Reviewer's report

Title: Significant association between renal function and amyloid-positive area in renal biopsy specimens in AL amyloidosis

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Reviewer: Romana Rysava

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The article of Kuroda el al. has depicted a relationship between the amount of amyloid deposits in the kidneys and renal function.

The authors disclosed that there is the direct correlation between the amyloid positive area in the renal tissue and renal function expressed by the Cr and eGFR.

I have many serious objectives to their claims and some comments.

1. It is not clear from the text how large the bioptic specimens were. It is necessary to give the average amount of evaluated glomeruli for the decision if the specimens are representative.

For purpose of histological study the minimum of 10 glomeruli is needed for evaluation.

2. Data about the exact localization of amyloid deposits in the renal parenchyma are not given. It has been very well documented that amyloid deposits in the vessels are associated with decreased renal function especially while the deposits in glomeruli are accompanied by proteinuria or nephrotic syndrome. Due to this reasons it is essential to quantify the percentage of affected vessels and glomeruli in each specimen and this finding correlate with other parameters (Cr, CrCl, eGFR...).

3. For the claim that renal function is dependent only on the amyloid positive area the other reasons for decreased eGFR must be excluded, for example presence of TIN atrophy/fibrosis and percentage of glomerulosclerosis...Very old patients (89-year old) are reported in the cohort (table 1), so we can anticipated that in renal biopsy they had advanced sclerosis and fibrosis. Authors must exclude the role of these findings on the renal function.

4. Data concerning the plasma concentrations of FLCs (or M-protein) are missing. We can speculate that higher plasma FLCs concentrations would negatively influence the renal function due to their toxic effect on tubular cells. These data should be added.

5. Also data concerning the concomitant medication are missing. There is necessary to exclude the role of some drugs (NSAID, ACEI, diuretics and so on..) on the renal function. Is there any difference between the drugs prescription and renal function in patients with different amount of amyloid deposits?

6. It seems very difficult to do some conclusions from one cross-sectional
laboratory measurement (which can be influenced by many factors – hypotension, dehydration, drugs…). It will be much more better to follow-up the patients for a longer time and watch to the progression of CKD depending on amyloid positive area.

According to my opinion the article in this fashion is not ready to publication in the BCM Nephrology.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests