Reviewer’s report

Title: Unsatisfactory risk factor control and high rate of new cardiovascular events in patients with myocardial infarction and prior coronary artery disease

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Reviewer: Guy De Backer

Reviewer's report:

In this manuscript a comparison is made between patients with prior CAD and patients without prior CAD who were admitted to a hospital in Norway for respectively a recurrent or a first MI between 2013 and 2016.

Comparison is made in how secondary prevention targets were achieved on the basis of information collected during hospitalization.

Both groups were further compared in a composite of total mortality or a new MI.

The results are well presented. The great advantage of this study is the representativeness of the study population (all registered patients from a national register).

Comment: in the group with no prior CAD the prognostic value of variables, measured during hospitalization, is examined; however, one could imagine that secondary prevention efforts were mainly developed after hospitalization; one should give the primary care physician sufficient time to develop secondary prevention strategies on an ambulatory basis. Did these patients attend cardiac rehabilitation programs? Why was cardiac rehab not included as a secondary prevention target?

When comparing the outcome between those with and those without prior CAD it is also not surprising to find a worse outcome in those with prior CAD. The latter demonstrates that the underlying pathology (atherosclerosis) is more advanced and this by itself worsens the prognosis.

What if only CVD mortality and/or new MI was used as outcome? the secondary prevention measures are mainly related to ASCVD and not to non-ASCVD causes of death.

It is surprising that 26% of the patients with prior CAD were not on a statin prior to hospital admission. This is a very high proportion for a study during 2013-16.

Why was revascularization not included in the multivariate analysis comparing both groups?

Any info on he use of DAPT?
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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