SOUTHWESTERN NEWS

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UT SOUTHWESTERN RESEARCHERS DEVELOP TUMOR INDEX TO DIAGNOSE OVARIAN CANCER

DALLAS – December 27, 1999 – UT Southwestern Medical Center at Dallas researchers have developed a new ovarian tumor index that will help physicians accurately diagnose ovarian tumors as either cancerous or benign and hopefully save thousands of women from unnecessary surgeries.

The majority of women who have ovarian tumors, confirmed through ultrasound, discover after major surgery that their tumors were benign, but physicians have such a difficult time diagnosing this deadly cancer that many recommend aggressive treatment just in case.

"The early detection of ovarian cancer is a formidable challenge and an elusive task," said Dr. Diane Twickler, associate professor of radiology and obstetrics and gynecology and an author of the report in the December issue of *Cancer*. "The index is a valuable way of interpreting a complex set of ultrasound findings in a reasonable fashion that will help the referring physician plan further testing, surgery or other clinical management."

Fellow author Dr. David Scott Miller, professor of obstetrics and gynecology, agreed. "The words 'ovarian cancer' are probably the most terrifying to women. And that's because it's so hard to diagnose and, thus, so deadly," Miller said.

"It may be possible that if the index indicates the mass is benign, she may be able to have a far less traumatic procedure, such as a laparoscopy," Miller said. "The information from the index may also help the physician decide whether he or she should perform the surgery or refer to a cancer specialist."

The index can also indicate which patients would benefit from serum monitoring – a series of blood tests that reveal proliferating cancer cells, Miller said.

The index was developed by evaluating characteristics of malignant and nonmalignant masses through real-time ultrasound, measurements of flow, structural measurements and checks for vessel location with methods such as color mapping. The most definitive characteristic

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proved to be the patient's age. The study showed a logical correlation between the patient's age and the chance of malignancy.

Of the 304 women in the study, 244 had follow-up care at UT Southwestern, which allowed their outcomes to be correlated with their prospective ultrasounds. Of those patients, 214 were diagnosed with noncancerous masses, while 30 had neoplasms that proved cancerous. Eighty-five of the noncancerous masses were benign neoplasm-type tumors. Peri-menopausal, menopausal and post-menopausal women were all included.

As the researchers suspected, patient age and the appearance, size and blood flow as revealed by ultrasound were significantly different in cancerous and noncancerous lesions. Larger, vascular tumors with abnormal appearances were more likely to represent malignant disease. Younger patients were more likely than older patients to have benign tumors.

Researchers assigned numbers to reflect the various ultrasound results. Patient-age numbers were also added to the formula. Twickler said the index's relative probability assignments are "a desirable alternative to and more realistic than absolute cut-off values between malignant and nonmalignant neoplasms."

Besides Twickler and Miller, other researchers in the study included Drs. Thalia B. Forte, assistant professor of radiology; Rigoberto Santo-Ramos, professor of obstetrics and gynecology; and Donald McIntire, assistant professor of obstetrics and gynecology.

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