Reviewer’s report

Title: Ambulatory monitoring unmasks hypertension among kidney transplant patients: Single center experience and review of the literature

Version: 0 Date: 07 Apr 2019

Reviewer: Hassan Ibrahim

Reviewer's report:

I read with interest the manuscript titled "Ambulatory monitoring reveals widespread underestimation of blood pressure among kidney transplant patients: Single center experience and review of the literature" by Gluskin and colleagues. The manuscript analyzes the concordance between clinic and 24-hour ambulatory measurements among 76 kidney transplant recipients.

General comments:

Originality and Novelty: This manuscript addresses a "Call to Action" by several European scientific societies to describe clinic and ambulatory BP patterns as well as clinic-awake differences in kidney transplant recipients. While not an original idea, this study significantly enhances the scant literature in this genre. The authors should be commended for evaluating the interval hourly averages to examine the association/interaction between BP and medication dosing.

Scientific Soundness: No significant issues related to study design. Single center observational study with a comparison to the international literature.

Research Ethics: No issues identified.

Quality of Language: The manuscript is overall well written.

Major issues for the authors to address:

1. Ambulatory BP monitoring
   a. 15 measurements of a 24-hour ABPM seems too small a number of measurements. By my estimation, if the protocol measurements are every 20 minutes during the day and every 30 minutes during nighttime sleep, then 15 total measurements are representative of less than 25% of expected readings. In our clinic, we would deem these ABPM invalid.
and repeat the study. While the minimum number of ABPM measurements is not an agreed upon standard, the European society recommends a minimum of 70% of expected readings with 20 daytime measurements and 7 nighttime measurements. I would recommend repeat analysis with this minimum definition.

2. Results

a. Table 5: The authors highlight a significant association between immunosuppressant medication use and differences in systolic blood pressures. However, 72% of patients are taking tacrolimus compared with 18% cyclosporine and 10% on non-CNI based therapy. Are these results adjusted for population differences or unadjusted?

Minor issues for the authors to address:

1. Methods:
   a. Clinic BP measurements: The authors describe clinic blood pressure measurements as "an average of 2-3 visits". Were the individual clinic blood pressures single or averages of at least three measurements taken 5 minutes apart?

b. Further, of the oscillometric device measurements, were these observed or unobserved?

2. Results
   a. Table 1: For ease of visibility, recommend changing sex, smoking, and type of allograft to percentiles. Listing both male and female sex seems redundant, recommend listing only one. Same issue with type of allograft.

b. Line 210-211: What is significance of non-dipping of heart rate? Are the implications the same or different as non-dipping blood pressures? Please clarify.


3. Limitations
   a. The authors imply but do not state the word measurement bias among clinic blood pressures. I recommend inserting the term "measurement bias".
b. There is no control group in this study. How does these results compare with non-kidney transplant chronic kidney disease populations?

Lastly, I think the focus of the paper should change to highlight the huge prevalence of masked hypertension in this population which is overlooked often.

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