

INTRODUCTION AND OBJECTIVES: Traditionally, X-ray is an important tool in PCNL procedure. However, X-ray is well known to have various potential hazards despite usage of protective apron or shield in long term exposure. Although ultrasound (USG) guided track creation was used to avoid X-ray exposure, the quality of the imaging is usually suboptimal to guide the needle puncture and X-ray is still required to guide track dilatation.

METHODS: Navigation USG is used to guide the target site puncture in single pass. The depth of the needle was marked. Subsequent fascial dilators were passed with reference to the needle mark on the shaft. Once dilated to Fr 10, ureterorenoscope (URS) was inserted and guide wire was manipulated into the ureter. Subsequent metallic telescopic dilators were passed safely and consistently to the depth based on the needle mark reference until Fr 24 up to Fr 28 Amplatz sheath placed. Subsequent stone fragmentation showed no difference to the traditional PCNL.

RESULTS: X-ray is not used at all during track creation and dilatation steps. Puncture was created precisely in single pass under navigation USG. As guide wire was subsequently passed precisely into the ureter, tract dilatation was safely and precisely created. The role of X-ray is to check stone clearance status in selected cases.

CONCLUSIONS: Obviously avoidance of X-ray usage is the best solution. The usage of navigation and URS is useful to achieve this. Most importantly, It is easy to learn and yet safe.

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VP05-06 ULTRA-MINI-PERCUTANEOUS NEPHROLITHOTOMY OF UPPER URETERAL IMPACTED STONES. OUR INITIAL EXPERIENCE

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INTRODUCTION AND OBJECTIVES: To assess the efficacy and safety of ultra-mini-percutaneous nephrolithotomy (UM-PCNL) using 6Fr ureteroscope in the treatment of impacted ureteral stones.

METHODS: Method: We retrospectively analyzed the records of 25 patients with impacted upper ureteral stones less than 20 mm who underwent UM-PCNL using 6Fr ureteroscope through a 10Fr metal sheath between January 2010 and January 2013. A successful outcome was defined as the patient being stone free on radiography 1 month after treatment. Pneumatic lithotripters were used for stone fragmentation. The safety, efficacy, and outcome were analyzed.

RESULTS: UM-PCNL using 6Fr ureteroscope were performed successfully in all patients. Mean age of patients was 48.2 years (range 9 to 68). The mean stone size was 13.5 mm (range: 9–20). Mean operating time from taking access to removing ureteroscope was 47 min (range: 25–65). Mean postoperative hospital stay was 1.5 days (range: 1–3). The stone-free rate in all patients was 95.7% up to 30 days after procedure. Low grade fever occurred in 2 (8%) patients. No major complications like urosepsis, significant hemorrhage, perforation or organic injury were observed during the operation or postoperatively. No auxiliary procedures were required.

CONCLUSIONS: Miniaturization of instruments, exactly decrease the PCNL morbidity along with high success rate, so can be recommended as a first-line treatment for selected impacted

ureteral stones. Randomized studies are still needed to confirm these findings.

SOURCE OF FUNDING: None

VP05-07 “MINI-PERC” TECHNIQUE AND PERCUTANEOUS LASER INFUNDIBULOTOMY FOR UPPER POLE CALYCEAL DIVERTICULAR STONE: A TECHNICAL CHALLENGE

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INTRODUCTION AND OBJECTIVES: Renal calyceal diverticular stones, especially upper pole ones with a pinhole infundibulum, pose technical challenges to the access for stone treatment and different approaches have been described. We describe a “mini-Perc” technique of percutaneous nephrolithotomy together with percutaneous laser infundibulotomy after stone clearance.

METHODS: A 55-year-old Indonesian housemaid presented with back pain for two years and an opacity over right renal shadow area on X-ray. An intravenous urogram and later a computed tomography suggested a 1.8 cm right upper pole calyceal diverticular stone with very narrow infundibulum. After general anaesthesia and insertion of an occlusion balloon catheter into the ureteropelvic junction, ultrasound-guided direct puncture to stone was performed and a “mini-Perc” technique was adopted using a 18Fr peel-away sheath, 12.5Fr paediatric nephroscope and Lithoclast for stone fragmentation. The pinhole infundibulum was identified by retrograde injection of contrast mixed with methylene blue and a double-flexible super-stiff guidewire was passed to ureter in antegrade manner. The infundibulum was dilated with ureteric fascial dilators and ablation of fibrotic tissue was performed percutaneously using Holmium laser. A 7Fr 26 cm double-J stent was inserted across the infundibulotomy site and a 10Fr malecot nephrostomy drain was inserted.

RESULTS: Operation time was 2 hours 25 minutes and the procedure was uneventful. The malecot drain was removed on Day 2 and patient was discharged on the same day. Patient recovered well with double-J stenting for 6 weeks as planned.

CONCLUSIONS: “Min-Perc” technique combined with percutaneous infundibulotomy is a feasible option in treating calyceal diverticular stones.

SOURCE OF FUNDING: Nil

VP05-08 HIGH POWER HOLMIUM-YAG LASER COMBINED WITH SUCTION FOR PERCUTANEOUS NEPHROLITHOTOMY (PCNL) IN LARGE BULK RENAL CALCULUS

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INTRODUCTION AND OBJECTIVES: Both laser and pneumatic lithoclast are equally efficient energy sources for PCNL. The laser fragments stone efficiently however significant time is lost in retrieving gravel created by laser. The goal of this study was to evaluate the efficacy of high power laser combined with suction for PCNL in large bulk renal calculus.

METHODS: After institutional ethical committee approval high power laser with suction was used for PCNL in patients with large bulk renal calculi of size more than 2 centimeters. Exclusion