

## Peer Review File

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### Reviewer A

The current manuscript shows the different ways of performing NSS, considering that kidney sparing surgery has become the gold standard (especially for small renal masses). For this purpose, the authors performed a narrative review of articles published in English on PubMed. According to authors conclusions, resection technique is determined by the surgeon, after taking into account characteristics of the tumor, including growth pattern and interface with normal parenchyma, nephropathy, personal experience, institutional infrastructure, as long as negative surgical margins are prioritized. This manuscript can be a useful as reference point but the authors don't address the concern of nature benign of some kidney lesions at pathological examination after their surgical removal. This problem cannot be negligible because the morbidity associated with this type of surgery is to be considered.

Therefore, to complete this review, i suggest the authors add in the text and bibliography the following paper "Baio R, Molisso G, Caruana C, Di Mauro U, Intilla O, Pane U, D'Angelo C, Campitelli A, Pentimalli F, Sanseverino R. "To Be or Not to Be Benign" at Partial Nephrectomy for Presumed RCC Renal Masses: Single-Center Experience with 195 Consecutive Patients. Diseases. 2023 Feb 7;11(1):27. doi: 10.3390/diseases11010027. PMID: 36810541; PMCID: PMC9945135". Then, some linguistic errors need be corrected.

### REPLY A

Dear reviewer, we appreciate your comments. We know the importance of lesions with a benign postoperative diagnosis, such as oncocytomas, which are quite common. We also know that the Small Renal Masses category allows clinical follow-up through watchful waiting for renal lesions smaller than 2-3 cm. Such lesions can be monitored with computed tomography or serial magnetic resonance and have the size of the lesion followed. In case of evidence of growth or high growth rate, these tumors are usually operated on. However, our article focuses on surgical techniques for partial nephrectomy when surgery is indicated, so the emphasis is on possible surgical techniques. The authors have added a text briefly discussing this topic on optional conservative treatments for PN. It is found in the Main Body as item 3.5. Occasional benign tumors after surgery and conservative therapies for Small Renal Masses: option to partial nephrectomy, which we quote from the mentioned article "Baio R, Molisso G, Caruana C, Di Mauro U, Intilla O, Pane U, D'Angelo C, Campitelli A, Pentimalli F, Sanseverino R. "To Be or Not to Be Benign" at Partial Nephrectomy for Presumed RCC Renal Masses: Single-Center Experience with 195 Consecutive Patients. Diseases. 2023 Feb 7;11(1):27 (reference number 38).We also have corrected linguistic errors.

### Reviewer B

The authors presented a narrative review on nephron-sparing surgery for small renal masses. The topic is current and worthy of interest. However, a revision is required.

- Before using an abbreviation please define it first. I also suggest shortening the introduction.
- Preoperative evaluation before NSS is complex and not standardized. I suggest not giving any indication except pre-operative imaging such as CT or MRI.
- Synchronous bilateral tumors are a complex and rare condition that accounts for around 3% of renal tumors. Surgery is the gold standard for treating bilateral sporadic renal tumors since its prognosis is

comparable to unilateral sporadic renal tumors. However, when bilateral RN is performed, dialysis becomes imperative after surgery. Therefore, bilateral PN represents an absolute indication. As you can see synchronous bilateral tumors deserve a detailed focus and therefore, I recommend excluding them from the introduction.

- When presenting NSS it is currently proven the percutaneous ablative techniques such as Cryo, Microwave or thermal ablation. This should be discussed in your paper. For the purpose please consider this recent paper on the topic: DOI: 10.23736/S2724-6051.22.05092-3; DOI: 10.1016/j.ejso.2022.09.022; DOI: 10.1089/end.2022.0478

- When comparing outcomes of PN over RN please cite a recent multi-institutional comparative analysis or complex renal masses (DOI: 10.1007/s00345-023-04279-1)

- Check typos

REPLY B. Dear reviewer, we appreciate your comments.

- We have checked the whole text and found we already have defined the abbreviations before using them in the text since the abstract. We have revised the introduction, which consists in less than 2 pages and we were not able to do so much more. We believe this won't prejudice the article.

- We removed the paragraph citing the preoperative evaluation as suggested (between lines 77-78).

-As requested, we removed the paragraph citing synchronous tumors between lines 81-83.

- We have added a few paragraphs in the text citing other optional treatments for PN as suggested, in a succinct way, as it is not the focus of this article (our focus is on surgical techniques), including using the bibliographic suggestion and the suggestion of Reviewer C. Such text can be found in main body item 3.5.

-We cited the article "Partial or radical nephrectomy for complex renal mass: a comparative analysis of oncological outcomes and complications from the ROSULA (Robotic Surgery for Large Renal Mass) Collaborative Group in introduction between line 92 -100, in the field where we compared outcomes between partial and radical nephrectomy.

-Typos were double-checked.

### **Reviewer C**

Congratulations on the work. It might be interesting to mention something related to the "new sparing techniques" i.e. transcatheter ablation and on active surveillance.

REPLY C. The authors are grateful to reviewer c for the comments. We added a paragraph within the main body under 3.5. Occasional benign tumors after surgery and conservative therapies for Small Renal Masses: option to partial nephrectomy to consider conservative techniques in SRM as suggested.