

Prof.Dr. Cemşid Demiroğlu | Association of lipoprotein(a) concentration and apo(a) isoform size with restenosis after percutaneous transluminal coronary angioplasty

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Lp(a) is a unique class of lipoprotein particles that exhibits a considerable size heterogeneity resulting from the size polymorphism of apo(a), its unique protein component. An elevated level of Lp(a) in plasma has been proposed to be a risk factor for premature development of coronary artery disease. To evaluate the relationship between Lp(a) concentration and apo(a) isoform size with restenosis after percutaneous transluminal coronary angioplasty, Lp(a) levels and apo(a) phenotypes were determined in 204 patients who underwent a successful coronary angioplasty procedure and stent implantation. The patients were followed with clinical examinations and exercise tests at 1, 3, and 6 months, and a control coronary angiography was performed after 6 months to evaluate restenosis. Lp(a) levels were determined with an ELISA that is insensitive to the size heterogeneity of Lp(a), and the apo(a) isoforms were determined by a high-resolution agarose gel electrophoresis method followed by immunoblotting with a specific monoclonal antibody. Of the 146 patients who underwent angiographic evaluation, 57 (39%) had restenosis, whereas 89 (61%) did not. Lp(a) levels and the distribution of the expressed apo(a) phenotypes were compared in these two groups of patients. Although the mean and median Lp(a) levels were higher in the restenosed group, the difference was not statistically significant. However, a significant difference in Lp(a) values was found in women ($P=0.043$), even though, because of the small number of women in the study ($n=35$), no sound conclusions can be reached on the predictive role of Lp(a) in restenosis. There also was no difference in the distribution of apo(a) phenotypes between the two groups. Because of their wide distribution, Lp(a) values and apo(a) isoforms do not seem to be a useful indicator of risk of restenosis after percutaneous transluminal coronary angioplasty in our study cohort.

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