Retrospective study on breast cancer index testing in a community hospital and analyzing its impact on physician-decision making for extended endocrine therapy

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Introduction

- The Breast Cancer Index - biomarker assay that provides objective data on the benefit of extended endocrine therapy (EET) and risk of late recurrence in hormone receptor-positive early-stage breast cancer.
- Data on its influence on treatment decisions in a community hospital setting remains limited.

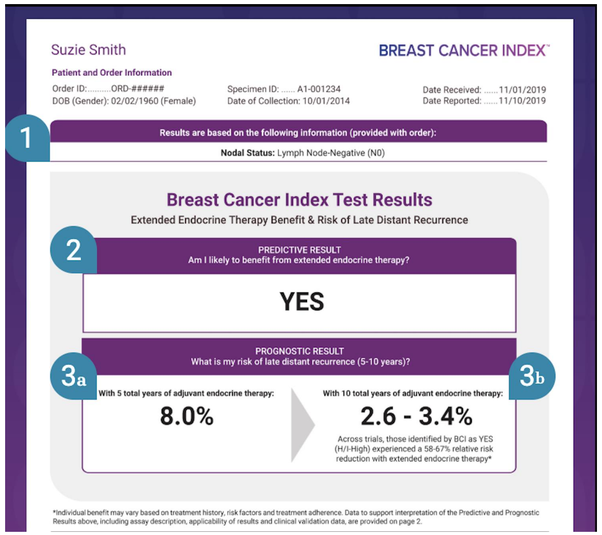


Figure 1. Example of breast cancer index results

Methods and Materials

- 100 patients with early-stage breast cancer from 2012 – 2020 who underwent BCI testing at Bayhealth Medical Center.
- Data collected included basic demographic information, tumor pathology results, endocrine agent, BCI results, oncotype scores, physician recommendations for EET, recurrences, and survival outcomes.
- The primary objective was to assess the impact of BCI results on physician recommendations for EET.
- Physician decisions pre- and post-test were interpreted from the physician documentation
- Secondary outcomes included recurrence-free survival and treatment tolerability.

Results

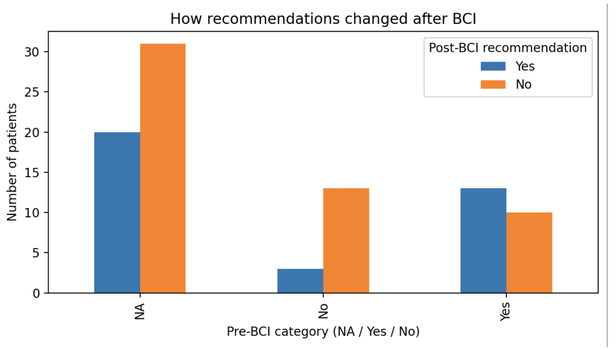


Table 1: Recommendations pre and post BCI testing

Results

- 100 patients (ER+/PR+) with a median age at diagnosis of 63 years and a median tumor size of 1.3 cm.
- Approximately, 87% were HER2- and 29% were node positive.
- Approximately, 33% patients were noted to have high predictive benefit from EET and 65% were noted to have low benefit from EET.
- Before Breast Cancer Index (BCI) testing, 56% of patients had no recommendation regarding EET, 26% were advised to continue, and 18% were advised against it.
- Following BCI testing, 50% were advised to discontinue EET, 36% were advised to continue, and 14% did not follow the post-BCI recommendation due to patient preference.
- Overall, 75% of cases had a change in recommendation after BCI testing. Among those with no initial recommendation, 30% were later advised to discontinue EET and 20% to continue.
- Additionally, an initial recommendation to continue changed to discontinue in 8% of cases, while an initial recommendation to discontinue changed to continue in 3%.
- During a median follow-up of 7.9 years, there were seven recurrences and four deaths.
- Notably, no recurrences occurred among patients who adhered to more than five years of EET.

Discussion

BCI testing significantly influenced physician decision-making, leading to changes in EET recommendations in 75% of cases. These findings support the clinical utility of BCI in guiding personalized treatment strategies and minimizing unnecessary therapy in early breast cancer management. It also highlights the importance of its standardization in a community hospital to prevent over-treatment as well as encourage long-term adherence in patients with EET recommendations.

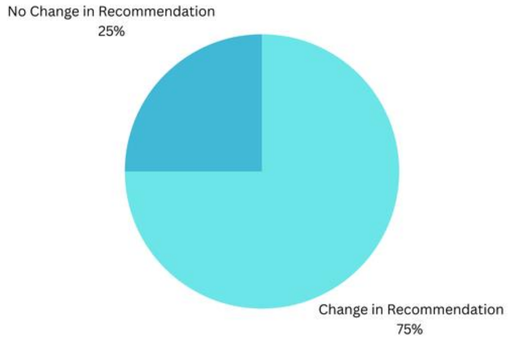


Figure 2: BCI changed physician treatment recommendations for EET **in 75% of patients**

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