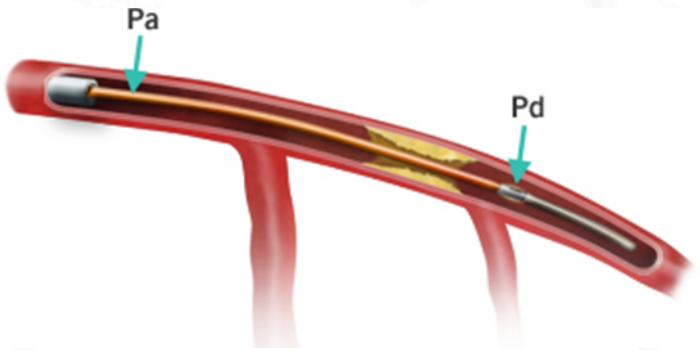
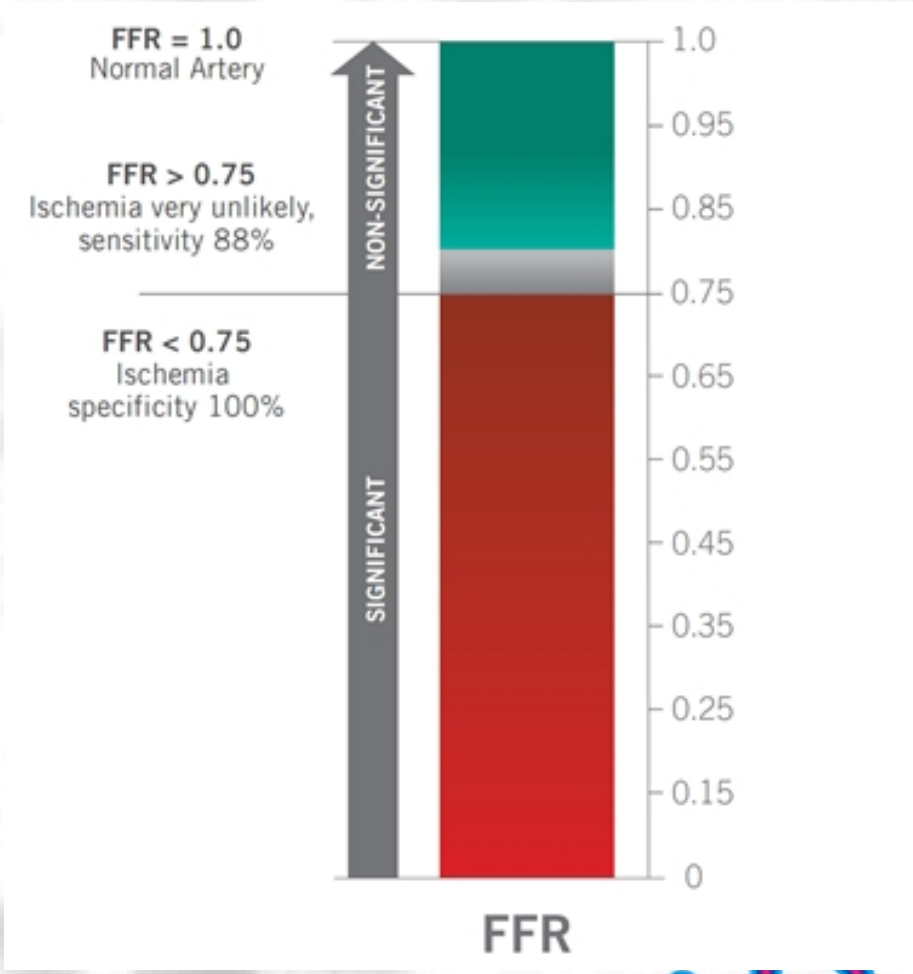
Use of Pressure Wire for Intra-coronary measurement of Fractional Flow Reserve (FFR) in borderline lesions



$$FFR = \frac{\text{Distal Coronary Pressure (Pd)}}{\text{Proximal Coronary Pressure (Pa)}}$$

(During Maximum Hyperemia)



IMAGING

Adding function to CTA with "noninvasive FFR" ups accuracy, may cut procedures: DISCOVER FLOW

MAY 18, 2011 Shelley Wood

EuroPCR **Paris, France** - As arguments over the necessity of stent procedures and imaging tests approach a fever pitch, a new computer modeling system that can add functional information to standard coronary computed-tomography (CT) angiography may once again shake up the world of diagnostic imaging and clinical decision making.

