Four Criteria Signal Presence of Ovarian Cancer

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PALM SPRINGS, CALIF. — The best predictor for ovarian malignancy in a postmenopausal woman with an initial abnormal screen is a CA 125 level of 65 U/mL or greater, Dr. Edward E. Partridge said at the annual meeting of the Society of Gynecologic Oncologists.

He also reported that in women who have a follow-up screen, these four criteria, in hierarchical order, appear to be accurate in detecting malignancy: a CA 125 level of 65 U/mL or greater; a CA 125 increase of 40 points or more; a CA 125 change of 10 points with an ovary and/or cyst 3 cm or greater in size; or an ovary/cyst change of 6.5 cm or more.

The findings are based on an analysis of data from the first 3 years of the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial.

"This should provide some guidance for clinical decisions regarding the need for surgery and/or appropriate referral for asymptomatic postmenopausal women with abnormal findings on CA-125 and/or transvaginal ultrasound," said Dr. Partridge, associate director of cancer prevention and control at the University of Alabama, Birmingham, and director of the UAB Comprehensive Cancer Center.

However, he was quick to note that he does not recommend the routine clinical use of CA 125 and transvaginal ultrasound to detect ovarian cancer in asymptomatic postmenopausal women at this time. "We are not encouraging these tests until the trial is complete," he said. "If one does have these tests it gives some reassurance that you do not have to undergo an operative procedure if these criteria are not met."

Although the study is the largest of its kind to date, the criteria used in the analysis "are empirically based and represent one approach to combine the criteria," Dr. Partridge added. "The model has not been validated in a separate, similar population. Therefore it may be overly optimistic in its predictability."

The purpose of the study was to quantify and characterize the occurrence of ovarian malignancy among 28,506 women aged 55-74 years in the Prostate, Lung, Colon, and Ovarian Cancer Screening Trial who underwent both CA 125 and transvaginal ultrasound at their initial evaluation and during subsequent screening years 1-3.

"The major objective from a clinical standpoint was to establish clinically useful criteria to assess the likelihood of finding a malignancy after an abnormal screen," he said.

A positive screen was defined as a CA 125 level of 65 U/mL or greater; ovarian or cyst volume of greater than 10 cm^3; or solids areas, papillary projections, or mixed components within a cystic ovarian tumor of any size.

At the baseline screen, the researchers analyzed the relationship of the following factors to ovarian cancer detection: age, race, family history, CA 125 level, maximum ovary/cyst diameter, presence of mixed/irregular/papillary features, and presence of a solid mass.

They analyzed the relationship of these factors to positive screens from subsequent years as well, plus the change in CA 125 level and the change in ovary/cyst size from the previous negative screen.

Dr. Partridge and his associates found that the best predictor for malignancy in a woman with an abnormal baseline screen is a CA 125 level of 65 U/mL or greater. Using this criterion, the researchers would have been able to detect 15 of the 20 cancers found in that cohort of women. This would have required 71 operative procedures and yielded a positive predictive value of 21%.

In women who have a follow-up screen, researchers using the four criteria of CA 125 level, CA 125 increase, CA 125 point increase with ovary/cyst 3 cm or greater in size, or an ovary/cyst change of 6.5 cm or more would have been able to detect all 29 cancers found in this cohort.

"This is very useful information," said Dr. Nicole Urban, who was invited by the meeting organizers to comment on the work.

"My biggest concern is that even though this rule will do a good job at minimizing surgeries, what it's not doing a good job of is finding early-stage cancer," said Dr. Urban of the Seattle-based Fred Hutchinson Cancer Center. "There are many people who were hoping that ultrasound would work better than this." ∎