

Mesh-covered stent helps restoration of blood flow in heart attack patients undergoing PCI

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A clinical trial found that the use of a next generation, micronet, mesh-covered stent demonstrated improved restoration of blood flow to heart tissue, compared to the use of either bare-metal or drug-eluting stents in heart attack patients undergoing angioplasty. Results of the MASTER trial were presented today at the 24th annual Transcatheter Cardiovascular Therapeutics (TCT) scientific symposium and will appear in the November 6th issue of the *Journal of the American College of Cardiology*. Sponsored by the Cardiovascular Research Foundation, TCT is the world's premier educational meeting specializing in interventional cardiovascular medicine.

The lack of sufficient restoration of blood flow after an angioplasty ([percutaneous coronary intervention](#)) in [heart attack patients](#) is a common issue, and can result in increased size of the affected [heart tissue](#), as well as death. The MASTER trial tested a new stent, the MGuard stent that uses a stent covered in a micronet mesh that is designed to prevent or reduce downstream embolization by holding plaque or thrombus in place against the wall of the blocked artery.

Between July 22, 2011 and May 29, 2012, 433 heart attack patients were enrolled and randomized at 50 sites in nine countries. The median age was 59; 24 percent were female. 217 patients received the new stent and 216 patients receiving either a drug-eluting stent (DES) or bare-metal stent (BMS) were in the control group.

The primary endpoint was the rate of complete (≥ 70 percent) ST-

segment resolution (STR) at 60-90 minutes following the procedure. In the group of patients with the mesh-covered stent, the rate of complete ST-segment resolution was 57.8 percent; in the control group, the rate was 44.7 percent.

"Among heart attack patients undergoing primary percutaneous coronary intervention, the micronet, mesh-covered stent compared to conventional bare-metal and drug-eluting stents resulted in superior rates of epicardial coronary flow and complete ST-segment resolution," said study chairman, Gregg W. Stone, MD. Dr Stone is Professor of Medicine at Columbia University College of Physicians and Surgeons and Director of Cardiovascular Research and Education at the Center for Interventional Vascular Therapy at NewYork-Presbyterian Hospital/Columbia University Medical Center.

"A larger randomized trial is warranted to verify these findings, and determine whether these benefits result in reduced infarct size and/or improved clinical outcomes," said Dr. Stone.

Provided by Cardiovascular Research Foundation

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