According to **Dr Bon-Kwon Koo** (Seoul National University Hospital, Korea), who presented the **DISCOVER FLOW** results here at the EuroPCR 2011 meeting, the new technique, dubbed noninvasive fractional flow reserve (FFRCT), can dramatically improve the diagnostic accuracy of CT imaging without the need for an invasive test, adenosine, or additional radiation exposure.

Dr Bon-Kwon Koo

"This noninvasive 'all-in-one' technology may reduce unnecessary invasive coronary angiography and revascularization procedures," Koo said here. "Because this model starts with just conventional CT imaging, there are no [additional] radiation, imaging procedures, or medication. Any CT images, taken from any lab, can be transferred to this novel technology."

Diagnosis of Ischemia-Causing Coronary Stenoses by Noninvasive Fractional Flow Reserve Computed From Coronary Computed Tomographic Angiograms

Results From the Prospective Multicenter DISCOVER-FLOW (Diagnosis of Ischemia-Causing Stenoses Obtained Via Noninvasive Fractional Flow Reserve) Study

Bon-Kwon Koo, MD, PhD,* Andrejs Erglis, MD, PhD,† Joon-Hyung Doh, MD, PhD,‡

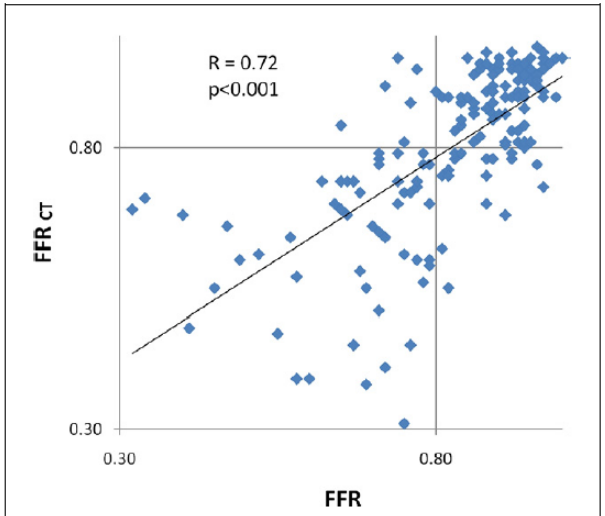
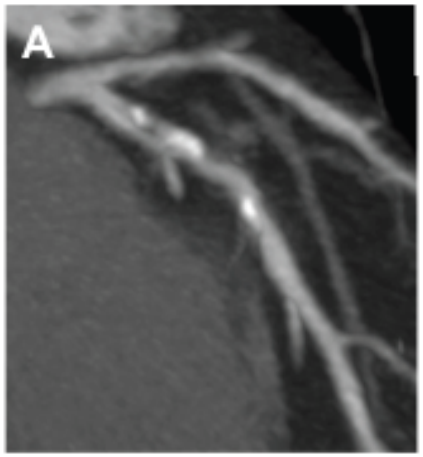


Figure 4 Correlation of FFR_{CT} to FFR

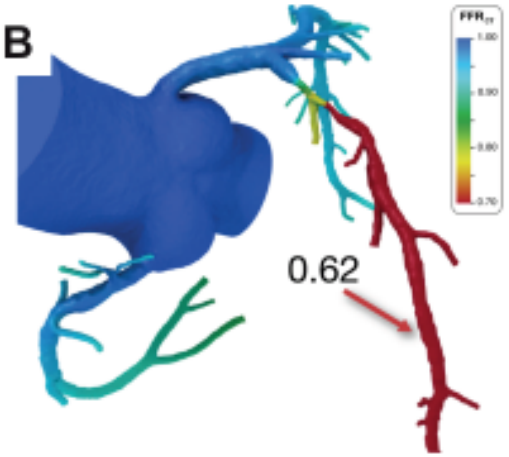
A good correlation (R = 0.72) is observed. Abbreviations as in Figure 1.

