


Safe PCNL (antegrade URS) in large impacted upper ureteric calculi: A point of technique

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Introduction

For the treatment of large impacted upper ureteric calculi, the antegrade ureteroscopy (URS) is the procedure of choice. We have devised/suggested modifications for the technique of antegrade URS.

Methods

Details from January 2015 to January 2020 regarding the technique involved in the treatment of large (>1.5 cm) calculi in upper ureter from ureteropelvic junction to L4 with or without renal calculi are included in the video. The three modifications suggested for the technique are as follows:

1. Keeping the ureteric catheter below the calculus and not advancing it to avoid ureteric trauma and extravasation,
2. Puncture through a predefined point defined on preoperative imaging or costovertebral angle to opacify the pelvicalyceal collecting system (PCS) to plan proper percutaneous access, and
3. Using an extension tubing to inject the contrast in PCS to avoid the movement of needle and radiation to hands.

Once the PCS is opacified, percutaneous nephrolithotomy (PCNL) is performed in a routine way.

Results

From 2015, we have performed 701 PCNL procedures. This technique was used in 63

patients. The access was successful in all patients. Complete clearance was achieved in 61 patients. Two patients required retrograde URS for retrieval of migrated sizable fragments. One patient developed hydrothorax that needed aspiration, and one had a suspected colonic injury that settled with conservative treatment.

Conclusion

These modifications make the antegrade URS a safe procedure. These modifications have the following advantages:

1. Avoid ureteric trauma,
2. Avoid extravasation of the contrast,
3. Help in flushing to prevent fragments from going down,
4. Allow precise percutaneous approach,
5. Prevent radiation from reaching to the urologist's hands, and
6. Prevent unnecessary movement of the needle.

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