

New paternal link found to breast cancer

December 8, 2011 by DELTHIA RICKS / delthia.ricks@newsday.com



The two most commonly inherited breast cancer mutations can trigger the disease almost a decade earlier when inherited from the paternal side of the family, a study of 130 [Long Island](#) women has found.

Why dads can cause breast cancer to occur earlier remains a mystery for carriers of BRCA 1 and BRCA 2 mutations, said Dr. Juliana Shapira, director of cancer genetics at the [Monter Cancer Center in Lake Success](#).

The finding is so surprising, Shapira said, she and her team plan further study of the phenomenon.

"No one has ever conducted a study like this, looking at the parent of origin" in the research on the two mutations, Shapira said.

Shapira noted that researchers elsewhere have made a similar finding for a rare inherited form of colorectal cancer.

She presented details of her discovery Thursday at the [San Antonio Breast Cancer](#) Symposium, meeting this week in [Texas](#). The annual convention has become a leading forum for the presentation of new research directions in breast cancer.

Shapira and colleagues studied 130 women with breast or [ovarian cancer](#) caused by the BRCA 1 or 2 mutations. They winnowed their data by choosing only those patients who knew the parent who passed the gene.

For BRCA 1, women with paternal inheritance developed breast cancer around age 38. With maternal inheritance, the average was about 45. For BRCA 2, those who got the gene from

Dad developed the cancer at age 41 compared with 50 for those whose trait came from their moms.

In another finding, Shapira said, the BRCA mutations were found in families of Irish and Jamaican descent, a departure from notions that the mutations primarily affect women of Ashkenazi Jewish background.

Lorraine Pace, co-president of Breast [Cancer Help](#) in [Bay Shore](#), applauded the discovery as a new way for women to understand their risk.

Dr. Brian O'Hea, director of the Carol M. [Baldwin](#) Breast Care Center at [Stony Brook University](#) Medical Center, said the BRCA 1 and 2 mutations account for 5 percent to 10 percent of all breast cancers.

O'Hea, who wasn't involved in the Monter Center study, said scientists have just begun to scratch the surface of cancer genomics.

The genes, he said, also play a role in [ovarian cancer](#). But doctors in the study unveiled yesterday noted that neither BRCA mutations displayed a difference in the age of ovarian cancer's onset based on paternal or maternal inheritance.

BRCA 2 also has been implicated in male breast cancer.

Dr. Steven Sugarman, a medical oncologist at [Memorial Sloan-Kettering Cancer Center](#) in [Commack](#), said the breast cancer findings have implications for women who choose prophylactic mastectomies.

The preventive measure is often taken by women at elevated genetic risk for breast cancer. Knowing that one carries a paternally passed gene could spur the decision to have surgery sooner, Sugarman said.

"This is a provocative finding and it's the first time I've heard of it in breast cancer," Sugarman said from [San Antonio](#).

[< back to article](#)