Reviewer's report

Title: Safety and outcomes according to practitioners and techniques for percutaneous native renal biopsy

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Reviewer: Pietro Canetta

Reviewer's report:

The authors present a single center series of renal biopsy outcomes, stratified by technique and by provider specialty. The article is written clearly and technically sound, and of interest to the nephrology community. However, there are several points that could improve it.

An important general point must be stated: the authors do themselves a disservice by presenting the work as being done for the express purpose of giving "appropriate prominence to the issue that renal biopsy should be performed by nephrologists." While I sympathize with their belief, some of the writing is more appropriate for an opinion piece rather than a research article. This actually weakens their claims, because while they "spin" the interpretation of the data to suit their bias, they neglect to consider or address an opposite "spin;" i.e. a radiologist could easily look at the data in this paper and claim that it wholly supports their equivalence at providing a diagnostic renal biopsy.

Major compulsory revisions:

1. Abstract: in the results section of the abstract, the word "superior" to describe glomerular yield is misleading since it implies better diagnostic yield, which was not demonstrated.

2. Methods, 1st para: can the authors explain why patients might end up in each of the three groups? For example, at our institution the only biopsies done by interventional radiology instead of nephrology are those patients that are too obese to be done by ultrasound guidance (a very small percentage.) What factors, at the authors' institution, would cause a patient to undergo blind biopsy vs. real-time vs. being sent to radiology instead? It would seem this is an opportunity for systematic bias between the groups, and should be addressed.

3. Methods, statistical analysis: the authors describe the logistic regression analysis as including "co-morbid diseases." This is rather vague - what variables exactly were modeled? You may want to consider listing these in a table with the betas or ORs and P-values.

4. Discussion, paragraph 3: The following sentence is problematic: "Although the definition of tissue adequacy varies among institutions and investigators, native kidney samples need to have > 20 glomeruli to exclude focal disease processes and enable an accurate
assessment of the
degree glomerular involvement." The studies cited to support this are hardly
definitive, and so the claim of needing >20 gloms should be either qualified (e.g. "we support the threshold of >20 gloms...") or better supported.

5. Discussion, final para: the discussion of the limitations of the article is far too brief and glib. You should discuss generalizability, and the opposing interpretation that why should a radiologist stop doing biopsies if they provide equivalent yield? They may even say they provide equal service while letting patients keep more of their precious gloms!

6. Table 2: the +/-SD of creatinine do not seem to correspond to the +/-SD of eGFR -- the SDs of creatinine are all >1mg/dL, while the SDs of eGFR are only ~2 ml/min/1.73m2. This seems to be an error.

7. Table 2: proteinuria is notoriously not normally distributed, so it would be more correct to present it as a median (IQR) rather than mean+/-.SD.

Discretionary revisions:
1. The authors should consider more measured wording in several places, including:
   -Abstract: "many non nephrologists have INVADED the traditional procedure..."
   -Background, 2nd para: "UNFORTUNATELY, in recent times percutaneous...."
   -Background, 3rd para: "give appropriate prominence to the issue that renal biopsy SHOULD be performed by nephrologists" (after all, the results do not conclusively suggest this and more reasonably can be taken to imply that nephrologists are at least equivalent to radiologists)
   -Discussion, 5th para: "The question of why percutaneous renal biopsy should be performed under the aegis of the nephrology community is now answered." (This is FAR too bold a claim.)

2. Methods, 1st para: in listing the types of patients who "were not considered suitable for biopsy," do the authors mean to say that such patients are NEVER biopsied at the institution, by any provider, or that they excluded such biopsies from the analysis?

3. Methods, 1st para: what was the justification for excluding 1-day case biopsies without hospitalization?

4. Can the authors discuss the possibility that they may be conflating practitioner with technique? That is to say, the differences between the groups may have less to do with the specialty performing the biopsy and more to do with the biopsy technique being used in each group.

5. Discussion, 2nd to last para: "According to these results, all biopsies at our institution have been conducted by nephrologists." Do you mean to say "are now conducted"?
6. In table 1, consider removing the "n (%)" after each variable to streamline the look of the table (you clearly state in the legend that values are either mean+/-SD or number (%))

Minor essential revisions:
1. Methods, first para: there appears to be an erroneous number, by "346 cases performed by nephrologists..." I believe they mean 441.

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

**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