Incidence of Breast Cancer with Birads 4/5 Category: A Retrospective review of an Institution’s Abnormal Diagnostic Mammography performance against National Benchmarks.

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ABSTRACT

Purpose: To Determine the rate of breast cancer for patients recommended for biopsy and determine if the institution’s diagnostic mammography performance meets national benchmarks. Methods: A retrospective study analyzing 202 patients during the calendar year of 2011 that were BiRADS 4 or 5. Data was obtained from 1 mammographic facility. Measurements calculated were positive predictive values from biopsy recommendation (ppv1) and biopsy performed (ppv2). The ppvs were compared to the Breast Cancer Surveillance Consortium (BCSC) benchmarks. Results: There were 6889 screening done during the calendar year of 2011, 1591 patients were called back for diagnostic images and 202 patients were categorized BiRADS 4 or 5 and recommended for biopsies. 162 biopsies were done, 53 were positive and 109 was negative. The incidence of breast cancer was 0.7%. PPV1 (Biopsy recommendation) = 26% and PPV2 (Biopsy performed) = 32.7%. Conclusion: The study found that BMHMC’s diagnostic mammography performance surpassed the national benchmark.

BACKGROUND

Breast cancer is the most common and second deadliest cancer in women. There are 232,340 American women diagnosed with breast cancer annually, and 39,620 women die from the disease. Despite increasing incidence rates, annual mortality rates from breast cancer have decreased. The decline is attributed to the impact of screening mammography. Majority of breast cancers are diagnosed as a result of an abnormal mammogram, abnormal mammograms often need further diagnostic evaluation with magnification views, spot compression, ultrasongraphy and MRI to determine the need for biopsy. Elevated incidence and mortality rates have been elevated for years in Suffolk County in New York, above the US average. As such this study looks to compare Brookhaven hospital’s mammographic performance to the national benchmark.

METHODS

Data was obtained from Brookhaven women imaging services in Suffolk County. 6889 screenings were done during the calendar year of 2011; there were 1591 callbacks. The study included 202 patients that were categorized as BiRADS 4 or 5 and recommended for biopsy. A true-positive mammogram was defined as a screening mammographic examination with a positive interpretation that was followed by the diagnosis of invasive breast cancer or ductal carcinoma in situ. Positive predictive values were calculated by dividing the number of true-positive examinations by the sum of true-positive and false-positive examinations. Two separate PPV calculations were performed by using Bi-RADS methods: PPV1 (Biopsy recommendation) and PPV2 (Biopsy performed). The ppvs were then compared to the Breast Cancer Surveillance Consortium (BCSC) benchmarks.

RESULTS

The most common cancer noted during this study was invasive ductal carcinoma followed by DCIS. The most common benign finding was Fibroadenoma and Fibrocystic change. Out of the 202 patients recommended for biopsy, 53 were positive, 109 were negative, 13 refused and 27 was lost to follow up. Age range was 18-93 (mean=54.7). Mean benign age = 52.6. Mean malignant age = 57.6. The incidence of breast cancer was 0.7%. PPV1 (Biopsy recommendation) = 26% and PPV2 (Biopsy performed) = 32.7%.

DISCUSSION

A medical audit is a compilation of specific important patient outcomes over a defined period of at least a year. Auditing is thought to be a useful quality assurance procedure, providing performance feedback to both mammography facilities and individual interpreting radiologists. This allows a facility to recognize areas of strength, as well as those areas that may need improvement. The Breast Cancer Surveillance Consortium (BCSC) is a National Cancer Institute–funded research initiative of seven population-based research sites with a Statistical Coordinating Center that collects and analyzes mammographic and pathologic data in defined populations. The PPV set by the BCSC are as follows PPV1, PPV2 =24.4% and PPV2 =28.6%. BMHMC’s PPV surpasses the national benchmark. This study only reviewed the institution as a whole and not the individual radiologist, as well as only the positive predictive value. As a result certain limitations exists. Limitations include size of study, time interval, lack of diversity, lack of multiple auditing tools and lack of individual radiologist performance. However, I feel the positive predictive value is an excellent tool to better evaluate an institutions performance.

Conclusion: The study found that BMHMC’s diagnostic mammography performance surpassed the national benchmark.

REFERENCES

