Peer Review File

Article information: http://dx.doi.org/10.21037/tcr-20-2846

Answers to reviewers' comments point by point

1) In the Abstract, the authors say that all patients were followed-up for at least 24 months but in the Result section a median follow-up of 39 months with a range of 17-72 months is reported.

Reply 1: Thank you for your comment. The only patient who was not followed-up for more than 24 months was the patient who died of esophageal carcinoma 17 months after the surgery for renal tumor. We have deleted the sentence 'All patients received at least 24 months follow-up.' in the abstract.

Change in the text: Abstract, Materials and Methods.

2) In the Abstract and in the Result section, the exact timing of post-operative eGFR evaluation is not declared.

Reply 2: Thank you for your comment. We have added the exact timing of the post-operative eGFR evaluation in this paragraph. The post-operative eGFR was defined as the eGFR at first follow-up conducted 3 months after surgery.

Changes in the text: Abstract-Results. Result-Functional outcomes.

3) In the Abstract, in the Methods, and in the Results section of the manuscript, the authors use means and median values (with ranges) to describe continuous variables. This is rather confusing and methodologically questionable. I would opt for median values with interquartile ranges and appropriate statistical tests.

Reply 3: Thank you for your comment. We have changed the description of continuous variables to median values with interquartile ranges in the text.

Changes in the text: Abstract-Results. Result-Functional outcomes. Discussion-Paragraph 7.

4) In the Abstract, in the Results, and in the Discussion section, the authors say that the difference between pre- and post-operative eGFR was not statistically significant, assuming almost complete renal function preservation. In my opinion,

a P value of 0.069 suggests a trend toward statistical significance. Such a finding should be properly explained.

Reply 4: Thank you for your comment. We have added an explanation of this finding in the discussion section.

Changes in the text: Discussion. Paragraph 7.

5) In the Introduction section, the authors should explain what Trifecta standard stands for and why NSS is challenging. They also completely missed to mention available focal ablation techniques and what is the rationale behind the simultaneous use of NSS and focal ablation.

Reply 5: Thank you for your comment. The explanation of the Trifecta standard and available focal ablation techniques has been now added in the Introduction section.

Changes in the text: Introduction. Paragraph 1.

6) A follow-up of 1 month is too short to properly evaluate surgical complications. I would extend the follow-up to at least 3 months after surgery.

Reply 6: Thank you for your comment. We have extended the follow-up to 3 months after surgery and added the details in the revised manuscript. However, since all post-operative complications we reported in the first month after surgery had resolved by the end of the first month and no more complications were found in the following two months, the results of the complications 3 months after surgery were same as those reported in the first month.

Changes in the text: Materials and methods, 2.2 surgical interventions.

7) In the Methods, in the Results, and in the Discussion section, the authors should better describe their post-operative follow-up protocol and specify the reasons behind the use of CT or MRI as preferred imaging modality. It is well known that the use of contrast-enhanced CT scan may induce the development of contrast-induced nephropathy. Since one of the main outcomes of the study is eGFR, the proportion of patients undergoing contrast-enhanced CT evaluation should be properly described.

Reply 7: Thank you for your comment. The specific follow-up protocol has been added in the Materials and methods, Section 2.4 Follow-up. For all the patients who

underwent WMA-TE, contrast-enhanced CT scan was performed 3 months after surgery for the detection of local focal recurrence and evaluation of renal filtration function. Recurrence was defined as any new enhancement (10 HU) at 3 months in contrast-enhanced CT after surgery.

Changes in the text: Materials and Methods, 2.4 follow-up.

8) Several groups have demonstrated that imaging-based follow-up of RCC treated with focal ablation can be extremely challenging to the point that some authors suggest to perform a protocol biopsy to exclude local recurrences in dubious cases. This issue should be at least mentioned in the Discussions section of the manuscript.

Reply 8: Thank you for your comment. Details of the follow-up method have been added in the Discussion section.

Changes in the text: Discussion, paragraph 10.

