

New study evaluates noninvasive technology to determine heart disease

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A study published in the most recent issue of the *Journal of the American Medical Association (JAMA)* presented encouraging news regarding physicians' ability to determine blood flow and associated coronary artery disease (CAD) using noninvasive CT scanning technology. Data from the Determination of Fractional Flow Reserve by Anatomic Computed Tomographic Angiography (DeFACTO) study were presented on August 26 at the European Society of Cardiology Congress in Munich, Germany. John R. Lesser, MD, a Cardiologist and senior researcher at the Minneapolis Heart Institute Foundation, served as a principal investigator for the DeFACTO study and Minneapolis Heart Institute Foundation Cardiologist and senior researcher Robert Schwartz, MD directed the Integration Core Lab coordinating data from 17 sites worldwide.

"The study showed improved diagnostic accuracy with CT scanning when we also use a new technique called fractional flow reserve that identifies the rate of [coronary blood flow](#) and possible blockages in the arteries that may interfere with flow," said Robert Schwartz, MD.

Fractional [flow reserve](#) (FFR) has been identified as a procedure that may help to reduce unnecessary angiography and stenting when used. It requires a minimally invasive procedure. FFR with CT scanning requires no invasive procedure and has the potential to deliver equally useful data.

The objective of the DeFACTO study was to assess the diagnostic

performance of CT with and without FFR for diagnosis of significant coronary stenosis. In its conclusion, the use of noninvasive FFRCT among patients with CAD was associated with improved diagnostic accuracy and discrimination.

"DeFACTO is worthy of note because, while it did not achieve it's endpoint, it definitely showed improved diagnostic accuracy using FFRCT vs. CT alone," stated Schwartz. "We are always looking to use the least invasive procedures to get the best results and DeFACTO indicates that we may soon have another useful tool in evaluating and treating heart disease."

In an editorial in *JAMA*, Manesh R. Patel, MD, Duke Clinical Research Institute, Duke University Medical Center, wrote, "The current report describes an important noninvasive technology that may improve existing care and has the potential to outperform established noninvasive technologies."

DeFACTO is a multi-center diagnostic performance study involving 252 stable patients with suspected or known CAD from 17 centers in 5 countries who underwent CT, invasive coronary angiography (ICA), FFR, and FFRCT between October 2010 and October 2011. The primary study outcome assessed whether FFRCT plus CT could improve the per-patient diagnostic accuracy. Among study participants and compared with obstructive CAD diagnosed by CT alone, FFRCT was associated with improved [diagnostic accuracy](#) and discrimination.

More information: The article in *JAMA* can be found here: jama.jamanetwork.com/article.aspx?articleid=1352969

Provided by Minneapolis Heart Institute Foundation

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