Lipoprotein(a) and clinical outcomes in patients after revascularization of peripheral arteries

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Topic(s):
Peripheral Vascular and Cerebrovascular Disease – Epidemiology, Prognosis, Outcome

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Background: Randomized trials have proved the reduction of cardiovascular events due to LDL-cholesterol level decrease. However, despite high-intensity statin therapy, there is a residual risk, that could be associated with lipoprotein(a) [Lp(a)]. It has been shown that there is an association between elevated Lp(a) level and cardiovascular outcomes in patients with coronary heart disease. Data about the role of Lp(a) in the development of cardiovascular events after revascularization of peripheral arteries are scarce.

Purpose: To evaluate the relationship of Lp(a) level with cardiovascular outcomes after revascularization of carotid and lower limbs arteries.

Methods: The study included 258 patients with severe carotid and/or lower extremity artery disease, who underwent successful elective revascularization. The primary endpoint was the composite of nonfatal myocardial infarction, nonfatal stroke, or cardiovascular death. The secondary endpoint was the composite of transitory ischaemic attack, limb amputation, hospitalization for unstable angina, or revascularization surgery.

Results: During 36 months follow-up 29 (11%) primary and 113 (44%) secondary endpoints were registered. It was noted greater rate of primary (21 [8%] vs. 8 [3%]; hazard ratio [HR], 3.0; 95% confidence interval [CI] 1.5–6.3; p<0.01) and secondary endpoints (72 [28%] vs. 41 (16%), HR, 2.5; 95% CI 1.7–3.7; p<0.01) in patients with elevated Lp(a) level (≥30 mg/dl) compared to patients with Lp(a) <30 mg/dl (Picture). Multivariable-adjusted Cox regression analysis revealed that Lp(a) was independently associated with incidence of cardiovascular outcomes.

Conclusions: Patients with peripheral artery diseases have a high risk of cardiovascular events and the level of Lp(a) ≥30 mg/dl is an independent predictor of cardiovascular events in prospective 3-year follow-up after revascularization of carotid and lower limbs arteries.
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