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NEWS

RSNA Press Release

Pregnant Women Should Not Ignore Breast Cancer Symptoms

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At A Glance

- Ultrasound depicts 100 percent of breast cancers in symptomatic pregnant women, and mammography depicts 90 percent.
- Ultrasound aids in assessment of chemotherapy response in pregnant breast cancer patients.
- Pregnant women with suspicious symptoms should not wait to seek medical consult, as breast cancer can be treated during pregnancy.

OAK BROOK, Ill.—Ultrasound provides a safe and accurate method of detecting breast cancers in pregnant women, as well as assessing response to chemotherapy, according to a study appearing in the April issue of *Radiology*. Investigators at the M. D. Anderson Cancer Center in Houston recently studied the largest group of women to date who were both diagnosed and treated for breast cancer during pregnancy.

"Ultrasound identified 100 percent of cancers in our study, and mammography demonstrated 90 percent," said Wei T. Yang, M.D., chief investigator of the study and associate professor of diagnostic radiology at the M. D. Anderson Cancer Center, Breast Imaging Section. "We want young women to know that symptomatic breast cancer that occurs during pregnancy can be imaged, diagnosed and treated *while pregnant*, so they should not wait to seek medical attention if they start to have suspicious symptoms."

Hormonal changes during pregnancy and lactation create an increase in breast volume and firmness, making detection of breast masses difficult. Additionally, the need for immediate investigation and treatment in these cases is complicated by safety concerns for a developing fetus.

In the study, 23 women were diagnosed with 24 breast cancers. Seventeen tumors were diagnosed with a combination of ultrasound and mammography, four were diagnosed with ultrasound alone, and three were diagnosed with mammography alone. Mammography revealed 18 tumors in the 20 women who had mammograms (90 percent). Ultrasound demonstrated all 21 tumors in all 20 women who had ultrasound exams (100 percent). Additionally, ultrasound depicted the spread of cancer to the lymph nodes in 15 of 18 women (83 percent) who had this area evaluated.

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Invasive ductal carcinoma comprised the majority of cancers (18 patients). Sixty percent of women had stage III cancer, and 30 percent had stage II. Only one woman had stage I breast cancer, and the remaining woman had stage IV cancer with metastases to the liver.

Young women of child-bearing age do not typically have routine mammograms, so a growing cancer may not be found by the patient or her physician until it has progressed to a more serious stage.

Because of the advanced stage of cancers in this study, 16 patients (70 percent) underwent anthracycline-based chemotherapy in the second and third trimesters in an attempt to shrink the tumors. This type of chemotherapy poses minimal risk to the developing fetus and is the preferable method of treatment for pregnant women, in whom radiation treatments and surgery are usually avoided. Twelve of these 16 women underwent ultrasound to assess tumor response to chemotherapy. Dr. Yang found that ultrasound provided an accurate depiction of treatment response in all 12 patients.

"Not only can imaging help stage these cancers by assessing the lymph nodes in women who are candidates for chemotherapy, but it can also be used as a tool to assess response to chemotherapy, to determine if the treatment is effective or if a different treatment approach is necessary," said Dr. Yang.

Dr. Yang recommends that ultrasound be used as the initial imaging modality in symptomatic pregnant women. She adds that mammography should be used in women diagnosed with invasive or in situ cancers, as it may demonstrate cancerous microcalcifications not visible with ultrasound.

Breast cancer is estimated to complicate one in 3,000 to one in 10,000 pregnancies. Cancers in young women of child-bearing age usually appear as painless palpable masses. However, symptoms can include nipple discharge, skin changes and persistent or progressive unilateral breast swelling or engorgement.

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Journal attribution required.

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"Imaging of Breast Cancer Diagnosed and Treated with Chemotherapy during Pregnancy." Collaborating with Dr. Yang on this paper were Mark J. Dryden, M.D., Karin Gwyn, M.D., Gary J. Whitman, M.D., and Richard Theriault, M.D.

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