J Am Coll Cardiol 2011;58:1989–97

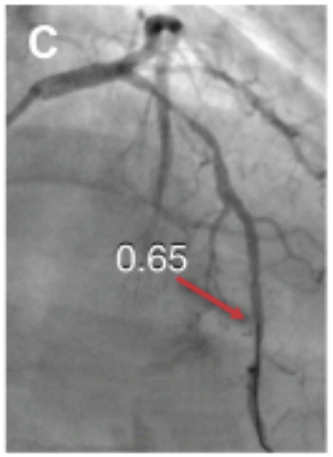
Case Examples



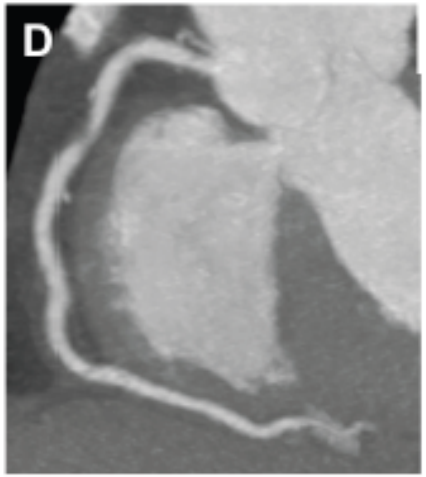
CT stenosis of the proximal LAD



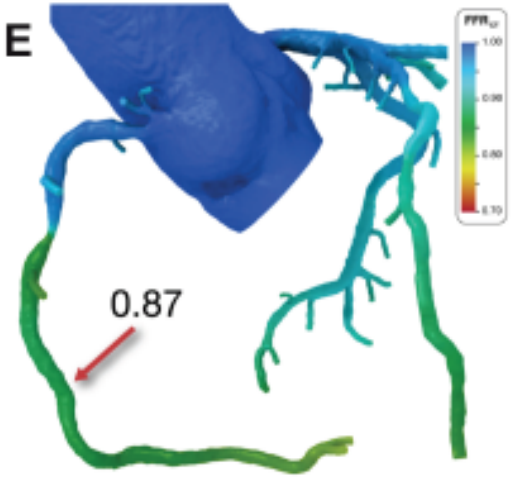
FFR_{CT} of 0.62, indicating vessel ischemia



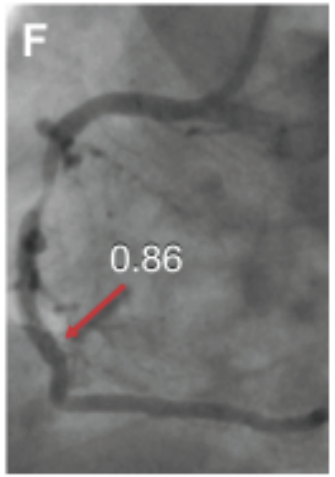
ICA stenosis of LAD, and FFR of 0.65, indicating vessel ischemia



CT stenosis of the mid RCA



FFR_{CT} of 0.87, indicating no vessel ischemia



ICA stenosis of mid RCA, and FFR of 0.88, indicating no vessel ischemia

CT-based FFR saves money by reducing unnecessary PCIs

DeFACTO Study

Projected procedure use, costs, and one-year MI/mortality rate for each diagnostic strategy

Outcome	Invasive angiography	CCTA	CCTA+FFRct
Invasive angiography procedures/100 patients	100	84	51
Vessels treated with PCI/100 patients	98	88	60
One-year death/MI rate (%)	2.7	2.6	2.3
Estimated initial treatment costs per patient ($)	11 500	10 393	7940

