

ACUTE CORONARY SYNDROMES

Statins and coronary plaque progression

Statin treatment promotes significant regression of coronary plaque volume in patients with acute coronary syndromes. These findings from a study by Takafumi Hiro and colleagues in Japan support the hypothesis that statins could reverse the process of atherosclerosis.

“Evidence is now emerging that statin treatment causes regression of atherosclerotic plaques”

Statins are effective in reducing the levels of proatherogenic lipoproteins and are associated with reduced risks of cardiovascular-related morbidity and mortality. Evidence is now emerging that statin treatment causes regression of atherosclerotic plaques. However, little is known about the effects of these drugs on plaque progression in the setting of

acute coronary syndromes. To determine whether statins do indeed promote plaque regression, Hiro and colleagues conducted a prospective, multicenter trial to assess whether pitavastatin and atorvastatin, two statins that are available in Japan, South Korea and Thailand, would be effective in reducing coronary plaque volume in patients with acute coronary syndromes.

A total of 307 patients with acute coronary syndromes who had undergone successful percutaneous coronary intervention were selected from 33 centers in Japan. Patients were randomly assigned to receive either pitavastatin (4 mg daily, $n = 153$) or atorvastatin (20 mg daily, $n = 154$) within 72 h of treatment with percutaneous coronary intervention. Plaques were analyzed using intravascular ultrasound imaging before treatment (baseline), and 8–12 months after treatment. Images suitable for analysis were available for 125 patients treated with pitavastatin and 127 treated with

atorvastatin. Both drugs produced similar reductions in LDL-cholesterol levels and increases in HDL cholesterol and triglyceride levels. Notably, both drugs were also equally effective in producing significant 18% reductions in plaque volume, which amounted to visible regression of plaques in about 80% of the patients.

“Although the direct relationship between coronary plaque regression and clinical outcome has not been clarified yet, we hope changes in plaque volume might represent changes in the prevalence of future cardiac events,” says Hiro, adding, “Further examinations in the near future would be needed to determine the relationship.”

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Original article Hiro, T. *et al.* Effect of intensive statin therapy on regression of coronary atherosclerosis in patients with acute coronary syndrome. *J. Am. Coll. Cardiol.* 54, 293–302 (2009).