patients did not have any dedicated breast imaging in the 10 years prior to diagnosis
- Of the 39 women over age 75, only one third had imaging in the 10 years prior to diagnosis
- Of the patients less than age 50, only 7 (33.3%) received breast imaging in the 10 years prior to diagnosis
- The majority of imaging at the time of diagnosis were not breast specific
- Incidental imaging included CT scan (75.2%), plain films (22%), and MRI (21.1%)

RESULTS
- The majority of patients diagnosed with stage IV breast cancer were not receiving screening mammograms
- Most patients did not undergo any breast imaging within the 10 years prior to their diagnosis
- Although we cannot directly prove these malignancies would have been diagnosed earlier if they underwent mammography, this is a logical conclusion
- Over a third (36%) of the patients were under age 50 or 75 and older, meaning they would have been excluded from the USPSTF screening recommendations
- The majority of patients listed a primary care physician at the time of diagnosis. This leads us to question if the discrepancy is simply patient non-compliance or if this is an inherent flaw in the USPSTF guidelines in excluding a large patient population.

DISCUSSION
- Despite established guidelines recommending screening mammography, our results showed that most patients diagnosed with stage IV breast cancer were not receiving screening mammograms
- The majority of patients diagnosed with stage IV breast cancer at initial presentation had no breast screening imaging in the 10 years prior to their diagnosis
- This study continues to emphasize the importance of screening mammography
- Our study found that many patients diagnosed with stage IV breast cancer would be excluded from screening mammography under the current USPSTF guidelines
- The USPSTF recommendations should be revised to include women age 40 and over as well as women 75 and older

CONCLUSION
- The majority of patients in our cohort diagnosed with stage IV breast cancer at initial presentation had no breast screening imaging in the 10 years prior to their diagnosis
- Despite established guidelines recommending screening mammography, our results showed that most patients diagnosed with stage IV breast cancer were not receiving screening mammograms
- Most patients did not undergo any breast imaging within the 10 years prior to their diagnosis
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REFERENCES