Reviewer's report

**Title:** Impact of chronic kidney disease on the prevalence of cardiovascular disease in patients with type 2 diabetes in Spain. PERCEDIME2 study.

**Version:** 1  
**Date:** 17 February 2014

**Reviewer:** Stephen Sozio

**Reviewer's report:**

I read with interest the study by Dr. Rodriguez-Poncelas and others titled “Impact of chronic kidney disease on the prevalence of cardiovascular disease in patients with type 2 diabetes in Spain: PERCEDIME2 study. In this manuscript, the authors describe the independent and joint cross-sectional association of low eGFR vs micro/macroalbuminuria on cardiovascular disease in a national study of diabetic patients. They find that both conditions are associated with CVD, with low eGFR having nearly the same prevalence of CVD as those with macroalbuminuria.

The strengths of this study include:

1) Relatively large, national cohort of a high risk population
2) Analysis of combined effect of two measures of kidney disease
3) Focus on clinically relevant markers and their categories, making ease of interpretation to a clinician

I have several comments, major, minor, and discretionary:

**Major:**

Comment 1: The authors use the MDRD equation in their calculation of eGFR, with mean eGFR 79.9. However, recent literature has suggested that the CKD-Epi equation likely more accurately reflects true GFR, especially at higher levels as would be observed in this study, and also more closely predicts future events. The authors should use the CKD-Epi equation for their calculations instead of MDRD, and this may actually improve their level of statistical significance.

Comment 2: The authors present a bivariate approach to both low eGFR and albuminuria. As we know, this is likely a continuous spectrum and not just abnormal vs normal. I would refer the authors to the CKD-PC consortium’s work. In particular, PMID: 21307840 studies the joint effect of GFR and albuminuria across multiple different strata in high risk populations, including many studies with diabetes. Table 3 from that manuscript gives some perspectives on stratification. In sensitivity analyses, the authors should examine other strata besides those performed here. Please see comment 4 below for a possibility.

**Minor:**
Comment 3: Table 1 should read “serum creatinine.”

Comment 4: Further stratification of both eGFR and albuminuria should be listed in table 1 to get a better sense of this population. I would propose the following if the sample size supports:

- eGFR (mean, SD)
- eGFR >=90 (N, %)
- eGFR 75-89 (N, %)
- eGFR 60-74 (N, %)
- eGFR 45-59 (N, %)
- eGFR <45 (N, %)

- Urine albumin-creatinine ratio (mean, SD)
  - <10 (N, %)
  - 10-29 (N, %)
  - 30-299 (N, %)
  - >=300 (N, %)

Discretionary:

Comment 5: The authors can consider adding interaction p-values between low eGFR and albuminuria in table 3.

Overall, a very relevant topic to clinicians caring for patients with diabetes. Thank you for the opportunity to review this manuscript.

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 declare that I have no competing interests