Author's response to reviews

Title: Percutaneous Nephrolithotomy in Horseshoe Kidneys: Is rigid nephroscopy sufficient tool for complete clearance? A case series study

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Author's response to reviews: see over
Reply to the referees

Referee 1:

Dear Dr Robert J Stein

Thanks for your time reviewing our manuscript that is really appreciated

Referee 2:

Dear Dr Abdul Majid Rana

Thanks for you time reviewing our manuscript. Here is our reply to your comments:

- The manuscript is written very casually and has not taken into consideration latest publications in indexed journals which are more than 7 since 2004.

We do not really understand what you meant by the term casually, as the term itself in the context of criticism of scientific literature is itself rather “casual”. We have revised the manuscript looking for spelling and grammar mistakes, jargon or incoherence; having not found any, we would be grateful if you could point them out.

As for the inclusion of more recent publications, I believe we did not aim at presenting a review of literature and we only quoted work that was relevant to what we thought was our point of view out of this study. However, we recently added to our references the largest series published in the BJUI by Stephanie et al in Dec 2008; which was not published at the time of initial writing of the manuscript.

- The linguistic proficiency is very poor and repetition of statements is at times frustrating.

Again, we would be grateful if you could point that out. (I must here quote the opinion of first reviewer who mentioned the manuscript to be “a very well written and insightful review”.)
- Abstract:
  a) It does not present complete data of patients example sex, age, and renal side.

Abstract do not aim at presenting complete data; that is why they are called abstracts. The patients’ age ranged from 21 to 51 years (mean age 34), they were 13 male and 4 females; this is already mentioned in the text, while in the abstract we aim to be concise to relevant details.

b) Alkan dilators are used to dilate the tract to what extent? This is described in the text under subtitle procedure, we dilated the access tract to 30 F and used an Amplatz working sheath 30F.

c) The result of 87.5% without any flexible nephroscope makes it redundant.

The term redundant is not really understood. If what is meant by redundant is superfluous; we believe that in stone disease, the aim is complete stone clearance due to the risk of recurrent stones in patients left with residual stones. Our point was that rigid instruments alone may not be enough for complete stone clearance in horse shoe kidneys due to anatomical factors that makes isthmic stones inaccessible.

d) It does not explain which rigid instruments were used to deal with the residual stones? Size of residual stones? Methodology to measure it? Single or multiple?

Rigid instruments were the rigid nephroscope and standard stone grasper forceps; we thought that was obvious enough not to be mentioned.

In our case series there were three patients with post operative residual stones. Their size was between 0.5 cm and 1.5 cm; we added that to the text. We used post operative KUB to detect residuals measuring the maximum diameter of the stone as a method of assessing the stone size and this has been mentioned in the methodology of the manuscript.
• Introduction:
  a) Last two lines of Para II are contrary to the fact as proper orientation and choice of calyx can more suitably be best decided while dynamic views of RGU are screened.

  We did not mean that dynamic retrograde in not important for choice of the calyx during percutaneous access, we merely aimed to explain the different orientation of calyces in horseshoe kidneys from normal kidney due to malrotation.

• Patient and Method

  CT angiography was only done in initial 10 patients to delineate. Although you have mentioned Al Otaibi's paper in the references, I could not find mention of this paper in your text. Al Otaibi claimed 19% higher incidence of finding retro renal colon in horse shoe kidneys advocating mandatory CT scan for PCNL in such kidneys. In the same paragraph you mention "in all renal units -----." Please explain what you really intend to convey.

  Al Otaibi results are found in the table comparing the results of different series. When we used CT angiogram, we were looking for abnormal vessels not retrorenal colon. We didn't find any and therefore discontinued the use of this relatively expensive investigation in our country. Although we know that Al Otaibi advocated mandatory CT for PCNL in horseshoe kidneys, yet we don’t think this has become a standard of care yet.

• Procedure:
  a) Size of the ureteral catheter needs mentioning:
    6 F
b) Prone position is known to produce cephalad movement of the kidneys and bolsters and bags does not fix the kidneys nor push them posteriorly as these bags are kept against the ventral abdominal wall pushing the peritoneum against it only.

We strongly disagree with your statement; is this a personal opinion or a scientific fact, as it negates our limited personal experience.

c) The contrast material can only opacify P.C. system but does not distend it.

Again we used the contrast to opacify and distend the pelvicalceal system.

d) Please mention the size of the guide wire and size of the Alkan dilators used up to what size.

The size of the guide wire used is the .035 inch, floppy tip, standard polyurethane wire. The aim of the article is not to describe the technique of PCNL and all the standard instruments. You commented on size of Alkan dilator before.

e) You have mentioned that desired calyx was approached head on which in return should result in normal length of the tract not longer. Please explain?

Approaching the desired calyx head on is a part of standard puncture technique during percutaneous renal surgery and has no relation to length of the tract which is related to the orientation of the calyces rather than the site of puncture.

f) In Para IV you have mentioned procedures were “tubeless”, please mention in how many cases it was done along with indications, contra indications, inclusion and exclusion criteria.

We did not believe that this data is of importance to the point we were presenting. However, we left no tube when there is no suspicion of perforation or major bleeding.

g) Para V is full of contradicting statements; please describe complications being major or minor scientifically rather than relating it to duration of hospital stay.
This is the definition we use to categorize our post operative complications. Major complications are either result is prolonged hospital stay or additional intervention. There is no scientific consensus on what is the demarcation between major and minor complications.

- **Results:**
  a) In case of multiple stones term “stone burden” should be used not “size”. You have used both terms without proper justifications.

  The stone size and stone burden are often used synonymously, (for example in the EAU Guidelines 2008 on urolithiasis) and we expressed the size by the stone length in a plain film.

  b) In Para V, you have mentioned that while developing tract it appears that you are lateral as mentioned in line 3 of Para II All lateral entries are more associated with colonic punctures. You have claimed that the puncture site remained medial to posterior auxiliary line rather than close to transverse process of lumber vertebra.

  All punctures should be made medial to posterior axillary line while the patient is in the prone position to minimize the risk of colonic injury. We were making this statement to explain that although the punctures were more vertical than usual, yet they were not as medial as expected and remained closer to the posterior axillary line than to the lumbar vertebra.

  c) Para III: Bleeding is not related to talk but bad punctures, poor tract creation and irresponsible manipulation while inside the kidney

  Very good statement.

  d) 85.7% clearance with auxiliary measures is good enough results and does not make a strong case for flexible nephroscope.

  We don’t find these results satisfactory; again our aim is complete stone clearance. *Burgher A et al 2004 J Endourology the progression of nephrolithiasis*: small stones more than 4mm will ultimately result in need
for intervention in the future even if they were asymptomatic at a time. We are not making a case for flexible nephroscopy, we just think they might improve the results.

e) Reference 6, 7 and 8 are not highlighted in the manuscript.

They are highlighted in the discussion table to compare our result with some of the published series.