Peer Review File

Article information: https://dx.doi.org/10.21037/tau-22-321

Reviewer A

I have read carefully the authors manuscript. Bellow my comments.

Comment 1. Abstract: In the results i suggest adding OR, CIs and p values. I suggest revising the conclusion since as it is now it seems like methods.

Response 1: Thank you very much for your comment. We have added OR, 95% CI, and p-values in the Result as follows (see page 3, line 12). We have revised the conclusion as follows (see page 4, line 1).

Changes in the text:

Estimated blood loss was an independent predictor of perioperative decline in eGFR 5 days after surgery (odds ratio (OR): 0.97; 95% confidence interval (CI): 0.96, 0.98; p < 0.001). Preoperative eGFR and estimated blood loss were independent predictors of perioperative decline in eGFR 1 month after surgery (OR: 0.86; 95% CI: 0.77, 0.95; p = 0.007 and OR: 0.98; 95% CI: 0.97, 0.99; p < 0.001, respectively). Age, preoperative eGFR, and estimated blood loss were independent predictors of perioperative decline in eGFR 3 months after surgery (OR: 0.64; 95% CI: 0.54, 0.81; p < 0.001, OR: 0.72; 95% CI: 0.61, 0.85; p < 0.001; and OR: 0.98; 95% CI: 0.97, 0.99; p = 0.004, respectively).

Conclusion: Estimated blood loss during surgery was a predictor of perioperative decline in eGFR within 3 months after off-clamp, non-renorrhaphy open partial nephrectomy. Age was a predictor of perioperative decline in eGFR 3 months after surgery.

Comment 2. Keywords: Are these MeSH terms?

Response 2: Thank you very much for this comment. We would like to revise the keywords chosen from MeSH words. (see page 4, line 5)

Changes in the text:

Keywords: Estimated glomerular filtration rate, kidney failure, nephrectomy, suture technique, warm ischemia

Comment 3. Results, I suggest replacing range with IQRs. I suggest reporting OR, CIs and p values in the text.

Response 3: Thank you very much for your comment. We have replaced range with IQR and reported OR, 95%CI, and p-values as follows. (see page 7, line 14 and page 8, line 5)

Changes in the text:

The median age and tumor size were 63 years (interquartile range (IQR), 14.5 years) and 28 mm (IQR, 21.5 mm), respectively. Among the tumors, 41 (29.7%) were > 50% exophytic, 62 (44.9%) were <50% exophytic, and 35 (25.4%) were entirely endophytic. The median nephrometry score was 7 (IQR, 2).

The surgical results are described in Table 2. The median operation time was

122.5 min (IQR, 44.5 min). The median estimated blood loss was 155 mL (IQR, 247.5 mL). Multivariate analysis revealed that estimated blood loss was an independent predictor of perioperative decline in eGFR 5 days after surgery (odds ratio (OR): 0.97; 95% confidence interval (CI): 0.96, 0.98; $p < 0.001$) (Table 3).
Tumor size, R, RENAL score, estimated blood loss, and preoperative eGFR were predictors of perioperative decline in eGFR 1 month after surgery. Multivariate analysis revealed that preoperative eGFR and estimated blood loss were independent predictors of perioperative decline in eGFR 1 month after surgery (OR: 0.86; 95% CI: 0.77, 0.95; $p = 0.007$; and OR: 0.98; 95% CI: 0.97, 0.99; $p < 0.001$, respectively) (Table 4).

Age, tumor size, R, N, estimated blood loss, and preoperative eGFR were predictors of perioperative decline in eGFR 3 months after surgery. Multivariate analysis revealed that age, preoperative eGFR, and estimated blood loss were independent predictors of perioperative decline in eGFR 3 months after surgery (OR: 0.64; 95% CI: 0.54, 0.81; $p < 0.001$, OR: 0.72; 95% CI: 0.61, 0.85; $p < 0.001$; and OR: 0.98; 95% CI: 0.97, 0.99; $p = 0.004$, respectively) (Table 5).

