Results of the ADVISE trial reported at TCT 2011

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Researchers conducting the ADVISE clinical trial have concluded that a new measure of stenosis severity, instantaneous wave-free ratio (iFR), yielded similar results to traditional fractional flow reserve (FFR) without the use of adenosine to induce maximum hyperemia. Trial results were presented today at the 23rd annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium, sponsored by the Cardiovascular Research Foundation.

FFR, while the leading invasive measure of stenosis severity, is only used in 6% or fewer of percutaneous coronary intervention (PCI) cases in the United States. One of the reasons for the low usage rate is the required use of the drug adenosine, which minimizes and stabilizes coronary resistance during the test, but is uncomfortable for patients, as well as being time-consuming and expensive.

In ADVISE (ADenosine Vasodilation Independent Stenosis Evaluation), 157 stenoses (131 patients) were recruited to this pilot, non–randomized, international, multi-center study. In their investigations, researchers developed a new pressure-based index that does not require adenosine.

Wave intensity analysis identified a period during the normal heart rhythm cycle where intracoronary resistance at rest is similar in variability and magnitude (CV: 0.08±0.06 and 284±147mmHg.s/m) to those during FFR (CV: 0.08±0.06 and 302±315mmHg.s/m, p=NS for both).

The resting ratio of the distal-to-proximal pressure during this period, iFR, correlated closely with FFR (r=0.9, p

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