



HDL infusion improves plaque characteristics: results of ERASE trial

Short-term infusion of CSL-111, a reconstituted HDL, produced significant improvement in plaque characteristics compared with placebo, according to the ERASE trial.¹

The ERASE (Effect of Reconstituted High-Density Lipoprotein on Atherosclerosis: Safety and Efficacy) trial was a randomised placebo-controlled study conducted at 17 centres in Canada. Between July 2005 and October 2006, patients aged 30-75 years with a clinical need for coronary angiography were randomly assigned to receive 4-weekly infusions of either CSL-111 (40 mg/kg or 80 mg/kg) or placebo within 2 weeks of having an acute coronary syndrome (unstable angina, or non-ST-segment or ST-segment elevation myocardial infarction). Intravascular ultrasound (IVUS) was performed to measure coronary atheroma at baseline and 2 to 3 weeks after the last study infusion. The primary efficacy parameter was the percentage change in atheroma volume. Secondary prespecified endpoints included changes in plaque volume and the plaque characterization index on IVUS and coronary score on quantitative coronary angiography.

In total, 183 patients had a baseline IVUS examination; 60 received placebo, 111 CSL-111 40 mg/kg and 12 received CSL-111 80 mg/kg. The higher-dose CSL-111 treatment group was discontinued early because of liver function test abnormalities. 145 patients had evaluable serial IVUS examinations after 6 weeks.

There was no significant difference between CSL-111 and placebo groups with respect to either the decrease in percent atheroma volume (-3.4% vs. -1.6% for placebo, $p=0.48$) and the change in plaque volume (-5.3 mm^3 vs. -2.3 mm^3 with placebo, $p=0.39$) between groups. However, there was significant reduction in atheroma volume and plaque volume in the CSL-111 group relative to baseline ($p<0.001$). In addition, CSL-111 significantly improved the plaque characterization index on IVUS (-0.0097 for CSL-111 vs. 0.0128 with placebo, $p=0.01$) and coronary score on quantitative coronary angiography (-0.039 mm for CSL-111 vs. -0.071 mm with placebo, $p=0.03$). Treatment with CSL-111 40 mg/kg was associated with mild, but self-limiting increases in transaminases but was otherwise well tolerated.

The investigators concluded that elevation of HDL remains a valid target in vascular disease. The results of ERASE warrant further study of HDL infusions, including trials with clinical end points. The study was simultaneously published in JAMA 26 March 2007, 297: doi:10.1001/jama.297.15.jpc70004.

Reference

1. Effect of Reconstituted High-Density Lipoprotein on Atherosclerosis: Safety and Efficacy (The ERASE Trial). Presented at 56th Annual American College of Cardiology Scientific Sessions, New Orleans, 24-27 March 2007. Abstract 405-10.