Reviewer's report

Title: Single and Dual Antiplatelet Therapy in Elderly Patients of Medically Managed Myocardial Infarction

Version: 1 Date: 14 Jul 2017

Reviewer: Frederick Spencer

Reviewer's report:

General comments: This is a retrospective study using the large National Health Claims database assessing the use and outcomes of aspirin, clopidogrel, or both therapies (DAPT) in elderly patients (>85 years) being medically managed for myocardial infarction (MI). Principal findings are that the adjusted rates of death, cardiovascular death, and GI bleeding in the 9 months post MI did not differ between aspirin and DAPT; clopidogrel alone was associated with increased mortality compared to DAPT (but no difference with respect to cardiovascular death or GI bleeding). This is an important clinical question - given higher rates of major bleeding with DAPT compared to single antiplatelet therapy (despite what this study shows) it would be of interest if DAPT is really necessary in the very elderly with medically managed MI. The study is reasonably well done and is well written. Unfortunately, and as noted by the authors, a retrospective study design is very limited in its ability to compare therapies with respect to subsequent outcomes. This is compounded by the fact that even though the database itself is very large, the number of subjects eligible for this study is quite small. As such, the absolute number of events are relatively small and resulting confidence intervals are quite wide (and include possibility of significant harm or benefit) for each outcome. The possibility for unmeasured confounders is high. As such, I think it would be misleading to the reader to suggest that this study provides any real evidence regarding the comparative efficacy or safety of these therapies.

Specific comments:

1. Introduction - in the introduction the authors appropriately describe studies describing use of aspirin, clopidogrel, and DAPT in the "real world" - these studies seem to reflect Western populations. Are similar data available for Taiwanese subjects?

2. Methods - "Patients with prescriptions of aspirin or clopidogrel after discharge were retained in the study cohort and were grouped into three groups including DAPT, aspirin only, and clopidogrel only, according to the outpatient claims post-discharge from their index AMI hospitalization." Was usage determined by first outpatient prescription or continuation of prescriptions over study period of 9 months? Is aspirin only available by prescription in Taiwan? If it is available over the counter than it is possible there was significant aspirin use in the "clopidogrel alone" population.

3. Methods - how were potential confounders selected? Why wasn't renal function included?

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.

No

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 am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report
including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal