Low-density lipoprotein cholesterol lowering therapy and target level attainment after a recent myocardial infarction - nationwide cohort study

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Topic(s):
Acute Coronary Syndromes: Pharmacotherapy

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Background: Lowering low-density lipoprotein cholesterol (LDL-C) reduces the risk of cardiovascular disease after a myocardial infarction (MI). The European Society of Cardiology (ESC) guidelines recommend lipid lowering therapy to reach LDL-C treatment targets after an MI.

Purpose: To assess LDL-C target level attainment according to the ESC guidelines among patients with a recent MI in Sweden.

Methods: We used data from nationwide registers in Sweden and included patients aged 18–74 years admitted to a hospital with MI (1 January 2013–1 October 2016). Among patients who were alive and had LDL-C data available, we assessed LDL-C target achievement at 6–10 weeks (n=21,505) and 12–14 months (n=17,957) after the MI by category of lipid lowering therapy (no statin; low/moderate-intensity statins; high-intensity statins; any statin plus ezetimibe). The target was defined as an LDL-C of <1.8 mmol/L and a =50% reduction from the baseline if LDL-C was 1.8–3.5 mmol/L and the patient was not already receiving statins.

Results: Most patients were treated with high-intensity statin monotherapy (84.2% and 72.0%) or any statin with ezetimibe (2.1% and 10.4%) at 6–10 weeks and 12–14 months after the MI, respectively. In total, 37.7% (6–10 weeks) and 38.3% (12–14 months) had attained their LDL-C target. The proportion of patients attaining their LDL-C target at 6–10 weeks was 12% (no statin), 30% (low/moderate-intensity statins), 39% (high-intensity statins), and 49% (any statin plus ezetimibe). The corresponding numbers at 12–14 months were 16% (no statin), 29% (low/moderate-intensity statins), 39% (high-intensity statins), and 58% (any statin plus ezetimibe). A total of 11.8% at 6–10 weeks and 12.3% at 12–14 months reached an LDL-C level of <1.8 mmol/L, but did not reach their LDL-C target level due to the =50% reduction criteria. (Figure 1)

Conclusions: In this large population-based study using nationwide data, more than half of patients with a recent MI did not achieve the ESC guidelines LDL-C target levels, despite a large proportion with high-intensity statin therapy. In patients treated with statins and ezetimibe, four out of ten did not reach the ESC LDL-C target level. Our findings indicate that there may be a need for additional LDL-C lowering therapy if the target level is to be attained in all patients.
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