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Background: Many observational studies showed HDL-C is strong inverse predictor of CV outcome. However, interventional studies to raise HDL-C have failed to show the protective role of HDL-C. **Methods and Results:** A total of 28,357 AMI patients were enrolled in the Korea Acute Myocardial Infarction Registry (KAMIR) which was a prospective, web-based database of AMI in Korea. From this registry, we evaluated 3,574 patients with AMI who have follow-up HDL-C level to investigate its association with clinical outcomes. The primary endpoint was the relationship between follow-up change in HDL-C and a 12-month composite of MACEs. Patients with initial HDL-C > 40 mg/dL showed significantly lower rates of 12-month MACEs, especially cardiac and all-cause mortalities ($p < 0.001$). When patients were stratified into 4 group according to the change of HDL-C, patients with decreasing HDL-C showed significantly higher rates of 12-month MACEs as comparable with patients with increasing HLD-C. A multivariate analysis indicated that HDL-C level was a significant predictor of CV events (hazard ratio, 1.38; 95% confidence interval, 1.12 - 1.71) after correcting for confounding variables. **Conclusion:** The follow-up change in HDL-C level was significantly related with CV outcomes in patients with AMI.