Reviewer's report

Title: Kidney Function and Comorbid Disorders in Patients with Kidney Stone Disease

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Reviewer: John R Asplin

Reviewer's report:

The authors have performed a case-control study of 195 kidney stone patients, age and gender matched to 390 control subjects. They found a significantly lower eGFR and higher rate of Stage 3 CKD in the stone forming population.

Major Compulsory Revisions:

1. In the Methods section it is stated that stone patients with known causes of CKD were excluded. Since patients with hypertension and diabetes were included in the study, what criteria were used to link the diagnosis of CKD to another disorder. For example, if a patient had diabetes, proteinuria, and diabetic retinopathy were they excluded from the analysis? Please clarify how patients were excluded for "known causes of CKD".

2. In definition of comorbid conditions, they do not define how they determined cardiovascular disease. That should be included since it is part of the analysis in Tables 2 and 3.

3. In the Results section, they mention how many subjects had ESWL etc, but they do not provide information on the number of subjects who had multiple surgical or ESWL treatments. Later in the paper they mention that the number of surgeries, stones etc do not correlate with the severity of CKD, so it would make sense to give the reader some idea of how frequent multiple treatments were.

4. The authors exclude 8 patients from the analysis of Ca stones and CKD. These 8 patients should just be excluded from the whole study and not be included in Table 1.

Discretionary Revisions

1. In Methods section, describing Stone Composition, the authors used plain films to determine radio-opaque vs radio-lucent. Did they make an attempt to use stone density as measured by CT to categorize those without a plain film or stone analysis?

2. In the Discussion, the authors refer to outcomes being worse for uric acid stones. It would be more accurate to use the term radio-lucent stones since a significant number of patients in this group (5 of 18) did not have a stone analysis available.

3. At the end of the 1st paragraph of Results, it is stated that 5% of subjects had surgical stone removal. I assume these are percutaneous procedures. Please
clarify.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests