Hereditary Breast Cancer: Identify the Risk in Your Family

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10% of breast cancers are hereditary.
Chromosomes
Red Flags for Hereditary Cancer

- Early age of onset (<45 breast cancer)
- Multiple affected family members
- “Related” cancers in the family
- Multiple primaries in an individual
- Unusual presentation (male breast cancer)
- Ethnicity
  - “Triple Negative” breast cancer
  - Medullary breast cancer
## Hereditary Breast and Ovarian Cancer

**BRCA1 and BRCA2**

<table>
<thead>
<tr>
<th>Site</th>
<th>General Population</th>
<th>BRCA1</th>
<th>BRCA2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>11-13%</td>
<td>55-85%</td>
<td>50-80%</td>
</tr>
<tr>
<td>Ovary</td>
<td>1-2%</td>
<td>15-60%</td>
<td>15-40%</td>
</tr>
<tr>
<td>Pancreas</td>
<td>&lt;1%</td>
<td></td>
<td>Increased</td>
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</tbody>
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*Men - Increase risk of prostate cancer and male breast cancer*
BRCA1 and BRCA2

- Mutations can be inherited from either our mother or father
- Mutations can be passed to both our sons and daughters
Hereditary Breast Cancer

• It’s not just BRCA1 and BRCA2!

• Assessment includes:
  – analysis of family tree
  – likelihood that cancers are hereditary in your family
  – discussion of testing available
  – risks benefits and limitations of testing

*Be sure to see a genetics specialist (e.g. certified genetic counselor, geneticist, genetics nurse) for risk assessment
Approach to Genetic Testing

- Need to identify mutation – Who is most likely to carry this mutation?
- Ideally, test someone with an early-onset or ovarian cancer diagnosis in the family first.
- DNA banking is an option – preserves informative testing
Risks and Benefits of Genetic Testing

- **Risks**
  - Psychological
  - Discrimination
  - Misinterpretation of results

- **Benefits**
  - Psychological
  - Medical management
  - Other family members
Greatest Urban Myths

• If you have genetic testing, your health insurance will discriminate against you.
• Your insurance will not cover the cost of genetic counseling and testing.
• Only Ashkenazi Jews are at risk for BRCA mutations.
• You should only have this testing if you would consider bilateral prophylactic mastectomy.
Greatest Urban Myths

• You have already had cancer, so testing won’t help you.
• Your father’s family history doesn’t count.
• You only need genetic counseling if you test positive for a mutation.
Greatest Urban Myths

• BRCA1 and BRCA2 are the only genes for hereditary breast and ovarian cancer.
• Genetic test results are easy to interpret: If positive, they have the disease. If negative, they don’t.
Summary

• Most cancers are not hereditary. – Are there risk factors in your family?
• Genetic counseling is a critical step in the process.
• Genetic test results can be used to develop a personalized surveillance and management plan.