Medical Xpress

Longitudinal algorithm may detect ovarian cancer earlier

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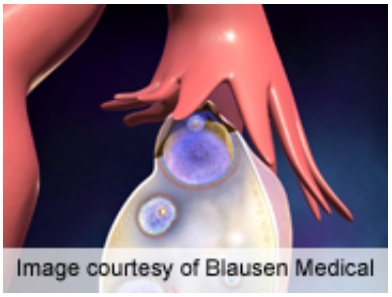

Compared with a single-threshold rule, a parametric empirical Bayes longitudinal screening algorithm can identify ovarian cancer earlier and at a lower concentration of CA125, according to research published online Dec. 17 in the *Journal of Clinical Oncology*.

(HealthDay)—Compared with a single-threshold (ST) rule, a parametric empirical Bayes (PEB) longitudinal screening algorithm can identify ovarian cancer earlier and at a lower concentration of CA125, according to research published online Dec. 17 in the *Journal of Clinical Oncology*.

Charles W. Drescher, M.D., of the Fred Hutchinson Cancer Research Center in Seattle, and colleagues compared an ST rule with a PEB longitudinal screening algorithm in a retrospective evaluation of preclinical CA125 values measured annually in 44 participants with incident ovarian cancer from the Prostate Lung Colorectal and Ovarian (PLCO) Cancer Screening Trial.

The researchers found that, in many cases, ovarian cancer was detected earlier using the PEB algorithm, compared to using an ST rule. At a specificity of 99 percent, corresponding to an ST rule CA125 cut-off of ≥35 U/mL used in the PLCO trial, use of the PEB algorithm would have identified 20 percent of cases earlier. The PEB indicated abnormal CA125 values among these cases 10 months earlier and at a lower CA125 concentration (42 percent lower; 20 U/mL) than an ST rule cut-off. As the specificity of screening was reduced, there was an increase in the proportion of cases detected earlier by PEB.

"Our results demonstrated that, for ovarian cancer screening by using CA125, the PEB longitudinal algorithm detected ovarian cancer earlier than an ST rule in a statistically significant and meaningful proportion of cases," the authors write. "This observation was consistent across a range of specificities relevant for a first-line test in a multimodal screening program."

More information: Abstract
Full Text (subscription or payment may be required)