SCCT ASM 2012 Oral abstract

// Wednesday, August 14, 2013

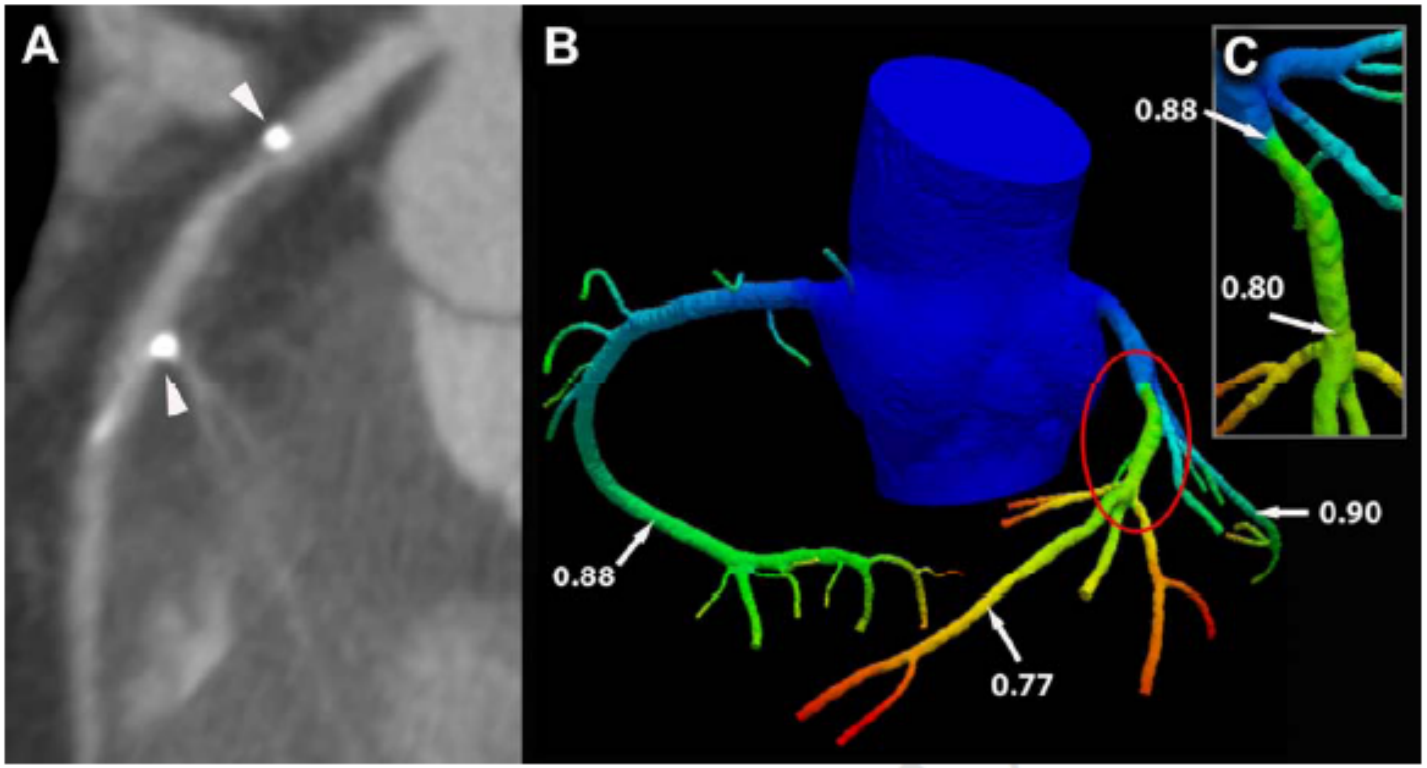
Interventional Cardiologists | Clinical Cardiologists

Coronary disease | *Chronic cardiopathy*

Multislice computed tomography for bioresorbable scaffolds: the end of invasive diagnostic studies?

By: SOLACI.ORG

Original title: *Multislice Computed Tomography Angiography for Non-invasive Assessment of the 18-Months Performance of a Novel Radiolucent Bioresorbable Vascular Scaffolding Device (ABSORB Trial).* ***Reference:*** *Koen Nieman et al. J Am Coll Cardiol, article in press.*



CCTA:
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