

CAYMAN PULSE

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The Importance of Blood Pressure and LDL in CAD

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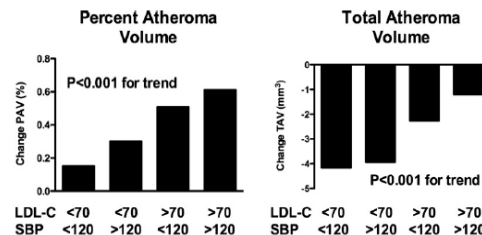
Strong evidence suggests that intensive risk factor management has a beneficial impact on coronary artery disease (CAD) and underscores the need to achieve optimal management of global risk in patients at risk for CAD. LDL cholesterol plays an important role in the progression of atherosclerosis and clinical trials have demonstrated that lowering LDL prevents cardiovascular events. As a result, the U.S. National Cholesterol Education Program (NCEP) guidelines now include an LDL goal <100 mg/dl for patients with CAD and an optional goal <70 mg/dl for higher risk patients.

Hypertension is very common in patients with CAD, and recent evidence has challenged the concept that blood pressure (BP) need only be treated when >140/90 mmHg. Cardiovascular events are reduced when BP is within the normal range (<120/80 mmHg). As a result, the JNC-7 guidelines introduce the concept of prehypertension, defined as a BP of 120-139/80-89 mmHg. Prehypertension increases cardiovascular event rates 2-fold compared with normal BP, emphasizing the heightened risk in patients with even mild BP elevations.

Precise quantification of coronary plaque volume has demonstrated that intensive lowering of LDL cholesterol can halt the progression of CAD or even lead to plaque regression. These observations suggest a potential mechanism for the reduction in cardiovascular events with LDL lowering therapy. Importantly, evidence suggests that optimal control of LDL and BP **together** has the greatest benefit in terms of slowing plaque progression (Figure).

Despite the benefits of LDL and BP control, many patients remain suboptimally treated, even patients at high cardiovascular risk. Only 40-50% of patients achieve LDL targets in the U.S. and Europe, and antihypertensive medication is prescribed in only 25-50% of patients with hypertension in North America and Europe. Global rates of hypertension control to <140/90 mm Hg range from only 5.4% in Korea to 58% in Barbados.

In order to reduce cardiovascular events in patients with established CAD or at risk for CAD, it is necessary to aggressively treat cholesterol and blood pressure. The Global Cardiovascular Disease Task Force has set targets to reduce the prevalence of hypercholesterolemia by 20% and hypertension by 25% worldwide by the year 2025. Conservative measures such as dietary modification, exercise, weight loss, and sodium restriction may be beneficial in the treatment of these risk factors; however, if such measures are not effective, then appropriate medical therapy should be recommended to help patients achieve their LDL and BP targets.



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