

Low-dose whole-body CT finds disease missed on standard imaging for patients with multiple myeloma

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Low dose whole body CT is nearly four times better than radiographic skeletal survey, the standard of care in the U.S., for determining the extent of disease in patients with multiple myeloma, a new study shows.

The study, conducted at the University of Maryland in Baltimore, included 51 patients who had both a radiographic skeletal survey as well as a low dose whole body CT examination. The total number of lesions detected in these patients with low dose whole body CT was 968 versus 248 detected by radiographic skeletal survey, said Kelechi Princewill, MD, the lead author of the study. "The stage of disease determines treatment, and the study found that in 31 patients, the stage of disease would have been different with low dose whole body CT. Thirteen patients would have been upstaged from stage I to stage II; nine patients would have been upstaged from stage I to stage III and nine patients would have been upstaged from stage II to III based on additional lesions detected on the low dose whole body CT," said Dr. Princewill.

Low dose whole body CT was significantly better than radiographic skeletal survey in detecting lesions in the spine, ribs, sternum and flat bones, added Dr. Princewill.

The use of low dose whole body CT is accepted in Europe as an accurate alternative to radiographic skeletal survey for detecting [bone lesions](#) in these patients, said Dr. Princewill. A concern about [radiation dose](#) may

be one of the reasons why it is not widely accepted in the U.S., he said. "Our study employed a low dose protocol, with an average recorded CT dose of 4.1 mSv. That compares to 1.8 mSv for the radiographic skeletal survey. Using modified protocols and exposure parameters, we were able to significantly reduce the radiation doses to our patients without significantly compromising the image quality required to detect myeloma [lesions](#). The average CT dose used in our study was approximately nine times lower than doses used in the acquisition of standard body CT studies," Dr. Princewill said.

The study is being presented on May 2 at the American Roentgen Ray Society annual meeting in Vancouver, Canada.

Provided by American Roentgen Ray Society

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