**The Society for Cardiovascular Angiography and Interventions**

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**EMBARGOED UNTIL**

**TIME OF PRESENTATION**

**Friday, May 30, 2014**

**2:00 p.m. (Pacific Time)**

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**Fractional Flow Reserve Remains Gold Standard   
in Determining Severity of Coronary Artery Blockages**

*VERIFY-2 Study Finds Two New Coronary Lesion Assessment Measures Do Not Provide Sufficient Accuracy*

**LAS VEGAS (May 30, 2014) –** New measures of the severity of coronary artery blockages do not provide enough accuracy to guide treatment decisions, according to the results of the VERIFY-2 study presented today as a late-breaking clinical trial at the Society for Cardiovascular Angiography and Interventions (SCAI) 2014 Scientific Sessions in Las Vegas.

To aid decisions before performing percutaneous coronary intervention (PCI), interventional cardiologists can use several types of assessments that measure whether a blockage in the coronary artery is limiting blood flow to the heart. Fractional flow reserve (FFR) is a well-validated technique that measures pressure differences across the blockage. FFR-guided PCI improves outcomes compared to angiography alone. However, some interventional cardiologists have been hesitant to use FFR because it requires administration of the drug adenosine, which may not be well tolerated in some patients and adds time to the procedure.

Instantaneous wave-free ratio (iFR) is a new measure which assesses the pressure difference across a stenosis during a specific period of the cardiac cycle. It is measured at rest and does not require the administration of adenosine. Another index of stenosis severity, Pd/Pa, is also measured at rest and without adenosine, but unlike iFR, it does not require any specific measurement software. The previous VERIFY and RESOLVE studies indicated that both iFR and Pd/Pa have similar levels of diagnostic accuracy (about 80%) when compared to FFR. The recent ADVISE II study demonstrated that a hybrid strategy using a combination of iFR and FFR correctly classified 94 percent of lesions compared to a strategy of using FFR in all patients, while avoiding the use of adenosine in two-thirds of the patients in the study.

“The measurement of iFR has recently been introduced to aid interventional cardiologists in their assessment of coronary lesions without the need for adenosine,” said Stuart Watkins, M.D., consultant cardiologist at the Golden Jubilee National Hospital in Glasgow, Scotland. “VERIFY-2 was designed to evaluate the accuracy of this measurement compared to Pd/Pa using FFR as the currently accepted gold standard.”

In the study presented today, researchers examined two hybrid assessment strategies: iFR-FFR with an adenosine-zone of 0.86-0.93 and Pd/Pa-FFR with an adenosine-zone of 0.87-0.94. A total of 97 patients with 120 coronary artery blockages were assessed.

They found 10.1 percent of lesions were misclassified using iFR-FFR, compared to 6.3 percent using Pd/Pa-FFR.

Next, they compared the accuracy of iFR and Pd/Pa compared to FFR using binary cut-off values of 0.90 for iFR and 0.92 for Pd/Pa. In this analysis, the use of iFR alone would result in inappropriate PCI in 8.3 percent of lesions and incomplete revascularization in another 10 percent. Using Pd/Pa alone would result in inappropriate PCI in 4.2 percent of lesions and incomplete revascularization in another 10.8 percent.

Researchers concluded that both hybrid decision making strategies and the use of binary cut-off values resulted in similar levels of lesion misclassification compared to FFR.

“FFR remains the gold standard – we have concluded neither iFR nor Pd/Pa is sufficiently accurate to guide decisions on the need for revascularization,” said Dr. Watkins. “Although these measures aren’t accurate enough to replace FFR, this study adds to our body of knowledge as we work to identify the most effective ways to measure lesion severity.”

Dr. Watkins reported no disclosures.

Dr. Watkins presented “Comparison of Lesion Level Decision Making in the Cath Lab Using Hypermic and Non-hyperemic Pressure Wire Derived Indices of Stenosis Severity: The VERIFY-2 Study,” on Friday, May 30, 2014, at 2:00 p.m. Pacific Time.

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**About SCAI**

The Society for Cardiovascular Angiography and Interventions is a 4,000-member professional organization representing invasive and interventional cardiologists in approximately 70 nations. SCAI's mission is to promote excellence in invasive/interventional cardiovascular medicine through physician education and representation, and advancement of quality standards to enhance patient care. SCAI's public education program, Seconds Count, offers comprehensive information about cardiovascular disease. For more information about SCAI and Seconds Count, visit [www.SCAI.org](http://www.scai.org/) or [www.SecondsCount.org](file:///C:\Users\Kathy\AppData\Local\Microsoft\Windows\Temporary%20Internet%20Files\Content.Outlook\QPKMFQD1\www.SecondsCount.org). Follow [@SCAI](http://www.twitter.com/SCAI) and [@SCAINews](http://www.twitter.com/SCAINews) on Twitter for the latest heart health news, and use #SCAI2014 to join the annual meeting conversation.