Breast Cancer in Men

By Marie Gethins

One of the rarest cancers in men, breast cancer occurs approximately 100 times less than in women. The lifetime risk of having breast cancer is 1 in 1,000 for men, and incidence has remained relatively stable over the past 30 years. Whereas in the past, the prognosis for men with breast cancer was thought to be worse than for women, recent research has found little difference in outcomes.

But awareness, research, and treatments pose challenges for these patients. Because of disease rarity and recruitment difficulties, studies tend to be small, and recent research shows that breast cancer in men may require sex-specific drug regimens.

BRCA2 Gene Mutations and Risk

In the June 2010 Journal of Medical Genetics, researchers reported that men with a mutated gene for the BRCA2 susceptibility protein carry an 8% lifetime risk of developing breast cancer. The retrospective and prospective analysis of 321 families with pathogenic BRCA2 mutations revealed that in the study, 16 men who were first-degree relatives of known BRCA2 carriers developed breast cancer between the ages of 29 and 79 years. Eight additional cases occurred in second-degree relatives. (Men with a BRCA1 mutation generally do not have an increased risk of development of breast cancer.)

Lead author Gareth Evans, M.D., of St Mary’s Hospital in Manchester, UK, said, “Outside of founder populations, only one in 1,000 people carries the BRCA2 gene mutation, accounting for a little more than 1% of all breast cancer cases. It is a higher percentage for breast cancer in men: Between 5% and 10% of all male breast cancer occurs in men with a BRCA2 gene mutation.” He also notes that men with a BRCA2 mutation have a substantially higher risk of other cancers, including prostate cancer. “The difference with the BRCA2 mutation is that prostate cancers frequently occur in their early 40s, and they tend to be the very aggressive prostate cancers,” Evans said. “Genetic testing where there is a family history is one way forward in terms of men being able to pick up breast cancer early and being aware of prostate risk as well.”

If the patient tests positive for a BRCA2 mutation, Evans advises that the patient have regular screening for prostate-specific antigen. These men should also undergo routine mammography, according to radiologist R. James Brenner, M.D., of Bay Area Imaging Consultants in Walnut Creek, Calif. He said that male breast tissue is far less dense and that because of lack of lobular development, men usually do not develop benign masses. “Imaging for and diagnosis of male breast cancer is not as technologically challenged,” he said.

Brenner also noted that work still needs to be done to find an easier diagnostic method for asymptomatic patients. “For both men and women, researchers have been looking for a blood test that might alert us to the earliest manifestations of breast cancer,” he said. “Despite repeated pronouncements of optimism, this search remains elusive.” He also said that nipple discharge cytology and attempts to retrieve duct fluid have yet to develop into a reliable approach.

In families with a hereditary history of BRCA2 mutation, testing is an option in conjunction with genetic counseling. “We found that men are less likely to come forward for testing,” Evans said. “About 15% of asymptomatic males will get tested by about 7–8 years after you identify the gene in their family. In women it’s more like 50%–60%.” He speculates that lack of communication may be responsible. In his practice, many men have trouble believing that they can get breast cancer. Also, women are often the family health “gatekeepers” and may be misguided, believing that men are not at risk for the disease or cannot be carriers.

That misconception also persists in the public at large. A 2-year BRCA screening test study started in September 2010, funded by U.S. health insurer Aetna, makes no mention of men, even though its overall aim is to eliminate barriers to tests. Anne Beal, president of the Aetna Foundation, an independent arm of the insurer, said at the time of the announcement, “This study may validate the need for specific strategies to eliminate barriers to these tests—whether they are knowledge based, culturally based, or access based—and help improve health outcomes among high-risk or minority women.”

Treatment Approaches

Men with breast cancer generally follow a protocol similar to that of female breast cancer patients, including a combination of surgery, radiation, chemotherapy, and antihormone therapies. Increasing evidence has found that breast cancer in men may need sex-tailored treatment. One single-center retrospective analysis found that side effects caused more than 20% of men to stop taking tamoxifen, the estrogen receptor antagonist. Of those who ceased taking the medication, 69% did so on their own initiative, according to results in the November 2011 Annals of Oncology.
Primary side effects of tamoxifen in men included weight gain, sexual dysfunction, hot flashes, neurocognitive problems, thromboembolic events, and disturbance of vision. Researchers concluded that although what caused the side effects was unclear, sexual dysfunction could be related to decreased testosterone levels associated with tamoxifen. They also noted that although the study confirmed another retrospective study’s observed discontinuation rates, prospective trials of antihormone treatments for breast cancer in men are still needed.

Despite recent trial setbacks for poly(ADP-ribose) polymerase (PARP) inhibitors for hereditary breast cancers positive for BRCA1 and BRCA2, Evans remains optimistic. “It’s feasible that in the future these drugs could be used to prevent breast cancer in people who have a BRCA2 mutation,” he said. He explained that as the PARP inhibitors target cells that have lost both copies of the BRCA2 gene, they can kill those cells before they become a cancer. “You can envision where someone was actually taking a course of a PARP inhibitor for a week or two every year to clear out all of the bad cells and prevent them eventually going to the breast, prostate, or pancreas, if [the patient is] male.”

**Patient Experience**

Although awareness of breast cancer in men within hereditary BRCA2 gene mutation families and the general public needs
to be improved, patients report that poor understanding by medical personnel continues to be a problem as well. According to research published in October 2011 on Health Talk Online (http://www.healthtalkonline.org, a UK-based health information website led by Oxford University experts) and carried out by Kate Hunt, M.A., M.Sc., the Gender and Health Program Leader at the Medical Research Council’s Public Health Sciences Unit in Glasgow, Scotland, many men reported feeling isolated and embarrassed during their treatment because the service was geared toward women.

Hunt conducted interviews with 33 men from across the UK who had a breast cancer diagnosis; they cited several female-centric experiences during their treatment. These included information pamphlets with female-specific concerns (choice of bra, effect on menstruation, and impact on future pregnancies) being addressed as “Mrs.” rather than “Mr.” when called for an appointment, and pharmacists’ questioning the filling of their tamoxifen prescription. Many men also felt they did not receive enough information on treatment options, receiving less attention from researchers than women. One man reported that he often overheard female patients discussing their participation in trials and the options they were offered, whereas he was offered no such choices in his regimen. The research also found that men were less interested in complementary therapy than women were.

Most research participants acknowledged that breast cancer awareness among women has succeeded, perhaps due partly to the ubiquitous pink ribbon campaign by the Komen Foundation. A few interviewed men suggested adding a flash of blue to promote awareness of breast cancer in men. Hunt suggests taking more care in providing breast cancer information by using sex-neutral terms or at least highlighting that it can occur in men as well. Almost all men interviewed believed that they were the only men treated for breast cancer in their hospital. Some stayed on a breast cancer ward among female patients after surgery, whereas others were placed on a general male surgery ward where staff may lack experience in dealing with breast cancer patients. “It was very difficult for men to meet other men who had the same disease and to find out about their experiences,” Hunt said. In response, experts from healthtalkonline.org added a new section on breast cancer in men, featuring video and text interviews with the research participants.

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