Gene tests may help predict outcomes in advanced ovarian cancer

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(HealthDay)—A special genetic test might help gauge outcomes for

women diagnosed with ovarian cancer, a new study suggests.

As researchers at the University of Washington in Seattle explained, advanced ovarian cancer doesn't progress as rapidly in women who have mutations in certain "DNA repair" genes, known as homologous recombination (HR) genes.

Women with the disease who also have these mutations may survive longer, said a team led by gynecologic oncologist Dr. Barbara Norquist.

The finding may also someday help guide treatment, the researchers said.

Experts said the findings highlight the increasing role of DNA tests in cancer care.

There's a "wealth of new information that is being generated with regard to the genetics of ovarian cancer, and this study shows how useful such information can be in the everyday management of patients," said Dr. Mitchell Maiman, chair of obstetrics and gynecology at Staten Island University Hospital in New York City.

The new study came out of a phase 3 clinical drug trial involving Norquist's team.

The researchers wondered if having mutations in DNA repair genes might affect a woman's response to combination drug therapy for ovarian cancer.

The study found that the mutations did not affect whether or not a patient would respond to the treatment, but they *did* affect patient outcomes—including how long the women might live and remain disease-free.

"This is important prognostic information for patients, and highlights the importance of knowing genetic status in clinical trials in ovarian cancer," Norquist said in a news release from the Society of Gynecologic Oncology.

For the study, the researchers sequenced DNA from blood or tumors or both from nearly 1,200 women using a gene panel test called BROCA-HR.

They found that close to 26 percent of the women had a mutation in at least one of a number of genes predicted to affect DNA repair.

For women without mutations, the median progression-free survival (meaning no progression of disease) was just over a year, while the overall survival was about 3.5 years, the study found.

Carrying a DNA repair gene mutation seemed to extend survival, Norquist's team found.

For example, for women with mutations in the BRCA1 gene, the outlook was greatly improved. Average progression-free survival was 15.7 months, while their overall survival was 55.3 months (about 4.5 years).

For those with BRCA2 mutations, median progression-free survival was just under 22 months, while overall survival was a little more than 75 months (more than six years).

All of the women who carried mutations in DNA repair genes "had significantly better progression-free and overall survival when compared to those with no mutations," Norquist noted.

"This underscores the message that women with any type of ovarian cancer should have genetic testing, and they should be included in

clinical trials of drugs that work best in the setting of HR [gene] defects," she said.

For his part, Maiman said the results of the study are "obviously dramatically pertinent for both clinicians and patients alike.

"Although the findings in this study do not directly alter treatment guidelines, the dramatic differences in prognosis with regard to both overall and progression-free survival in mutation-carrier groups can now provide a bit of optimism in those affected," he said.

Dr. David Fishman directs the Cancer Center at NewYork-Presbyterian/Queens hospital in New York City. He agreed that the study "demonstrates the rapidly evolving use of genetics to optimize and individualize cancer care.

"We are now entering the era of molecular [classification] of cancer which will allow us to optimize patient care," Fishman said.

The findings were expected to be presented on Saturday in San Diego at the Society of Gynecologic Oncology's annual meeting. Findings presented at medical meetings are typically considered preliminary until published in a peer-reviewed journal.

More information: The U.S. National Cancer Institute provides more information on ovarian cancer.