

Abstract

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Small dense LDL particles--a predictor of coronary artery disease evaluated by invasive and CT-based techniques: a case-control study.

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BACKGROUND: Coronary angiography is the current standard method to evaluate coronary atherosclerosis in patients with suspected angina pectoris, but non-invasive CT scanning of the coronaries are increasingly used for the same purpose. Low-density lipoprotein (LDL) cholesterol and other lipid and lipoprotein variables are major risk factors for coronary artery disease. Small dense LDL particles may be of particular importance, but clinical studies evaluating their predictive value for coronary atherosclerosis are few.

METHODS: We performed a study of 194 consecutive patients with chest pain, a priori considered of low to intermediate risk for significant coronary stenosis (>50% lumen obstruction) who were referred for elective coronary angiography. Plasma lipids and lipoproteins were measured including the subtype pattern of LDL particles, and all patients were examined by coronary CT scanning before coronary angiography.

RESULTS: The proportion of small dense LDL was a strong univariate predictor of significant coronary artery stenosis evaluated by both methods. After adjustment for age, gender, smoking, and waist circumference only results obtained by traditional coronary angiography remained statistically significant.

CONCLUSION: Small dense LDL particles may add to risk stratification of patients with suspected angina pectoris.

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