Reviewer's report

Title: Comparison of Quality-of-Care Measures in Patients with End-Stage Renal Disease Secondary to Lupus Nephritis vs. Other Causes

Version: 2  Date: 19 January 2015

Reviewer: Kelly Liang

Reviewer's report:

This is a well-written manuscript describing a retrospective cohort study analyzing quality of care among patients with end-stage renal disease (ESRD) due to lupus nephritis (LN-ESRD) vs. ESRD due to other glomerulonephritides (GN) and ESRD due to other causes using the United States Renal Data System (USRDS) database from July 2005 to September 2011. This study found that LN-ESRD patients were more likely than other ESRD patients to receive pre-ESRD care and be placed on the transplant waitlist in the first year, but less likely to have a permanent vascular access (arteriovenous fistula or graft) in place at dialysis start. The authors suggest that better pre-ESRD care is seen in LN-ESRN patients possibly due to the co-management of these patients by both nephrologists and rheumatologists. They suggest that further studies are warranted to examine barriers to permanent vascular access placement, as well as associated morbidity and mortality associated with temporary access, in the LN-ESRD population.

The question posed by the authors is well defined. The methods are appropriate and well described. The data are generally sound, but there are limitations to the findings and conclusions that may be drawn from this study due to the use of the USRDS CMS-2728 forms and diagnoses defined by International Classification of Diseases (ICD)-9 codes. As acknowledged by the authors, reliance on this CMS-2728 form may lead to selection bias due to missing data in analyses of pre-ESRD care and misclassification of quality of care data due to variability in provider knowledge about patients.

The figures appear to be genuine, i.e. without evidence of manipulation. The manuscript adheres to the relevant standards for reporting and data deposition. The discussion and conclusions are fairly well balanced and adequately supported by the data, though some of the statements made in the discussion and conclusions are more speculative than conclusive, due to the nature of this retrospective cohort study. The limitations of the work are clearly stated. The authors clearly acknowledge any work upon which they are building, both published and unpublished. The title and abstract accurately convey what has been found, but the title does not reveal anything about the findings. The writing is acceptable overall, with only minor editorial errors and ambiguities.

The manuscript would be strengthened by addressing some issues and minor errors, which are outlined below.

Major Compulsory Revisions (which the author must respond to before a
decision on publication can be reached)

1. Page 10, lines 10-21, Results, Association of Attributed Cause of ESRD with Quality-of-Care Measures, Permanent Vascular Access: These reported findings do not seem to be summarized in any Tables or Figures. Is that true? If not, I would suggest creating an additional Table or Figure to summarize some of these findings, perhaps as supplementary material if there is no room for it in the manuscript.

2. Page 29, Figure 1: Please include explanation of what the numbers with negative signs in front of them represent, shown beside the arrows. It is not clear what these numbers mean, presumably the exclusion of certain populations, e.g. patients with unknown pre-ESRD care status, patients with pre-emptive transplant, etc.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. Page 2, line 18, Abstract, Conclusions: In the first sentence of the Conclusions, change the dashes “—” to commas so it reads, “LN-ESRD patients are more likely to receive pre-ESRD care and have better access to transplant, but are less likely to have a permanent vascular access for dialysis, than other ESRD patients.”

2. Page 3, line 22, Background: In the last full sentence on the page, add “as” so it reads, “Translation of quality-of-care measures should be as good as, or better, in patient populations treated by multiple specialty providers, …”

3. Page 6, line 8, Patients and Methods, Quality-of-Care Measures: Delete the space between “CMS” and “-2728” so it reads “CMS-2728 item 26.”

4. Page 9, line 3, Results, Association of Attributed Cause of ESRD with Quality-of-Care Measures, Access to Transplant: Add “(p=0.07)” so it reads, “…although the trend was marginally statistically significant for LN-ESRD patients (p=0.07).”

5. Page 9, line 4, Results, Association of Attributed Cause of ESRD with Quality-of-Care Measures, Access to Transplant: Are the percentages of 10% and 19% actually supposed to be 11% and 20% based on Table 4, which shows the risk ratios for “informed of transplant options” among patients who never recovered renal function to be 1.11 and 1.20 for LN and other GN, respectively? If so, please correct these numbers.

6. Page 9, line 11, Results, Association of Attributed Cause of ESRD with Quality-of-Care Measures, Access to Transplant: Add “(p=0.07)” so it reads, “…although the trend was marginally statistically significant for LN-ESRD patients (p=0.07) (Table 2).”

7. Page 10, line 8, Results, Association of Attributed Cause of ESRD with Quality-of-Care Measures, Permanent Vascular Access: Delete “was” so it reads, “Results were similar in sensitivity analyses (Table 4), with placement of permanent access less common among LN-ESRD patients…”

8. Page 14, line 1, Discussion: Insert “to” so it reads, “…population to receive
pre-ESRD care.”

9. Page 16, line 1, Competing Interests: Correct the spelling of “competing” (not “completing”).

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Page 5, line 8, Patients and Methods, Study Population and Data Sources: In the last sentence of this section, include “(UNOS)” after “United Network for Organ Sharing” since the abbreviation UNOS is used later in the manuscript.

2. Page 5, lines 20-23 and page 6, lines 1-2, Patients and Methods, Study Variables: The authors state they chose to include only patients with ESRD attributed to diabetes, hypertension, or large vessel disease representing “typical U.S. ESRD patients” in the referent group in sensitivity analyses. Although they justify this decision with the fact that “the majority of incident ESRD in the United States is attributed to diabetes or hypertension (72%) or GN (6%) and the remaining attributed causes represent a fairly diverse group of ESRD etiologies such as cystic kidney disease,” I question whether they should have excluded all the other causes of ESRD. If it is possible to include all the remaining causes of ESRD in the “other” group, it would probably be a more accurate representation of the referent group.

Overall, this is an interesting and well-written manuscript which would provide novel findings to the literature in the field. It is limited by design, but these limitations are acknowledged adequately in the Discussion.

**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.