Author’s response to reviews

Title: Optical puncture combined with balloon dilation PCNL vs. conventional puncture dilation PCNL for kidney stones without hydronephrosis: a retrospective study

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Author’s response to reviews:

Dear Editors,

Thank you for your letter and for the reviewers’ comments concerning our manuscript.

We have studied comments carefully and have made corrections which we hope meet with approval. The main corrections in the paper and the responds to the reviewer’s comments are described below.

Thank you and best regards.

Sincerely yours,

Dr. Weiwen Yu
Dear reviewers,

We would like to express our sincere appreciation for your careful reading and helpful comments. Those comments are all valuable and very helpful for revising and improving our paper, as well as the important guiding significance to our researches. The responses to your comments (red words) are listed below.

For Thomas Oswald Tailly, M.D., M.SC., F.E.B.U.:

“Materials and methods: The authors report inflating the balloon up to a pressure of 20-25mmH2O. This seems very low. I assume the authors mean 20-25 Atm, as most manual pumps provided by the companies to inflate the balloon demonstrate a pressure up to 30 Atm and not mm H2O.”

We have revised.

“Materials and methods: I appreciate that this is a retrospective study and that as such, there is an inherent selection bias. This should be mentioned in the limitations section. Secondly, cold the authors elaborate on why some patients were elected for this approach while others were not?”

We have added the limitations (page 15, line 353, revised version). And the patients were elected for this approach in two aspects: first, the patients were suffered from staghorn stone without hydronephrosis; and second, they should agree with the extra fee cost by the balloon.

“Materials and Methods/discussion: The authors compare visual puncture and balloon dilation with conventional puncture and dilation with fascial dilators. As two different aspects of tract creation are changed from the control group to the experimental group, could the authors speculate which of both is most responsible for the differences between the two groups? Arguably, one could say that is mainly the balloon dilation method that reduced the bleeding and pain and not so much the visual puncture.”

We consider that the visual puncture is the precondition for an effective balloon dilation because the guide wire should be in the aimed calyx before balloon dilation.
The visual puncture can make sure that the guide wire is in the position especially in cases of kidney stone without hydronephrosis. (It can also be confirmed by the X-ray, but we always use the ultrasound to monitor in China.)

“Material and methods/limitations: In the responses to the reviewers' comments, the authors mention an additional cost to this technique. Could the authors comment on that in the manuscript? I assume that the cost of the additionally needed scope and the balloon add to the total cost? Also, a 3F camera is most likely quite fragile, could the authors comment on durability of the scope? Were any repairs needed/breakages reported of the 3F scope during the study?”

We have commented the additional cost of our technique. (page 15, line 351, revised version). We also agree that the 3F camera is most likely quite fragile, but there isn’t any repairs needed/breakages reported of the 3F scope during our study. We think that it may attribute to the protection of out-sheath or out-needle of the scope and careful operation.

“The authors report in the comments and in the discussion that artificial hydronephrosis may interfere with the ultrasound image. In theory, fornix rupture may occur when performing a retrograde injection of saline, this is however extremely rare in my experience. Do the authors have any literature supporting the interference of retrograde pyelogram with ultrasound image of the kidney? With regards to injecting air through the ureteral catheter; if the catheter is sufficiently purged and aspiration of fluid is performed prior to injecting saline into the collecting system, the inadvertent injection of air into the collecting system can be prevented. Also, a retrograde injection of saline is not performed under continuous flow, but rather slowly and manually until sufficient hydronephrosis is acquired. The short-term dilation and thus short term and low pressure increase due to retrograde pyelogram is very unlikely to be of more importance than the hydronephrosis achieved by nephroscopy. It is not the goal to question the practice of the authors on whether or not to perform a retrograde pyelogram. It is however of importance not to misinform the reader with theoretical disadvantages that cannot be substantiated by peer-reviewed literature. I would therefore urge the authors to attenuate the statements to read that these deficiencies are theoretical and not supported by peer-reviewed literature, rather than truth.”

We have attenuated the statements (page 11, line 269, revised version).
“Discussion: The authors report using direct vision to determine the accuracy of the puncture. In the response to the reviewer's comment, they elaborate on how this visual puncture influences the process of reaching the correct calyx. “As we mentioned in the discussion part (page 13, line 308, revised version), using direct vision, the accuracy of puncture position was determined by the visual puncture technique. (If we didn't see the stone, we should adjust the puncture angle.) And the needle tip position was observed by intrathecal endoscopy and the depth of needle tip in the targeted renal calyx was adjusted properly to ensure that the guide wire in the narrow space of the renal calyx was placed exactly in place.” As this is an important part of the puncture and actually essential to understand why this is performed, I would urge the authors to also report this in the actual manuscript.”

We have added this in the actual manuscript (page 12, line 292, revised version).

“Discussion: Tract sizes: The authors refer to two papers to assign different tract sizes to standard, mini and ultra mini perc. The paper by Zeng demonstrates that there is a broad range of miniaturized PCNL equipment but provides no consensus, where the paper from Sashikant describes their experience with mini-perc. It would be appropriate to reference Schilling or Rassweiler or both additional to the Zeng paper as they both suggested a standardized nomenclature for PCNL description. [1,2].


We have referenced Schilling’s and Rassweiler’s papers. (page 10, line 240, revised version).

What’s more, for Federico Soria, PhD’s comments, we use the word "optical puncture" instead of "visual puncture" in the manuscript.

For Federico Soria, PhD:

“Title. The word "Optical puncture" seems more appropriate than "visual puncture"”

We have revised (page, line, revised version).
“Abstract. Background. The first sentence could be deleted. The definition of kidney stones in a Urology journal does not seem to contribute anything to the readers.”

We have deleted the sentence.

“Why authors use the Grignon´s grading, it is more common to use the SFU classification "Society of Fetal Urology"?”

We consider that the descriptions of Grignon`s grading about the degree of hydronephrosis is more objectively than SFU classification.

“In multitude of phrases authors describe the "ureteral catheters" it would be better to use double jota or pigtail ureteral stents, to avoid a mistake with the ureteral catheters for pyelography.”

We use DJ stent short or double jota stent, and in the part of Surgical Methods, we also use the ureteral catheters to prevent the stone fragment moving down to the distal ureter during operation which would be removed at the end of the surgery.

“Discussion. The authors should make an effort to shorten this section. Since many topics are dealt with that are tangential to the study and are not directly related to this manuscript. As for example with the tubeless and the type of magnetic puncture.”

We have deleted some part of the discussion. Still, we consider that our technique might increase the tubeless rate which may relieve postoperative pain and reduced length of hospital stay.

“In the phrase "it would result in a potential risk of infection". Authors should change to include "septicemia".”

We have revised.

“-References.

-There is an excess of publications in Chinese (34%), which is impossible to assess. Papers in English should be included to improve understanding of the manuscript.

-References should be updated especially on issues such as magnetic puncture (Urolithiais 2014, 2017...etc.).”
We have updated or change some references, but we still left a few Chinese publications which we thought is important and we can’t find another to instead.

“The images should be revised or removed, they do not contribute anything for the low quality.”
We have removed the images.

“-Authors should correct a multitude of typographical errors.”
We have correct the errors to our best.

In all, we found your comments are quite helpful. Thanks very much.

Sincerely yours,

Dr. Weiwen Yu

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