6. Acute Effects of Discontinuation of Statin Treatment on the Occurrence of a First Acute Myocardial Infarction

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Background: Randomised clinical trials have shown that statin treatment lowers mortality and cardiovascular morbidity. In patients with acute coronary syndromes, discontinuation of statins tended to increase the event rates. It is unknown whether discontinuation of statin treatment will have similar effects in patients without previous myocardial infarction.

Objective: To determine the effect of discontinuation of statin treatment on first acute myocardial infarction within 30 days after discontinuation in a general population.

Methods: A nested case-control study was performed in the PHARMO database that comprises pharmacy-dispensing records from community pharmacies linked to hospital discharge records. Cases were patients who were admitted for a first myocardial infarction while being on statin treatment at 30-days before the admission for myocardial infarction. Cases were matched to controls on age and sex. Controls were patients who were on statin treatment at 30-days before the assigned index date, but who had no admission for myocardial infarction prior to the index date. Recent discontinuation was defined as having discontinued statin treatment in the 30-day period prior to the index date. Conditional logistic regression was used to adjust for potential confounders.

Results: 450 cases could be matched to 2413 controls. A total of 277 subjects discontinued statin treatment. Overall, recent discontinuation was not associated with an immediately increased risk of first MI (adjusted OR 0.96; 95% CI 0.64-1.43). In patients without any prior cardiovascular disease an essentially similar effect was observed (adjusted OR 1.59; 95% CI 0.49-5.21). In patients with prior CHD a more profound though non-significant effect of discontinuation of statin therapy on the occurrence of a first MI was observed (adjusted OR 2.21; 95% CI 0.90-5.41).

Conclusion: Patients without prior myocardial infarction who discontinue statin treatment do not seem to be at increased risk of myocardial infarction within 30 days after discontinuation. In patients with previous CHD, a non-significant 2-fold increase in the risk of first myocardial infarction in patients who recently discontinued their statin treatment was observed, but the 95% confidence interval was wide. Whether there is a true association between recent discontinuation of statin treatment and acute myocardial infarction remains therefore inconclusive in patients with prior CHD.