

## Back to basics: lipoprotein(a) patterns in patients undergoing coronary angiography, a tertiary center study

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**KEYWORDS:** lipoprotein a, cardiovascular disease, coronary angiography.

**CITATION:** *Cardiol Croat.* 2024;19(11-12):472. | <https://doi.org/10.15836/ccar2024.472>

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**Introduction:** Elevated lipoprotein a [Lp(a)] levels are strongly associated with adverse cardiovascular events.<sup>1</sup> It is commonly believed that Lp(a) does not change throughout a person's lifetime and is not affected by oral hypolipidemic therapies. With novel therapies targeting elevated Lp(a), such as inclisiran and pelacarsen, research has been expanding, including observations of intrapersonal variability, impact of comorbidities and regional Lp(a) differences on cardiovascular health, thus putting into question prior beliefs. Our goal is to establish frequency of elevated Lp(a), Lp(a) levels in subgroups of patients undergoing coronary angiography and its relationship to sociodemographic and clinical characteristics.

**Patients and Methods:** Our study included 119 patients who underwent coronary angiography at Dubrava University Hospital from July to October 2024.

**Results:** Median age was 62 years, the majority were male (76.5%) and had acute coronary syndrome (70.3%). Lp(a) was drawn at admission, median level was 29,85 nmol/L (IQR 10.5-142.6). Elevated Lp(a) was detected in 37 (31.1%) patients (cut off value 105). We compared Lp(a) levels according to patients' sociodemographic and clinical characteristics. There was no significant difference in Lp(a) levels in any of the subgroups, however we noticed some trends. Median Lp(a) was higher in patients under 65 years (40 vs 27), women (41 vs 27), nonsmokers (36 vs 30 for smokers and 13 for ex-smokers), family history of cardiovascular events (46 vs 27), chronic obstructive pulmonary disease (114 vs 30) and left main affection (42 vs 27). Interestingly, Lp(a) was lower in acute coronary syndrome versus chronic (33 vs 106) and chronic total occlusion (33 vs 22). Lp(a) was also lower in patients with prior comorbidities typically associated with elevated cardiovascular risk – arterial hypertension (24 vs 62), stroke (20 vs 36), diabetes mellitus (22 vs 42) and peripheral artery disease (21 vs 37). Lower Lp(a) levels were also measured in patients with prior statin therapy (20 vs 40).

**Conclusion:** Although there was no significant difference in Lp(a) levels between the subgroups, some interesting trends were observed that might put prior knowledge of Lp(a) to test. As we include more patients, we plan to further expand our research on Lp(a) and its effects on long term outcomes in follow up.

RECEIVED:

October 13, 2024

ACCEPTED:

October 31, 2024



**LITERATURE**                            

1. Vinci P, Di Girolamo FG, Panizon E, Tosoni LM, Cerrato C, Pellicori F, et al. Lipoprotein(a) as a Risk Factor for Cardiovascular Diseases: Pathophysiology and Treatment Perspectives. *Int J Environ Res Public Health.* 2023 Sep 6;20(18):6721. <https://doi.org/10.3390/ijerph20186721>