Early Experience in Percutaneous Nephrolithotomy in Al-Jamhoori Teaching Hospital

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Abstract

Background: Percutaneous nephrolithotomy is widely accepted, safer and effective treatment modality and it is the procedure of choice for removing large, complex, and/or multiple renal calculi. Percutaneous nephrolithotomy has lower morbidity and postoperative patient discomfort.

Aim: To evaluate the initial experience of percutaneous nephrolithotomy in Al-Jamhoori Teaching Hospital.

Materials and Methods: It is a case series study. From May 2012 to Feb. 2013, 13 patients, aging 22-42 years, with renal stone of different size (1.5cm - 4 cm) were submitted to percutaneous nephrolithotomy, 11 male, 2 female, one of them with bilateral renal stones, all of them located in the lower, middle and or in the renal pelvis, upper pole stone were not included. Patients were selected without any co-morbidity. The procedure was done under general anesthesia in prone position, subcostal approach, using fluoroscopic guidance (c-arm.), and irrigation fluid (0.9% normal saline) at body temperature was used. Steps of percutaneous nephrolithotomy included: Ureteric and urethral catheterisation (supine), percutaneous renal access in the posterior axillary line, guide wire must always be in place to maintain access and to get tract dilatation. A track has been dilated and a 34 F working sheath is being advanced over a 30F metal dilator. Tracts can be dilated with metallic, telescopic, plastic or balloon dilators followed by endoscopic stone fragment extraction by rigid-flexible endoscopy, post-extraction drainage (nephrostomy, ureteric catheter or tubeless), lastly wound dressing was done. Also Alken needle, guid rod, metallic graspers and disposable dilators of different size up to 30 F, amplatz sheath, nephroscope (storz) of 26F were used. Ballistic lithotripter (storz) was used in 7 cases, ultrasonic lithotripter used in 5 cases, one case with Lazer lithotriptor.

Results: Operative time range was from 1.30 to 2.30 hours including initial cystoscopic evaluation and stenting of the ureter, while hospital stay was 24-48 hours. Blood loss was about 200-300 ml. Only one patient needed blood transfusion. One patient had hypoxia at the end of procedure due to compression of the chest from prone position which necessitated termination of procedure leaving residual stone, one patient had post operative fever. Tow patients got intraoperative renopelvic perforation without urinary extravasations. Only one patient was converted to open due to loss of renal access (nephroptosis). From 13 patients, 5 patients who had big stone of more than 3cm had residual stone that necessitated session of ESWL, 7 patients had complete clearance.

Conclusions: To avoid complications during the procedure and to gain successful outcomes after the procedure, proper patient selection, maintenance of available instruments, training and experience of the surgeon are critical.

Key Words: percutaneous nephrolithotomy, renal calculi, cystoscopy.