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Lack of association between Lp(a) and retinal vein occlusion in a single institution and U.S. national database

tl;dr

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Abstract

Purpose

This study aims to examine associations between lipoprotein(a) (Lp[a]), a low-density-like lipoprotein, and renal vein occlusion (RVO) in U.S. cohorts to characterize its prognostic role in the setting of RVO.

Design

phase retrospective cohort stu

Methods

In the first phase, patients with RVO and a Lp(a) quantitative laboratory value at a single tertiary centre were reviewed. Lp(a) status was assessed in association with age of RVO diagnosis, visual acuity, time to development of RVO, and central subfield thickness. In the second phase, the TriNetX U.S. Collaborative Network, a large national database, also was queried for the presence of high or low Lp(a) values and diagnoses of RVO.

Results

The single tertiary care centre identified 45 patients with RVO and a laboratory value of Lp(a), finding no significant associations with respect to Lp(a) status and age of RVO onset, time from the laboratory draw to the development of RVO, visual acuity, and central subfield thickness ($p > 0.05$ for all). The TriNetX national database identified 35,687 patients with a high Lp(a) value (>30 mg/dL or 61 nmol/L) and 51,692 with a low Lp(a) value. An elevated Lp(a) value was not associated with higher odds of central (odds ratio [OR] = 1.15; 95% CI, 0.88–1.50) or branch RVO (OR = 1.01; 95% CI, 0.76–1.36).

Conclusion

Taken together, this analysis suggests a lack of association between Lp(a) value and risk of RVO. This study highlights the benefit of large national databases in the validation of laboratory value predictors identified through small-cohort observational studies.