Comment 4. Discussion: Avoid repeating continuously the results.
Response 4: Thank you very much for your important comment. We have modified the Discussion section to avoid repeating the result. (see page 7, line 3)

Although nice concept its badly written and needs at least major revisions, if not rejected.

Reviewer B

This review was reported the utility of partial nephrectomy without renal hilum clamping and renorrhaphy. The reviewer would like to suggest one critique as follows.

Major revisions
Comment 1. On page line 5, what is “at very early time points?”
Response 1: Thank you very much for your comment. We meant within 3 months after surgery by “at the very early time points”. So, we have changed the manuscript as follows (see page 5, line 11).
Changes in the text:
…within 3 months after surgery is deficient.

Comment 2. The authors should describe the primary endpoint in this study in the Methos section.
Response 2: Thank you very much for your constructive comment. We have added the primary endpoint in the Methods section as follows (see page 6, line 2)
Changes in the text:
Our primary endpoint was to detect a predictor of perioperative decline in eGFR

within 3 months after open off-clamp, non-renorrhaphy partial nephrectomy.

Comment 3. Regarding multivariate analysis, is this necessary to evaluate for preserving renal function?
Response 3: Thank you very much for your important comment. Our goal was to detect a predictor for the preservation of renal function after surgery. So, we thought it was necessary to perform a multivariate analysis to detect the predictors. Thank you very much for your kind understanding.

Comment 4. The authors should describe the effectiveness and utility of off-clump partial nephrectomy clearly.
Response 4: Thank you very much for your constructive comment. Because we have not compared the perioperative eGFR decline between on-clamp and off-clamp partial nephrectomy in this study, we cannot clearly conclude and state the effectiveness or utility of off-clump surgery. In addition to the discussion (page 9, line 4), we would like to add the following sentence in the Discussion section. (see page 10, line 9)
Changes in the text:
Importantly, preoperative eGFR did not negatively affect the decline in eGFR during off-clamp, non-renorrhaphy open partial nephrectomy. Our results suggest that this surgical technique can be safely adopted for patients with impaired renal function.

Reviewer C
General Comments:
The authors investigated to the chronological changes in renal function after off-clamp, non-renorrhaphy open partial nephrectomy. This study is interesting. However, the author should clarify some questionable points.

Major Comments:
Comment #1. The authors described that the aim of this study is “to clarify the chronological postoperative changes in renal function after off-clamp, non-renorrhaphy open partial nephrectomy”. However, the title of this study is “Predictive factors fir postoperative renal function after off-clamp, non-renorraphy partial nephrectomy”. Therefore, it seems that the purpose and title do not match. The title or the purpose should be corrected appropriately.
Response 1: Thank you very much for your comment. We agree with you and would like to change the sentence in the Purpose (see page 3, Line 3).
Changes in the text:
Therefore, this retrospective study aimed to identify predictive factors of perioperative decline in renal function after off-clamp, non-renorrhaphy open partial nephrectomy.

Comment #2. In Figure 1A, the authors analyzed the difference between eGFR at 5 days and eGFR at 3months after open partial nephrectomy. If you want to evaluate the effect of surgery, the difference between pre- and post-operative eGFR.
Response 2: Thank you very much for pointing out our mistake. We have done statistical analysis between eGFR preoperatively and 3 months after surgery. We have revised Figure 1.

Comment #3. The authors analyzed the univariate and multivariate analyses to identify the predictive factors for postoperative renal function. However, the authors have not explained the criteria for which of the factors in univariate analysis should be used in multivariate analyses. Details should be added in Methods.
Response 3: Thank you very much for this constructive comment. We have chosen those with a p-value < 0.05 in the univariate analysis for the multivariate analysis. In the revised version, we have removed tumor size from multivariate analysis because tumor size is included in the RENAL score. In addition, we have selected age for multivariate analysis because age is reported to affect renal function (ref.9). We have added the following sentence in the Method section (see Page 7, Line 7).
Changes in the text:
Factors that were statistically significant ($p < 0.05$) in the univariate analysis were included in the multivariate analysis.

