Peer Review File

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Reviewer Comments

This is an interesting case report even when the patient died after PCNL.
Some issues, however should be addressed.

Comment 1: I do not understand why the views were poor. For puncturing the kidney, has an ultrasound guidance been used.? If not why not? Which kind of guide wires have been used? Has a hydrophilic guide been used?

Reply 1: Following further clarification with the radiologist views were not poor so this has been removed, but as stated it was challenging due to complex anatomy. Ultrasound was indeed used. Following the initial punctures being performed a nitinol tipped wire was passed. This was exchanged for a Terumo© hydrophilic wire to negotiate down the ureter. Once in the bladder, the hydrophilic wire was exchanged for a stiffer wire with floppy tip (Amplatz Super Stiff©).

Changes in the text 1: Removed comment that views were poor (Page 5, Line 6) Inserted text stating ultrasound guidance (Pade 5, Line 6) was used and clarified the various wires used in the text as well (Page 5, Lines 11 & 19).

Comment 2: Even recognizing the fact that it was a complex anatomy what was the reason for a five hours procedure?

Reply 2: The total procedure time includes placing the patient on the operating table, performing the WHO Checklist, retrograde studies, placing the patient prone again, interventional radiology puncture and then the surgical procedure itself. It was very complex anatomy so puncturing the kidney to get access took around 2-3 hours, which normally takes our experienced interventional radiologist on average only 30 minutes. This was followed by the surgical time which lasted just under an hour. The procedure was abandoned as the kidney was full of stones and very hard stones meaning the surgeon knew he would not be able to clear the kidney of all stones in one session**.**

Changes in the text 1: At the end of the paragraph pertaining to interventional radiology gaining access and inserting a sheath we have added text stating the above point (Page 5, Lines 20-22).

Comment 3: There must have been a massive loos of irrigation fluid to the pleura and the retroperitoneum. This is hard to understand. Was there a repeated dislocation of the Amplatz sheath during the procedure? How

many litres od irrigation fluid have been used?

Reply 3: There was displacement of amplatz sheath once or twice as the renal cortex tissue was so thin, it slipped out but amplatz is always under vision so easy to push it back in. The renal cortex was thin and dysplastic. Fluid was probably lost from around the amplatz entry point as well as the puncture sites made to gain access to the kidney.
Approximately 10 litres of irrigation fluid was used in total. There is not much space in retroperitoneum so even a relatively small amount of fluid displaces organs to one side. There is a catheter and a stent in place so fluid entering kidney generally tends to come down to the bladder and out into the urinary catheter, but a proportion of fluid was lost in this case.

Changes in the text 3: In the paragraph covering the surgical aspect of the procedure we have added to text covering the above points in full (Page 6, Lines 9-12 and Page 7, Lines 8-12).

Comment 4: Fig. 4 shows a guide wire in a medial upper calyx. What was the reason for not puncturing initially the lateral mid-pole calyx? This was a calyx containing a stone, the upper ones did not.

Reply 4: This is based on operator preference which is based on the method the interventional radiologist was taught. Upper pole punctures in our practice allow access to more calyces once the sheath is in. We find with lower pole punctures, the pelvic bone restricts how much the camera / sheath can be moved.

Changes in the text: This reply has been added to the text in the paragraph covering the interventional radiologist gaining access (Page 5, Lines 8-11).

Comment 5: Figure 2 is redundant.

Reply & changes in the text 5: This figure has been removed.