ASIR technique reduces radiation dose associated with coronary CTA by 27 percent

EurekAlert

A new low-dose coronary computed tomography angiography (CTA) technique called adaptive statistical iterative reconstruction (ASIR) can reduce the radiation dose associated with coronary CTA by 27 percent, according to a study in the September issue of the *American Journal of Roentgenology* (www.ajronline.org [1]). Coronary CTA is a common heart imaging test that helps determine if fatty or calcium deposits have narrowed a patient's coronary arteries.

ASIR is a technique that allows radiologists to reduce the noise in an image and improve image quality (like adjusting a TV antenna to make a "fuzzy" image sharper) while reducing the radiation dose.

The large multicenter study included 574 patients undergoing coronary CTA at three imaging centers. Comparisons were performed between consecutive groups initially using the standard CTA method using filtered back projection (FBP) and subsequently ASIR with regard to patient and scan characteristics, radiation dose, and diagnostic study quality.

"There was a 44 percent reduction in the median radiation dose between the FBP and ASIR cohorts (4.1 mSv vs. 2.3 mSv)," said Jonathon Leipsic, MD, lead author of the study. "After adjustment for scan settings, ASIR was associated with a 27 percent reduction in radiation dose compared with FBP," he said.

"Our study results show that ASIR permits reduction in tube current while imparting a statistically significant reduction in radiation dose due to the direct relationship between tube current and dose," said Leipsic.

"ASIR represents a novel method of radiation dose reduction that appears additive to existing techniques," he said.

SOURCE [2]

Source URL (retrieved on *09/16/2014 - 6:00pm*):
http://www.mdtmag.com/news/2010/08/asir-technique-reduces-radiation-dose-associated-coronary-cta-27-percent

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