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DYSLIPIDAEMIA

Apo-AI infusion after acute MI

An infusion of CSL112, a reconstituted, plasma-derived apolipoprotein (apo) A-I, in patients with an acute myocardial infarction (MI) is safe, well tolerated, and enhances cholesterol efflux capacity. This finding comes from the phase IIb AEGIS-I trial, which was presented at the AHA Scientific Sessions 2016, and simultaneously published in *Circulation*.

ApoA-I is the primary functional component of HDL, which removes excess cholesterol from atherosclerotic plaque. Plaque burden is thereby reduced, and vulnerable plaque can be stabilized. HDL function can be measured *ex vivo* as cholesterol efflux capacity.

A total of 1,258 patients who had experienced an MI (61.6% with ST-segment elevation MI, 38.4% with non-ST-segment elevation MI) in the past 7 days were randomly assigned to CSL112 (2 g or 6 g apoA-I per dose) or placebo for four weekly infusions. Overall, 91.2% of patients received all four infusions.

Hepatic impairment (defined as an increase in alanine transaminase level more than threefold the upper limit of normal, or an increase in total bilirubin level more than twofold the upper limit of normal) occurred in none of the patients (0%) in the placebogroup, four patients (1.0%) in the 2 g dose group, and two patients (0.5%) in the 6 g dose group; neither active-treatment group was significantly different from the placebo group. Similarly, renal impairment (defined as an increase in serum creatinine levels >1.5-fold the baseline value or new requirement for renal replacement therapy) occurred in one (0.2%), zero (0%), and three (0.7%) patients in each group, respectively, with no significant difference between the groups.

CSL112 infusion caused a dose-dependent elevation in both apoA-I level and cholesterol efflux capacity. Investigators have suggested that "improvements in HDL function, rather than HDL concentration, may be more important for the stabilization of atherosclerotic plaque lesions and the reduction of cardiovascular events".

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ORIGINAL ARTICLE Gibson, C. M. *et al.* Safety and tolerability of CSL112, a reconstituted, infusible, plasma-derived apolipoprotein A-I, after acute myocardial infarction: the AEGIS-I trial (ApoA-I Event Reducing in Ischemic Syndromes I). *Circulation* http://dx.doi.org/10.1161/CIRCULATIONAHA.116.025687 (2016)