Impact of Combined Lipid Lowering with Calcium Channel Antagonist-based Blood Pressure Control on Coronary Plaque Regression: MILLION Study

Category: Pharmacotherapy

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Background: Recent clinical studies showed that aggressive LDL-C lowering therapy using statins could regress coronary atheroma and reduce major cardiovascular events. Additionally, therapy that controlled calcium channel antagonists such as amlodipine-based blood pressure reduced major cardiovascular events in patients with hypertension compared with an atenolol-based regimen.

Methods: An open-label randomized multicenter study is primarily planned to evaluate the changes in coronary atheroma volume using intravascular ultrasonography (IVUS) 18 - 24 months after LDL-C lowering by atorvastatin-based therapy and blood pressure lowering by amlodipine-based therapy. Percent atheroma volume is calculated by the formula:

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\frac{\text{EEM}_{\text{area}} - \text{lumen}_{\text{area}}}{\text{EEM}_{\text{area}}} \times 100, \text{ where EEM}_{\text{area}} \text{ is the cross-sectional area of the EEM, and lumen}_{\text{area}} is the cross-sectional area of the lumen.}
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Patients after area successful PCI with LDL-C levels more than 100 mg/dL with or without cholesterol-lowering therapy are included. The participants are divided into intensive treatment group, the target LDL-C and blood pressure is 70 mg/dL and 120/70 mmHg, and standard treatment group, 100 mg/dL and 140/90 mmHg, indicated by current guidelines in Japanese patients with CAD. The patients with cardiogenic shock, diabetes mellitus under insulin injection therapy, hypertension treated with dihydropyridine calcium channel blockers for more than 6 months and familial hypercholesterolemia are excluded. The patients already under cholesterol-lowering therapy with atorvastatin, pitavastatin and rosuvastatin are also excluded. In total, 100 subjects with CAD who are undergoing PCI will be tested.
**Results:** The results will be presented on site.

**Conclusions:** Conclusion. The MILLION study will provide new evidence and therapeutic standards for the prevention of CAD in Japanese patients by controlling both LDL-C levels and blood pressure.

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