Cancer Risk Assessment and Hereditary Cancer Genetic Testing in a Community OB/GYN Setting

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BACKGROUND
ACS, ACOG, ACR, ASBrS, NCCN, and USPSTF recommend cancer risk assessment and hereditary cancer genetic testing for appropriate individuals.

OBJECTIVES
• Determine percentage of unaffected patients meeting updated genetic testing criteria.
• Outline breast cancer risk assessment and genetic test results.
• Delineate percentage of patients in whom management changes would be recommended based on a personalized assessment of breast cancer risk.

METHODS
A hereditary cancer risk assessment focused process-intervention study was conducted at five community OB/GYN practice sites from July 2021 to November 2022.
• Patients who met guideline criteria and agreed to proceed with testing were provided germline genetic testing using the MyRisk multigene hereditary cancer panel.
• Additional breast cancer risk stratification was performed with the Tyrer-Cuzick (IBIS) breast cancer risk evaluation tool v7 and with RiskScore.
• Descriptive statistics were used for the analysis.

RESULTS
More than one quarter of patients seen in the community OB/GYN setting met national guideline criteria for hereditary cancer genetic testing.
3.2% of tested patients carried a pathogenic variant.
More than one-third of patients not carrying a pathogenic variant were still at elevated risk for breast cancer and would warrant consideration for medical management change.

CONCLUSIONS
• More than one quarter of patients seen in the community OB/GYN setting met national guideline criteria for hereditary cancer genetic testing.
• 3.2% of tested patients carried a pathogenic variant.
• More than one-third of patients not carrying a pathogenic variant were still at elevated risk for breast cancer and would warrant consideration for medical management change.
• Incorporating routine hereditary cancer and comprehensive breast cancer risk assessment in community OB/GYN practice provides an opportunity to identify patients at elevated risk for breast and other cancers and to tailor medical management to the appropriate risk level of the patient.

Table 1: Breast Cancer Risk Stratification

<table>
<thead>
<tr>
<th>Post Intervention Period</th>
<th>N = 367</th>
<th>RiskScore Estimated Lifetime Risk of Breast Cancer (N (% of total))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tyrer-Cuzick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Lifetime Risk</td>
<td>&lt; 20%</td>
<td>233 (63.5)</td>
</tr>
<tr>
<td>of Breast Cancer</td>
<td>≥ 20%</td>
<td>19 (5.2)</td>
</tr>
<tr>
<td>N (% of total)</td>
<td>TOTAL</td>
<td>252 (68.7)</td>
</tr>
<tr>
<td>Tysr-Cuzick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Lifetime Risk</td>
<td>&lt; 20%</td>
<td>49 (13.4)</td>
</tr>
<tr>
<td>of Breast Cancer</td>
<td>≥ 20%</td>
<td>66 (18)</td>
</tr>
<tr>
<td>N (% of total)</td>
<td>TOTAL</td>
<td>115 (31.3)</td>
</tr>
</tbody>
</table>

36.5% of those not carrying a pathogenic variant had a calculated lifetime breast cancer risk of ≥20% as determined by Tyrer-Cuzick and/or RiskScore.

Figure 1: Methods

Figure 2: Percent of Patients Meeting Criteria for Genetic Testing and Pathogenic Variants Identified

Pathogenic variants were identified in 14 patients (3.2%) who completed genetic testing.

Disclosures: 42 authors were employees of Myriad Genetics, Inc. at the time of the study and received salary and stock options.