Polygenic risk score helpful for women with familial breast CA

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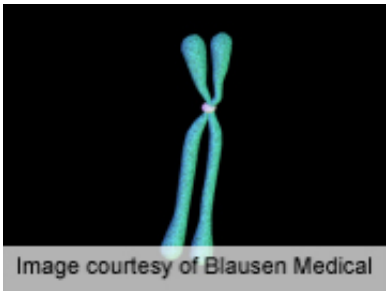

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(HealthDay)—For women affected by familial breast cancer, a polygenic risk score based on 22 genomic variants can identify women at high-risk of breast cancer, according to a study published in the Dec. 10 issue of the *Journal of Clinical Oncology*.

Sarah Sawyer, M.D., of the Peter MacCallum Cancer Centre in Melbourne, Australia, and colleagues identified 1,143 women with breast cancer from a larger screening of women at high risk for hereditary breast cancer who underwent *BRCA1* and *BRCA2* mutation screening. Genotyping was performed for 22 breast cancer-associated genetic variants, and a polygenetic risk score was calculated as the sum of the log odds ratios for each allele. Scores were compared with those

of 892 controls.

The researchers found that, compared with controls, women with a family history of breast cancer had a highly significant increase of risk alleles. Compared with *BRCA*-mutation carriers, women who were *BRCA1*- or *BRCA2*-negative had a significantly increased polygenic risk. Compared with women with low polygenic risk, non-*BRCA1/2* carriers in the top quartile of polygenic risk were significantly more likely to have had early-onset breast cancer (before age 30: odds ratio, 3.37) and had a higher rate of second breast cancer (odds ratio, 1.96).

"Genetic testing for common risk variants in women undergoing assessment for familial breast cancer may identify a distinct group of high-risk women in whom the role of risk-reducing interventions should be explored," the authors write.

More information: Abstract
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Editorial