9) In the Result section, reported median intra-operative estimated blood loss is 50 mL with a range of 30-600 mL. I would like to know more regarding the cases with significant blood loss (> 250 mL).

Reply 9: Thank you for your comment. There were four cases in the current study whose intra-operative estimated blood loss was greater than 250 ml. Three patients were diagnosed as cT1bN0M0 RCCs, and underwent MWA-TE. Due to the high R.E.N.A.L. score and the large tumor basal plane, the ablation was incomplete and caused 300 ml intra-operative estimated blood loss. The fourth patient was diagnosed as cT1aN0M0 RCC with a tumor of 3.5 cm in diameter and R.E.N.A.L. score of 5. Since half of the tumor was endophytic, we isolated the renal artery for potential clamping. When isolating the renal artery, a small branch of the renal artery was injured and caused an estimated intraoperative blood loss of 600 ml.

10) In the Result section, it is reported that one of the tumours treated was a de-differentiated liposarcoma. I would like to know the decision-making process leading to NSS in this specific clinical scenario.

Reply 10: Thank you for your comment. In this 73-year-old male patient, a 3.5 cm renal mass was found in routine physical check-up. The tumor was diagnosed as a cT1aN0M0 renal tumor and the patient underwent MWA-TE as a standard treatment

for a renal tumor at this stage. In the post-operative pathology, the patient was diagnosed with a de-differentiated liposarcoma. The patient was invited to follow-up appointments every 3 months.

11) It would be interesting to know more about the growth pattern of the lesions included in the analysis. For instance, how many endophytic, exophytic or mixed tumours were treated? Did you find any difference in the outcomes?

Reply 11: Thank you for your comment. However, due to the long period of time after the surgical intervention, the preoperative imaging data of some patients has been lost; therefore, we cannot further analyze the growth pattern of the lesions in the current study. However, we are now conducting a prospective study on the application of MWA-TE on exophytic, endophytic renal tumors and hope the further study may provide some answers.

12) At least in the Discussion section, the authors should compare the results of the current study (omitting T1b lesions) with their previous experience with the use of radiofrequency ablation. This would significantly increase the value of the manuscript.

Reply 12: Thank you for your comment. We have previously compared short-term clinical outcomes between MWA-TE and RFA-TE in cT1aN0M0 RCC patients, and found that there were no significant differences in the complication rates and short-term oncological outcomes, although MWA-TE has the benefit of shorter median operative time and less estimated blood loss.

Change in the text: Discussion, Paragraph 2.

Minor comments:

1) Please, specify and provide references for surgical techniques, staging systems, and scoring systems.

Reply 1: The surgical technique used for MWA-TE was similar to that for REA-PN, which we have described in our previous article, which was cited in current article. References for the staging systems and scoring systems have also been cited in the revised manuscript.

2) Please, provide the methods for eGFR evaluation.

Reply 2: Thank you for your comment, a reference for the methods for eGFR evaluation has been cited in the revised manuscript.

3) Figure 1 needs to be improved (provide numbers and tables).

Reply 3: Thank you for your comment. We consider that the survival curve shown in Figure 1 did not accurately reflect the overall survival or progression free survival of the cohort; therefore, this figure was removed and replaced by a description in the corresponding paragraph. (See in results, 3.3 oncologic outcomes)

4) I cannot find Figure 2.

Reply 4: Thank you for your comment. Figure 2 has now uploaded as Figure 1 in the revised manuscript.

5) Tables need to be properly numbered and detailed.

Reply 5: Thank you for your comment. The four tables have been modified according to the content of the paragraph.

6) In Table 4, patient #6 has a contralateral renal recurrence. What does it mean?

Reply 6: Thank you for your comment. Patient #6 was a ccRCC patient with a tumor found on the contralateral kidney during follow-up. The patient underwent a partial nephrectomy. The pathology of the tumor was ccRCC but with different Fuhrman grade to the first tumor. Based on this information, we now think that this case cannot be classified as either recurrence or metastasis; therefore, we deleted details of this patient from Table 4 and described the case separately in the paragraph.