

Genetic Testing

Options in Breast Cancer Treatment

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No woman ever wants to learn that she has just been diagnosed with breast cancer. But for thousands of women whose family medical history includes one or more relatives with the disease, the likelihood of developing breast cancer is a scary reality. These high-risk women are two-to-five times more likely to develop the disease than women with no family history. In the past, many of these women felt the situation was out of their hands. However, today genetic testing has given them a proactive option to managing their health.

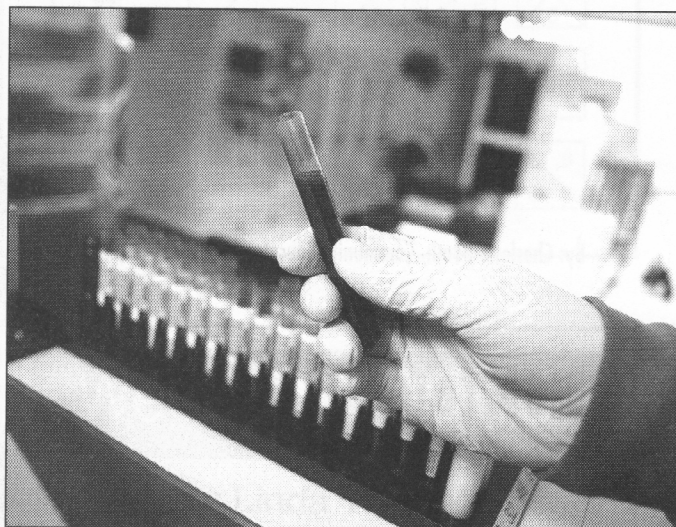
Every year, nearly 200,000 women are diagnosed with breast cancer. A very small percentage of these cases are known to be hereditary. However, of the patients who do have hereditary breast cancer, 84% have been found to carry mutations in two genes known as breast cancer 1, early onset (BRCA1) and breast cancer 2, early onset (BRCA2). Both genes are known as tumor suppressor genes, meaning they prevent cells from growing and dividing too rapidly.

There are several risk factors that may indicate a BRCA gene mutation such as having a personal or family history of breast cancer diagnosed at a young age, history of breast cancer occurring in more than one generation, having a male relative with breast cancer, having a family member that has both breast and ovarian cancer, or having a family member with the BRCA mutation. People with Eastern European or Jewish ancestry are also likely carriers.

A simple blood test can determine if a patient is a carrier. Results are usually ready in 2-3 weeks. A positive result does not mean that the patient has cancer. Nor does it mean that they will in fact develop breast cancer. But it does carry some significant risks. "It's a small number of patients that have breast cancer related inheritance, but if you have the mutation the risk of getting breast cancer is substantial," says William Whitehead, surgeon with Hattiesburg Clinic. "Eighty-seven percent of women before the age of 70 will get breast cancer if they've got the mutation. Forty-four percent of women will have ovarian cancer if they have that mutation. The risk of getting breast cancer in the opposite breast in the average patient is somewhere around 10-12% if they reach the age of 70. But if you've got the mutation, it's 10 times that."

Many patients may be apprehensive about the test because they are unsure of the next step should the results come back positive. Dr. Whitehead suggests three options – surveillance, chemo prevention, or prophylactic surgery. "If you are BRCA1 or 2 positive, you qualify with most insurance companies for a screening breast MRI after the age of 25. Oncologists recommend one yearly after that," said Dr. Whitehead. If cancer symptoms do appear, regular surveillance may be able to catch the disease during early stages and increase a patient's chance for survival. Hattiesburg Clinic's Breast Center currently houses Mississippi's only dedicated breast MRI and was recently named the state's only Breast Imaging Center of Excellence.

Chemo prevention involves taking an anti-estrogen drug, such as Tamoxifen, to reduce a patient's risk of developing the



disease. A recent study conducted by the National Cancer Institute (NCI) found that high risk women without cancer who took Tamoxifen for 4-5 years decreased their chances of developing breast cancer by 45%. Although taking Tamoxifen does have some associated side effects, many physicians agree that the benefits far outweigh the risks.

The most extreme option is prophylactic surgery. Actress Christina Applegate opted to undergo a double mastectomy in 2008 after being diagnosed with breast cancer. Applegate had a family history of breast cancer and was also found to be a carrier of the BRCA 1 mutation. After her surgery, Applegate announced that she was completely cancer-free. "I had a patient whose mother and grandmother both had breast cancer," relates Whitehead. "Her mother's disease had manifested itself in an advanced form of cancer in which she lost the battle; this patient didn't want to take that risk. If this is the option a patient wants to take, we can now perform immediate reconstruction. This may help relieve the anxiety for those patients who have an unusually high risk for breast cancer."

Even if patients have already been diagnosed with breast cancer, they may still want to consider having the test. "Carriers of the gene have a 50% chance of passing it to their children and 25% chance of passing it to their grandchildren," says Dr. Whitehead. "I had a patient recently who had breast cancer and wanted the test. She said that she wanted to do this for her sister, her daughters and granddaughters."

BRCA testing is available through Hattiesburg Clinic without a referral. While most insurance carriers may provide coverage if a patient is deemed high-risk, it is still a good idea to talk to your insurance carrier about your individual policy. For more information on BRCA testing, contact Hattiesburg Clinic department of surgery at 601-268-5660 or log onto www.hattiesburgclinic.com.