Reviewer’s report

Title: Low Serum Calcium Is Associated With Poor Renal Outcomes In Chronic Kidney Disease Stages 3-4 Patients

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Reviewer: Orlando Gutierrez

Reviewer’s report:

The authors provide an interesting study examining the association of calcium at one time point with development of need for renal replacement therapy and kidney disease progression in outpatient with stage 3/4 CKD. I have the following comments:

1. The most obvious reason for the associations described is that a low calcium is just a good marker for more advanced renal disease at baseline. Individuals with more advanced kidney disease at baseline progress faster. An eGFR is a poor overall marker of severity of kidney disease progression when calculated at one time point, so the adjusting for eGFR alone is not a sufficient way to deal with this problem. The Discussion would be greatly enhanced by acknowledging the overwhelming likelihood of the above and not getting into extended speculation about the role of disturbances in calcium metabolism in CKD progression.

2. Please adjust the models for baseline proteinuria

3. The change in IDI score is trivial and does not support adding calcium to any risk model. Please change these parts of the manuscript accordingly.

4. Please include net reclassification index if you want to pursue the issues of improved calibration of the model.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests: I have not competing interests