BACKGROUND

There has been considerable discussion regarding the value of follow up LDL-C measurements after initiation of statin therapy for secondary prevention. We therefore set out to determine in a large integrated healthcare system whether measurement of LDL-C after an atherosclerotic cardiovascular disease (ASCVD) event was associated with a difference in major adverse cardiac events (MACE) during follow-up.

METHODS

Intermountain Healthcare patients who were ≥18 years of age, had an ASCVD diagnosis of coronary artery disease (CAD), cerebrovascular disease (CVD), or peripheral artery disease (PAD) between January 1, 1999 and December 31, 2013, who survived the index ASCVD event, and who had ≥3 years of follow-up were studied. Patient demographics, history, prescribed medications, and whether an LDL-C was measured were analyzed.

RESULTS

• A total of 62,070 patients met study criteria (CAD: 69.3%, CVD: 18.6%, PAD: 12.1%).
• 31,184 (50.2%) did not have and 30,886 (49.8%) did have a follow-up LDL-C measurement.
• A total of 66,814 patients met study criteria (CAD: 69.3%, CVD: 18.6%, PAD: 12.1%).
• 31,184 (50.2%) did not have and 30,886 (49.8%) did have a follow-up LDL-C measurement.
• Overall and all individual components of MACE are significantly different based on measurement of LDL-C (Figure 4).
• The multivariable, long-term hazard ratios for MACE based on measuring an LDL-C were 0.46, 0.33, and 0.60 at 1 year, 3 years, and long-term, respectively.
• A statin was prescribed to 72.4% of all patients during follow-up. Frequencies of 3-year overall MACE and its individual components with respect to statin therapy and LDL-C measurement are shown in Figure 5. Statin therapy without measurement of LDL-C did not lower overall MACE to the level of those with measurement of LDL-C.

CONCLUSIONS

These data indicate that there is a significant and clinically meaningful difference in MACE based on a follow-up measurement of LDL-C. While these results are limited in that they are from a retrospective registry, they suggest that measurement of an LDL-C after an initial ASCVD event is part of a management strategy that is associated with a decrease in MACE, particularly death. Even though there is a significant benefit associated with measurement of LDL-C in all populations of ASCVD (CAD, CVD, PAD), a higher percentage of patients with CVD and PAD do not have measurements of LDL-C. Administration of statin therapy without measurement of LDL-C did not lower overall MACE to the levels observed in patients for whom LDL-C was measured.

The study was supported by a grant from the Medicines Company to Intermountain Healthcare.