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CA-125: A Good Indicator or Not?

Half of women with early-stage ovarian cancer will have an elevated level of cancer antigen-125, or CA-125, according to research. At the same time, many healthy women will also have abnormal CA-125 because of something as benign as pregnancy.

“The CA-125 test measures a protein secreted by over 80 percent of epithelial ovarian cancers (the most common type of ovarian cancer),” explains Beth Karlan, MD, of Cedars-Sinai Medical Center. But it can also reflect a lot of other non-cancerous conditions. “In premenopausal women, pregnancy, periods, appendicitis, fibroids, or endometriosis can all cause false CA-125 elevations,” Dr. Karlan says. False negatives are also common with CA-125.

Physicians who specialize in ovarian cancer often have a love-hate relationship with CA-125. It’s one of the few tools they have for diagnosis, but it’s only reliable in certain situations, such as checking for recurrence, and it works best in combination with other tools, such as transvaginal ultrasound.

“CA-125 is somewhat useful in evaluating a patient with a pelvic mass—especially a postmenopausal woman,” says Ronald Alvarez, MD, of the University of Alabama at Birmingham. “But in an asymptomatic woman, it doesn’t seem to perform particularly well.”

Researchers are looking for other tumor markers, or biomarkers, that could point to ovarian cancer at an earlier stage. Though still investigational, analysis of proteomic patterns, or distinctive protein designs, in the blood may predict ovarian cancer in its earliest stages.

Even if new and better tests are discovered in the future, CA-125 will likely still be part of any future composite screening tool, Dr. Karlan says. “It will be a panel,” she says. “Similar to the triple marker that’s often used to screen for Down syndrome in pregnancy.”

Barbara A. Goff, MD, of the University of Washington, says it could be several years, maybe even a decade, before a more powerful screening tool is available. Part of the problem is scientists need samples of early-stage ovarian tumors to study which substances tumors release when they first begin to grow. Unfortunately, physicians still see relatively few women who are diagnosed this

early.

Meanwhile, researchers are under pressure to make the new screening test as accurate as possible. With other types of cancer, such as breast or prostate, physicians rely on a biopsy for a second view of cancer activity if a mammogram or PSA test is not completely reliable. But it would be too invasive to biopsy an ovary, and doing so could rupture a cyst and cause ovarian cancer to spread through the abdomen.

Since no second testing method exists for ovarian cancer, American Cancer Society President Richard Wender, MD, says any new screening tool has to be highly effective. “The numbers game here certainly impacts the performance of the test,” he says. “That’s why the test has to be absolutely perfect.”