Study supports germline testing for all metastatic breast cancer patients

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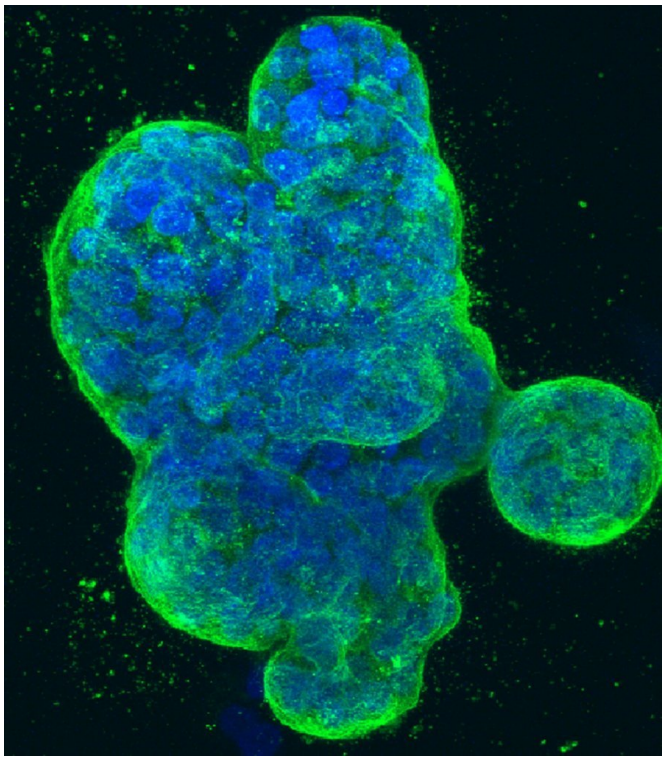

Three-dimensional culture of human breast cancer cells, with DNA stained blue and a protein in the cell surface membrane stained green. Image created in 2014 by Tom Misteli, Ph.D., and Karen Meaburn, Ph.D. at the NIH IRP.

Genetic testing for all metastatic breast cancer patients may be an optimal strategy for identifying additional patients with increased risk as well as response to targeted therapies, according to research published in *JAMA Oncology*.

In the study, 100 patients were tested regardless of whether they met the current National Comprehensive Cancer Network (NCCN) guidelines. Among the 14 patients who did test positive for a pathogenic or likely pathogenic variant, 43% (six patients) did not meet the NCCN guidelines.

The study has clinical significance because of the recent approval of a PARP inhibitor for patients with HER2/ERBB2 negative breast cancer with germline BRCA1 and BRCA2 pathogenic variants. The U.S. Food and Drug Administration in October 2018 approved the PARP inhibitor talazoparib for that breast cancer.

"We found almost twice as many mutations than what we would have found if we adhered to NCCN guidelines, and some of those patients could go on clinical trials that could therapeutically help their disease," said senior author, Ben Ho Park, MD, Ph.D., the Donna S. Hall Chair in Breast Cancer at Vanderbilt University Medical Center and co-leader of the Breast Cancer Research Program at Vanderbilt-Ingram Cancer Center.

Participants in the study included 76 white patients, 12 black patients, six Asian patients, three Hispanic patients and three of other racial/ethnic identification. Two of the patients were male.

Provided by Vanderbilt University Medical Center