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Distinguished Women in Science: A Lecture Series

Breast Cancer: Risk Assessment and Risk Management

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Abstract: Identifying women with a high risk of developing breast cancer should be part of their general health assessment. Although most women with the disease have no identifiable risk factors in their background, a close examination of an individual's family history and personal history can help determine the level of risk and the need for further testing. Risk factors can range from inherited genetic mutations (i.e., BRCA2 Syndrome and BRCA1: The Breast-Ovarian Cancer Syndrome) to one's reproductive history (i.e., early menopause, and nulliparity) or medical history (i.e., hormone replacement therapy and radiation treatment), among others. Individuals will interpret risk, even when presented in quantitative terms, in different and individual ways. For high-risk women several quantitative risk assessment tools are available such as the Gail Model and genetic counseling and testing. Ductal lavage is also a valuable procedure for cytological analysis to determine the presence of normal and abnormal cells and provide an additional data point for many patients. This may help them decide whether or not to undertake active risk reduction strategies such as surveillance programs (self examination, clinical examination, breast imaging), prophylactic surgery (mastectomy), and chemoprevention (with pharmaceutical agents like tamoxifen citrate). As these methods are tested and developed (i.e., NSABP trial, STAR trial), it is important to ask questions regarding optimal therapy duration, proper age to begin therapy, survival benefits and more in order to achieve effective risk reduction. A woman's risk for breast cancer also changes with time and should be periodically reassessed to allow for updated information and decision making.