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Short-term reproducibility and reclassification of lipoprotein(a) after coronary angiography: a single-centre registry analysis

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Introduction: Lipoprotein(a) is largely genetically determined and is recommended to be measured once in every adult. In coronary practice, however, a second measurement is often ordered when the first sample was drawn during an acute presentation or lies close to a decision threshold. Whether repeat testing changes clinical classification, and in whom, has not been examined in a Croatian coronary population.[1] We evaluated short-term agreement between paired lipoprotein(a) measurements and identified the baseline values most likely to be reclassified.

Patients and Methods: We retrospectively analyzed the University Hospital Dubrava Coronary Angiography Registry for patients who underwent invasive angiography between 15 June 2024 and 1 January 2026. Patients with a valid baseline lipoprotein(a) formed the source cohort; those with a first repeat measurement within six months formed the repeat-testing cohort. Lipoprotein(a) was measured in nmol/L with the Roche Tina-quant Lipoprotein(a) Gen.2 assay (cobas). Values were classified as <75, 75–124 and ≥125 nmol/L. Agreement was assessed by Spearman correlation and the log-scale intraclass correlation coefficient; reclassification was compared by baseline category and by acute versus elective presentation.

Results: Of 2,611 patients with a valid baseline lipoprotein(a), 343 (13.1%) were retested within six months (median age 65 years, 27.1% women, 50.4% acute presentations). Retested patients more often had elevated baseline values than those tested once (≥125 nmol/L: 27.4% vs 21.6%). Paired values agreed closely: in 293 numeric pairs Spearman rho was 0.919 and the log-scale intraclass correlation coefficient 0.915 (95% CI 0.848–0.956). Nevertheless, 35 patients (10.2%) changed category, almost all from the intermediate band: 22 of 32 (68.8%) with baseline 75–124 nmol/L were reclassified, compared with 13 of 311 (4.2%) with clearly low or clearly elevated values. Reclassification did not differ significantly between acute and elective presentations.

Conclusion: A single lipoprotein(a) measurement is reliable when the result is clearly low or clearly elevated, and routine re-testing of such patients is unlikely to change management. Repeat measurement earns its place only when the first value falls in the 75–124 nmol/L band, where two in three patients are reclassified – expected from assay and biological variability, yet clinically consequential. The decision to retest should be driven by the first result rather than by the clinical setting. Within the limits of a selected cohort, these data support a targeted rather than universal repeat-testing strategy after coronary angiography.

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LITERATURE

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