Reviewer’s report

**Title:** Presence of Early CKD-Related Metabolic Complications Predict Progression of Stage 3 CKD: a Case-Controlled Study

**Version:** 2  **Date:** 14 August 2014

**Reviewer:** Andrea Bauer

**Reviewer’s report:**

This is an interesting paper where the authors try to address an important issue regarding the progression of kidney disease in terms of predictor factors as a possible tool to identify which are the patients with moderate CKD that will end up progressing to end stage renal disease and should be followed closely by a nephrologist.

1. Major Compulsory Revisions

- To classify patients with stage 3 CKD, the authors used the MDRD formula. However, it was not specified if the MDRD formula used were traceable to IDMS or not. It's also not clear why the authors decided to use the MDRD rather than the CKD-EPI. It would be interesting recalculate the initial study population using the CKD-EPI formula to check the number of patients who would be included by the inclusion criteria of the EGFR <60 ml/min/1.73m². Since the MDRD formula tends to overestimate GFR, probably a larger number of patients would be included in the study. Also, since it is an older population (mean >70 years), the use of CKD-EPI formula would be more suitable for these patients, according to recommendations of the NKF.

- In terms of progression of renal disease, regardless of cause, an important factor to be considered is the use of medications with nephroprotective effect as ACE inhibitors and ARBs. The medications were not informed in this manuscript. The use of ACE inhibitors or ARBs may have influenced the outcome of P or NP in patients with CKD stage 3. It should have been considered in the statistical analysis.

- The presence of hypertension was not associated with progression of chronic kidney disease in the study population. Again, the use of ACE inhibitors or ARBs should have been analyzed and may have contributed to this finding.

- There is no need to show figure 2. The text is sufficiently explanatory.

- It is unfortunate not to have a larger number of PTH and vitamin D data. They are probably a better predictor of progression of renal disease than phosphorus and calcium, which will only change as a result of hyperparathyroidism.

2. Minor essential revisions

- Background (page 4, line 20): “Stage 3” should be in lowercase.

- Discussion (page12, line 14): delete one “that”
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests