



57th Annual Scientific Session
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**NOVEL IMAGING TECHNIQUE REVEALS BENEFIT (OR NOT) OF
LIPID-LOWERING THERAPY**

*Aggressive atorvastatin treatment guided by USPIO-enhanced MRI reduced
inflammation and stroke risk in selected patients*

CHICAGO, IL – Treatment options for people with diseased coronary or carotid arteries have traditionally been based on the degree of stenosis, or narrowing, of the vessel. More and more, however, studies reveal that stenosis is just one piece of the atherosclerosis puzzle and that other factors, including inflammation, also play a role.

A novel technique that uses a unique contrast agent during high-resolution magnetic resonance imaging can detect macrophage activity – a sign of inflammation – and is allowing clinicians to individualize their treatment for atherosclerosis and improve outcomes, according to a study presented today at the American College of Cardiology's 57th Annual Scientific Session. ACC.08 is the premier cardiovascular medical meeting, bringing together cardiologists and cardiovascular specialists to further breakthroughs in cardiovascular medicine.

In this study, patients with carotid artery disease were imaged with USPIO (Ultra Small Particles of Iron Oxide)-enhanced high-resolution MRI to determine their inflammation levels. Study participants were then randomized to receive either 80 mg (aggressive high-dose therapy, n=20) or 10 mg (low dose, n=20) atorvastatin daily for 12 weeks. Both groups were imaged at 6 and 12 weeks to document any changes in the degree of inflammation as well as the number of small clots, or emboli, given off by the plaque in the diseased artery. By 12 weeks, both inflammation and emboli were significantly reduced in the aggressive, high-dose group compared with the low-dose group.

“The real star of this study is this new way of imaging, which allows you to zero in on what is actually going on in these arteries. Once you know this, then you can individualize therapy accordingly,” said Jonathan H. Gillard, M.D., Academic Neuroradiologist, Cambridge University, Cambridge, UK, and study coauthor. “This study tells us that if you randomize patients who have inflammation of the carotid artery to a high dose of atorvastatin, you substantially reduce the amount of inflammation and risk of stroke, whereas low dose atorvastatin does not reduce risk. And thanks to this imaging technique, we can now figure out which patients need the aggressive treatment before we begin our therapy. This novel MRI can allow us to give better targeted care to the individual patient; this is personalized medicine.”

Dr. Gillard will present this study, “Effects of Aggressive Versus Conventional Lipid-Lowering Therapy by Atorvastatin on Inflammatory Activity in Human Carotid Atherosclerotic Plaques: A Prospective Randomized Double-Blind Trial With USPIO-Enhanced High Resolution Magnetic Resonance Imaging.” on Monday, March 31, at 1:45pm, in Vista Room S406.

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The American College of Cardiology (www.acc.org) represents the majority of board certified cardiovascular physicians in the United States. Its mission is to advocate for quality cardiovascular care through education, research, promotion, development and application of standards and guidelines- and to influence health care policy. ACC.08 is the largest cardiovascular meeting, bringing together cardiologists and cardiovascular specialists to share the newest discoveries in treatment and prevention, while helping the ACC achieve its mission to address and improve issues in cardiovascular medicine.