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Bempedoic acid after myocardial infarction: early LDL cholesterol response and opportunities to improve target attainment

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Introduction: Early attainment of the low-density lipoprotein cholesterol (LDL-C) target below 1.4 mmol/L is a cornerstone of secondary prevention after myocardial infarction, and guidelines recommend prompt escalation to combination therapy when maximal statin and ezetimibe are insufficient. Bempedoic acid lowers LDL-C by about 18% on this background and reduces cardiovascular events, yet real-world data on its uptake and early response after infarction are scarce.[1,2] We assessed bempedoic acid use and early LDL-C response within a routine statin–ezetimibe discharge pathway and modelled the potential for improving target attainment through timely intensification.

Patients and Methods: Retrospective single-centre registry analysis of 775 consecutive patients admitted with ST-elevation or non-ST-elevation myocardial infarction to University Hospital Dubrava between January 2025 and July 2026; myocardial infarction with non-obstructive coronary arteries was excluded. The standard discharge regimen was atorvastatin 80 mg plus ezetimibe 10 mg, with documented exceptions. Follow-up data were collected up to 1 October 2026. In patients started on bempedoic acid, LDL-C before initiation was compared with the earliest measurement within four months of treatment; target attainment was LDL-C <1.4 mmol/L. An exploratory analysis modelled an additional 18% reduction in adherent patients on maximal statin plus ezetimibe with LDL-C ≥1.4 mmol/L who had not been offered bempedoic acid, assuming unchanged background therapy; reimbursement eligibility was not assessed.

Results: Of 698 survivors, 624 (89.4%) had follow-up LDL-C and 284 (45.5%) were at target. Of 340 patients above target, bempedoic acid was offered to 102 (30.0%) and taken by 68, so two-thirds of patients above target had not been offered further intensification. Among treated patients, mean LDL-C fell from 2.04±0.40 to 1.51±0.38 mmol/L (absolute reduction 0.53 mmol/L; mean per-patient relative reduction 26.2%) and 22 (32.4%) reached target. In 132 patients eligible for the exploratory analysis, an 18% reduction would lower mean LDL-C from 1.67 to 1.37 mmol/L and bring 91 (68.9%) to target, raising overall attainment from 45.5% to 60.1%.

Conclusion: In routine post-infarction care, bempedoic acid was associated with a 26.2% early LDL-C reduction, exceeding trial estimates, and one-third of treated patients reached target. Most patients above target were nevertheless not offered intensification; conservative modelling suggests systematic reassessment could raise attainment by about 15 percentage points. These observational findings and projections must be interpreted in the context of background therapy and reimbursement criteria.

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