Minor Comments:
Comment #4. P7L10; The authors should explain an abbreviation as "AS".
Response 4: Thank you very much for your comment. "AS" was our mistake. We meant "As". We have corrected our manuscript (see page 9, line 11).
Changes in the text:
As for the advantage of renorrhaphy, …

Reviewer D

Comment 1） The authors identified age and tumor diameter as predictors of early renal function.
In general, patients with low preoperative renal function have a severe decline in postoperative renal function in partial nephrectomy.
Authors should include the preoperative renal function. Conclusions may change.
Response 1: Thank you very much for your critical comment. We have reanalyzed the data including preoperative renal function (eGFR). As the reviewer mentioned, the preoperative eGFR remained as a predictive factor of perioperative decline in eGFR. Interestingly, preoperative eGFR negatively associated with perioperative decline in eGFR (OR 0.72; 95% CI 0.61, 0.85; $p < 0.001$). In other words, patients with higher preoperative eGFR tended to experience more decline in eGFR perioperatively. This means that off-clump non-renorrhaphy open partial

nephrectomy can safely be adopted for patients with lower preoperative eGFR.
We have modified the result (see page 8, line 4) and conclusion (see page 11, line 1) as below.
Changes in the text:

Tumor size, R, N, RENAL score, and estimated blood loss were predictors of perioperative decline in eGFR 5 days after surgery. Multivariate analysis revealed that estimated blood loss was an independent predictor of perioperative decline in eGFR 5 days after surgery (odds ratio (OR): 0.97; 95% confidence interval (CI): 0.96, 0.98; $p < 0.001$) (Table 3).

Tumor size, R, RENAL score, estimated blood loss, and preoperative eGFR were predictors of perioperative decline in eGFR 1 month after surgery. Multivariate analysis revealed that preoperative eGFR and estimated blood loss were independent predictors of perioperative decline in eGFR 1 month after surgery (OR: 0.86; 95% CI: 0.77, 0.95; $p = 0.007$; and OR: 0.98; 95% CI: 0.97, 0.99; $p < 0.001$, respectively) (Table 4).

Age, tumor size, R, N, estimated blood loss, and preoperative eGFR were predictors of perioperative decline in eGFR 3 months after surgery. Multivariate analysis revealed that age, preoperative eGFR, and estimated blood loss were independent predictors of perioperative decline in eGFR 3 months after surgery (OR: 0.64; 95% CI: 0.54, 0.81; $p < 0.001$, OR: 0.72; 95% CI: 0.61, 0.85; $p < 0.001$; and OR: 0.98; 95% CI: 0.97, 0.99; $p = 0.004$, respectively) (Table 5).

Conclusion: We analyzed perioperative changes in renal function after off-clamp, non-renorrhaphy open partial nephrectomy until 3 months after surgery. Perioperative eGFR preservation rates at 5 days, 1 month, and 3 months after surgery were 95.3 %, 91.0 %, and 90.7 %, respectively. Age was a predictor of decline in eGFR at 3 months after off-clamp, non-renorrhaphy open partial nephrectomy, while estimated blood loss during surgery remained a predictor of decline in eGFR throughout the 3 months after surgery. Our results suggest that off-clamp, non-renorrhaphy open partial nephrectomy can be safely adopted in patients with impaired renal function.

Comment 2) The authors have identified factors that predict postoperative renal function. The authors should describe the definition of preserved renal function
Response 2: Thank you very much for your constructive comment. Because the main purpose of this study is to identify predictive factors of perioperative decline in eGFR, we would like to replace “eGFR preservation” with “decline in eGFR.”

Minor
Comment 3) The right sided graph in Figure 1 seems unnecessary.
Response 3: Thank you very much for your constructive comment. Figure 1B is not necessary. We agree to remove this figure.