

Abstract

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Remnant-like particle (RLP) cholesterol is an independent cardiovascular disease risk factor in women: results from the Framingham Heart Study.

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BACKGROUND: Remnants of triglyceride-rich lipoproteins (TRL) of both intestinal and liver origin are considered to be atherogenic, but separation of remnant lipoproteins from other TRL is difficult. An assay has been developed that allows immunoseparation of remnant-like particles (RLP) and measurement of cholesterol (RLP-C) and triglyceride (RLP-TG).

METHODS: We measured RLP-C and RLP-TG in fast plasma samples obtained from 1567 women participating in cycle 4 of the Framingham heart study (FHS).

RESULTS: When values from 83 women with cardiovascular disease (CVD) were compared with the values from 1484 women without disease, concentrations in women with CVD were found to be significantly higher for both RLP-C (0.215±0.102 vs. 0.186±0.162 mmol/l; +15.6%; P<0.0001) and RLP-TG (0.319±0.352 vs. 0.251±0.716 mmol/l; +27.0%; P<0.0002). Logistic regression analysis revealed that RLP-C was significantly associated with prevalent CVD in women (P<0.002) after adjustment with other major risk factors.

CONCLUSION: In conclusion, we have documented that RLP-C is an independent risk factor for CVD in women, and provides significantly more information than do triglycerides.

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