

Ultrasound first, not CT, for diagnosing suspected acute appendicitis

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Color Doppler ultrasound, not CT, should be the first imaging examination for adult patients with suspected acute appendicitis, a new study emphasizes.

Source: American Roentgen Ray Society

The study of 420 medical records found that sonography correctly denied acute appendicitis in 303 of 312 adult patients, meaning it had a 97% specificity rate, said Diana Gaitini, MD, of Rambam Health Care Campus in Haifa, Israel. "When the patient does not have acute appendicitis, the negative result of the color Doppler ultrasound examination is highly confident," she said. On the other hand, ultrasound's sensitivity rate was 74%, meaning it missed the diagnosis in 23 of 89 patients, Dr. Gaitini said. Ultrasound was inconclusive in 17 patients.

"We performed CT in 132 patients because the ultrasound examination was inconclusive or the patient was showing classical signs and symptoms of acute appendicitis even though the ultrasound examination was negative," said Dr. Gaitini. CT correctly diagnosed acute appendicitis in 38 of 39 patients (99% sensitivity rate) and correctly denied acute appendicitis in all 92 patients (100% specificity rate), said Dr. Gaitini. CT was inconclusive in one patient.

"CT has a slightly higher specificity rate and a higher sensitivity rate than ultrasound, but ultrasound can help the radiologist make a definitive diagnosis in most patients," Dr. Gaitini said. "The higher diagnostic performances of CT need to be evaluated against its disadvantages. Lack of radiation exposure (which is especially important in a population of mostly young patients), higher availability, lower cost and high specificity of color Doppler ultrasound are the main reasons for trying ultrasound first," she said.

The study appears in the May issue of the American Journal of Roentgenology.

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