Male breast cancer in family leads to high perception of risk, low likelihood of genetic counseling

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People with a family history of male breast cancer perceive themselves to be at higher risk of developing the disease than do patients with a family history of female breast cancer; however those with male breast cancer in their families are less likely to know about or seek genetic testing than those with a family history of female breast cancer, according to a study led by researchers at the University of Louisville's James Graham Brown Cancer Center.

"Male breast cancer is rare and accounts for only about one percent of all breast cancers, but families in which breast cancer has occurred could have a 60 to 76 percent chance of carrying a genetic mutation that makes the development of breast cancer at a young age highly likely," said Suzanne Schiffman, MD, a general surgery resident at the University of Louisville and lead author on this study.

"Patients who are at significant genetic risk of developing breast cancer may be eligible for surveillance screening or consideration of prophylactic therapy, and it's important that these individuals know their risk so they can take appropriate action if they want to."

The study was published in the August issue of the journal The *American Surgeon*. It was funded by the University of Louisville's Department of Surgery.

The researchers used data from the 2005 National Health Interview Survey Cancer Supplement, conducted by the Centers for Disease Control and Prevention for the National Center for Health Statistics, to obtain data from 2,429 individuals with a first-degree relative - a parent, sibling or child - with breast cancer. The data were separated into two groups - those with a first-degree male relative with breast cancer, and those with a first-degree female relative with breast cancer. Data about perceived risk of inheriting genetic disease, genetic counseling and genetic testing were collected and compared between the two groups.

Schiffman and senior author Anees Chagpar, MD, director of the Multidisciplinary Breast Care Program at the James Graham Brown Cancer Center, found that more than 60 percent of those with a first-degree relative with male breast cancer perceived themselves as being at higher risk of developing the disease, while only 46 percent of those with a female first-degree relative did. However, only 38.4 percent of those with a relative with male breast cancer had heard of genetic testing, compared to more than 50 percent of those with a female relative with breast cancer. And of those who had heard about it, none of the individuals with a male relative had discussed their genetic risk with their physician, compared to 13 percent of those with a female relative with breast cancer.

"Our findings speak to a real communication issue in health care," Chagpar said. "Patients need to be made aware of the risk posed by having one or more first-degree relatives who have had breast cancer, and physicians need to be meticulous in taking family histories and discussing risk with the patients they see."

The discovery of the BRCA mutations and their connection to the development of breast cancer was an important milestone in cancer research as women and men who inherit these mutated genes are at significantly increased risk of developing breast cancer; women with a

BRCA mutation have up to an 87 percent lifetime risk of developing breast cancer compared with the 12 percent lifetime risk of the general population. One of the BRCA mutations - BRCA2 - is present in approximately 4 to 40 percent of male breast cancers.

The likelihood of a BRCA mutation increases with certain familial patterns of cancer incidence, including two first-degree relatives with female breast cancer with one diagnosed before she was 50, or one first-degree relative with male breast cancer, Schiffman said. It is important that patients and their doctors are looking for these patterns, she said.

"Patients need to be educated about their risks and what to look for, and on the flip side, doctors need to be sure they are taking complete family histories and referring patients for genetic evaluation if any red flags are raised," Schiffman said.

Provided by University of Louisville