As for why radiologists may order extra scans, coauthor Dr. J. Louis Hinshaw, also with the UW-Madison, said it may be that radiologists simply have the ability and tools available to perform the tests. Also, protocols are set up on CT scanners beforehand and are often designed to answer "what if" scenarios, in which additional views may be needed. "There is some risk-aversion that comes into play," he said at the briefing.

Of the 500 patients, 7% had findings that would not have been identified without the extra scans, but most of these were not clinically relevant, Dr. Hinshaw said.

The Radiological Society of North America has partnered with the American College of Radiology to create a task force on adult radiation protection to increase awareness of cumulative dose and radiation risks.

'At the doses seen in our study, 1 in 1,000 patients could get a radiation-induced cancer.'

DR. GUITE

Both researchers stressed that CT is a valuable diagnostic tool and that the study findings should not impede use of the technology.

Press briefing moderator Dr. Robert Zimmerman, professor of radiology at Weill Cornell Medical College in New York, concurred. He suggested that patients investigate the radiation protocol at their institution and ask their physicians what steps are being taken to minimize radiation dose.

"We don't want to damage patients, but we know we have the technology that is very useful in saving people's lives," Dr. Zimmerman said. "We are trying to balance the two."

In the current study, patients with a malignancy were 22% more likely to receive excess radiation, Dr. Guite said.

Delayed-phase imaging, performed after a contrast agent has accumulated in the kidneys/bladder, accounted for 77% of the unnecessary scans.

There was no study sponsorship, but one coauthor disclosed being a stock holder with NeuWave Medical Inc. and a patent holder with Covidien AG. ■

Restricted CT Scans Did Not Harm Sensitivity

NEW ORLEANS — Abdominal computed tomography limited to the region of tenderness accurately delineates acute pathology while reducing radiation exposure, according to a double-blind study.

A standard abdominal CT scan covers an area from above the diaphragm to the mid-thigh. But in the study, limiting the scan to the tender area cut radiation exposure by a mean of 69% while preserving 96% sensitivity, Dr. Joshua Broder said at the annual meeting of the Society for Academic Emergency Medicine.

The 93 patients in the single-center study underwent standard abdominal CT after presenting to the emergency department with nontraumatic abdominal tenderness. Before imaging, emergency physicians placed skin markers to delineate the cephalocaudad extent of tenderness. Then they added coded meaningless markers so radiologists would remain blinded to the region of tenderness, said Dr. Broder of Duke University Medical Center, Durham, N.C.

Of the 93 patients, 51 ultimately were found to have abdominal pathology, most commonly acute appendicitis. In one-third of cases, the pathology identified by radiologists was completely contained in the area highlighted by the skin markers of abdominal tenderness; in another 51%, the pathology was partially located in the marked zone and would have been readily detected by a scan limited to the region of abdominal tenderness.

Although in 16% of cases, the pathology wasn't even partially in the skin marker zone, in most of those instances it was doubtful that the pathology actually caused the abdominal pain. The rate of clinically relevant false-negative abdominal CT scans limited to the area of pain and tenderness was only 4%.

Dr. Broder and his associates also tested intermediately restricted CT, in which the entire abdomen and pelvis below the most cephalad skin marker of tenderness was scanned. This reduced radiation exposure by 38% and increased test sensitivity to 98%.

Based on the encouraging results in a nonconsecutive series, Dr. Broder plans to perform a larger, double-blind study in a consecutive series of similar patients.

—Bruce Jancin