Reviewer's report

Title: Increased Mortality among Survivors of Myocardial Infarction with Kidney Dysfunction: the Contribution of Gaps in the use of Guideline-Based Therapies

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Reviewer: Madhu Kailash Natarajan

Reviewer's report:

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes
3. Are the data sound? Yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? Yes
7. Do the title and abstract accurately convey what has been found? Yes
8. Is the writing acceptable? Yes

This paper seeks to address a very important question in a high risk population: does adherence to guideline based therapy in ACS make a difference in those with varying levels of renal dysfunction? The authors attempt to get at “real world patients” and address a common issue that is “assumed” rather than proven – since there is a gap in evidence based guidelines in this population.

In contrast to a number of studies in ACS, this registry seems to suggest that the sickest patients do not derive the most benefit from these therapies, and that in fact there may be no difference in survival.

The authors provide a well written paper in which it is evident that a great deal of thought has been placed. They have made significant attempts to address the initial comments of the reviewers.

Recognizing that it is difficult to subject this high risk population to a standard
ACS trial, they have done well in screening the data to determine which patients would be eligible for therapy, and what proportion received it.

Further, they address the issue that some of these patients were excluded from therapies due to a documented, but potentially undefined “contraindication.” This reflects real world practice in which, daily, physicians will make decisions regarding ACS therapy purely based on gestalt. Therefore, it is not essential that a contraindication was defined, but simply that the treating clinician felt there to be a contraindication.

Finally, the issue of revascularization is recognized and adjusted for in the analysis. Thus, although it is not strictly defined as part of a guideline therapy, it should not ultimately confound the data.

Overall this paper raises some very important and interesting issues regarding a population commonly seen, and therapies commonly administered. It appears ready for publication and would encourage further investigations in this high risk patient group.