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Evaluating the Recommendations of Community-Based Surgeons for Germline Genetic Testing in Patients with Newly Diagnosed Localized Breast Cancer

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BACKGROUND:

Germline genetic testing has important implications for both the patient with breast cancer and their family members. The first physician with the opportunity to consider this option is usually the surgeon. Current practice guidelines commonly consulted on this issue from the American Society of Clinical Oncology (ASCO), the National Comprehensive Cancer Network (NCCN) and the American Society of Breast Surgeons (ASBrS) provide differing recommendations regarding which patients should be tested. More specifically, the general age for testing a patient with localized breast cancer is 50 years for NCCN and 65 years for ASCO, while ASBrS recommends testing everyone regardless of age. We sought to determine how age, ER/PR and HER2 status and other variables factor into surgeons' recommendations for testing.

METHODS:

From February to March 2025, 50 US-based surgeons in community practice were recruited to complete a survey designed to identify clinical situations in which germline genetic testing is recommended. For each case-based question, a number of factors (age, ER/PR and HER2 status, family history, gender) were varied. Ten surgeons at academic centers were also recruited to complete the survey. A modest honorarium was provided.

RESULTS:

For a 30-year-old patient without a family history (all 3 guidelines recommend testing), almost all respondents recommend testing regardless of ER/PR or HER2 status **(Figures 1-3)**. For a similar 55-year-old patient, almost all participants recommended testing in patients with triple-negative breast cancer (TNBC) (as is consistent with guidelines), but less than half would test patients with ER/PR-positive tumors regardless of HER2 status (testing recommended by ASCO and ASBrS and a consideration per NCCN) **(Figures 4-6)**. For a 70-year-old patient (only ASBrS recommending testing), again almost all respondents recommended testing for patients with TNBC, but far fewer respondents would test patients with ER/PR-positive tumors regardless of HER2 status **(Figures 7-9)**. There was also agreement that all patients with triple-negative disease, all patients who develop a second primary tumor, all men and most patients of Ashkenazi Jewish ancestry presenting with localized breast cancer should be tested **(Figure 10)**. Interestingly, the responses from the community-based cohort largely aligned with those of their academic counterparts. Of note, one significant difference between responses emerged regarding the general age at which all patients with newly diagnosed localized breast cancer should undergo genetic testing **(Figure 11)**.

CONCLUSION:

The findings from this survey demonstrate that whether a patient with newly diagnosed localized breast cancer receives a recommendation for germline genetic testing depends largely on the practice pattern of the surgeon initially managing the case, as many do not initiate testing for patients 55 years and older with ER/PR-positive tumors. While other physicians, including medical oncologists, may seek out this information at a later time as they weigh adjuvant therapy options, it is important to consider that the main downside of genetic testing is financial. Given the important implications for family members and the overall survival benefit associated with olaparib in the OlympiA trial, perhaps in the future genetic testing will join ER and HER2 assessment as a standard for all patients with localized disease.

1 RECOMMENDATION FOR BRCA TESTING — AGE 30, HR-POSITIVE, HER2-POSITIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 30 years
HR/HER2 status: ER/PR-positive, HER2-positive
Genetics: No relevant family history



2 RECOMMENDATION FOR BRCA TESTING — AGE 30, HR-POSITIVE, HER2-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 30 years
HR/HER2 status: ER/PR-positive, HER2-negative
Genetics: No relevant family history



3 RECOMMENDATION FOR BRCA TESTING — AGE 30, TRIPLE-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 30 years
HR/HER2 status: ER/PR-negative, HER2-negative
Genetics: No relevant family history



4 RECOMMENDATION FOR BRCA TESTING — AGE 55, HR-POSITIVE, HER2-POSITIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 55 years
HR/HER2 status: ER/PR-positive, HER2-positive
Genetics: No relevant family history



5 RECOMMENDATION FOR BRCA TESTING — AGE 55, HR-POSITIVE, HER2-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 55 years
HR/HER2 status: ER/PR-positive, HER2-negative
Genetics: No relevant family history



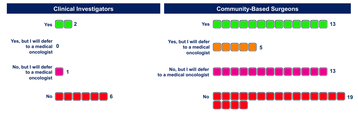
6 RECOMMENDATION FOR BRCA TESTING — AGE 55, TRIPLE-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 55 years
HR/HER2 status: ER/PR-negative, HER2-negative
Genetics: No relevant family history



7 RECOMMENDATION FOR BRCA TESTING — AGE 70, HR-POSITIVE, HER2-POSITIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 70 years
HR/HER2 status: ER/PR-positive, HER2-positive
Genetics: No relevant family history



8 RECOMMENDATION FOR BRCA TESTING — AGE 70, HR-POSITIVE, HER2-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 70 years
HR/HER2 status: ER/PR-positive, HER2-negative
Genetics: No relevant family history



9 RECOMMENDATION FOR BRCA TESTING — AGE 70, TRIPLE-NEGATIVE

Patient status: <2.0-cm tumor without a suspicious axilla about to undergo surgery
Age: 70 years
HR/HER2 status: ER/PR-negative, HER2-negative
Genetics: No relevant family history



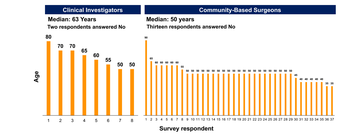
10 RECOMMENDATION FOR UNIVERSAL GENETIC TESTING IN SPECIFIC POPULATIONS

All patients with newly diagnosed localized breast cancer described below should undergo genetic testing regardless of disease stage and family history.

	Clinical investigators	Community-based surgeons
Patients with triple-negative breast cancer	100%	88%
Male patients	100%	92%
Patients who develop a second primary tumor (eg, contralateral breast cancer)	100%	92%
Patients of Ashkenazi Jewish ancestry	90%	90%

11 RECOMMENDATION FOR UNIVERSAL GENETIC TESTING ACCORDING TO AGE

Is there an age at which you believe all patients that age and younger with newly diagnosed localized breast cancer should undergo genetic testing?



SURVEY RESPONDENTS

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50 community-based surgeons completed the survey