Reviewer’s report

Title: Safety and adequacy of percutaneous kidney biopsy performed by nephrology trainees

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Reviewer: Maurizio Gallieni

Reviewer’s report:

This manuscript addresses an important issue, i.e. the importance of the operator's experience when performing a kidney biopsy. On one hand, the risk-benefit ratio from the patient's standpoint would require that an experienced operator would perform an invasive procedure such as the renal biopsy. On the other hand, it is important to train nephrology fellows and allow them gaining experience, so that they may become experienced operator in the future.

Unfortunately, the study design for such an important issue is week, being a retrospective comparison of two rather long periods of time, the first one characterized by the fact that a single experienced operator performed all procedures. There were no significant differences in outcomes, but many possible variables could affect outcomes (different patient characteristics, different technical approaches to the procedure, different quality of ultrasound machines, etc.).

This and other limitations of the study should be addressed in a paragraph at the end of the discussion. Among them, the use of a 14G needle increases the risk of bleeding complications. A 16G needle is perfectly adequate for obtaining good histology sample and especially when a more inexperienced operator is doing the procedure, a smaller needle increases safety.

The authors mention the possibility of performing simulation training on mannequins or animal models. This concept should be expanded and emphasized, as this approach represent the future of medical training in all fields involving invasive procedures.

The title can be shortened as follows: Safety and adequacy of percutaneous kidney biopsy performed by nephrology trainees.

Discussion.

Complication rates are compared with only one reference article (Chung et al, BMC Nephrol 2014). A more thoroughly analysis of how the Authors performance compares with complication rates from papers with large patient numbers and with state of the art procedures (ultrasound technique, experienced operators) should be provided.

The following sentence is speculative: "Finally our custom of making kidney biopsy a procedure performed by all young trainees and nephrologists who had never done it increased the number of biopsies carried out at our unit (135 in 4 years vs 139 in 10 years)." I suggest removing it from
the manuscript, because the indication to performing a renal biopsy should only be based on its clinical need, certainly not because inexperienced fellows are available to perform it.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

No

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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