Physiology-guided percutaneous coronary intervention optimization strategy may lead to improved outcomes

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Results from the randomized controlled TARGET FFR trial show that while a physiology-guided percutaneous coronary intervention (PCI) optimization strategy did not achieve a significant increase in the proportion of patients with final FFR ?0.90, it reduced the proportion of patients with a residual FFR ?0.80 following PCI.

Findings were reported today at TCT Connect, the 32nd annual scientific symposium of the Cardiovascular Research Foundation (CRF).

260 patients were successfully randomized between March 2018 and November 2019 at a single site. Following angiographically successful PCI procedures, patients were randomized (1:1) to receive either a physiology-guided incremental optimization strategy (PIOS intervention group, n=131) or blinded post-PCI coronary physiology measurements (control group, n=129). Patients undergoing successful, standard-of-care PCI for either stable angina or medically stabilized non-ST-segment-elevation myocardial infarction (NSTEMI) were eligible for randomization.

The trial's primary endpoint was defined as the proportion of patients with a final post-PCI FFR result ?0.90. The study found that the incidence of final FFR ?0.90 was 10% higher in the PIOS group than the control group but that the difference was not statistically significant (38.1% vs. 28.1%, p=0.099). However, the study's secondary endpoint, the proportion of patients with final FFR ?0.80, was significantly lower in the PIOS group (18.6% vs 29.8%, p=0.045).

Based on FFR pullback assessment of the stented vessel, a target for further optimization was present in 60 of the 131 (46%) patients randomized to PIOS, and operators considered it appropriate to perform additional post-dilatation +/- stenting in 40 of these 60 (66%) patients. Among patients who had further intervention/optimization performed, mean post-PCI FFR increased significantly from 0.76 to 0.82 (p