P073 Percutaneous management of stones in pelvic kidneys - A tertiary hospital experience

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Introduction & Objectives: Modern society bears the increasing burden of stone disease. Percutaneous nephrolithotomy (PNL) is used to treat large stones or complex calculi. Some anatomical abnormalities lead to technique modifications; that is the case of a pelvic kidney, which can be due to congenital defects or transplantation. We present our series of PNL in pelvic kidneys, namely the access, stone-free and complication-associated rates.

Materials & Methods: We retrospectively reviewed our series of PNL from February 2018 to February 2019 and identified 4 patients who underwent PNL in a pelvic kidney. Their clinical, radiological, laboratorial information and surgical data were collected.

Results: From our series, 3 were transplanted kidneys and 1 was a congenital pelvic kidney. In all patients lithiasic volume was classified according to Guy-stone score as grade III. In one of the cases, there was a previous tract (nephrostomy placed in the medium pole calyx) due to acute obstructive uropathy that was used during the subsequent PNL. In all patients, access in anterior iliac fossa was achieved: 1 in the upper pole calyx, 2 in the medium pole calyx and 1 in the inferior pole calyx. Access was obtained with the combination of fluoroscopy and ultrasound guidance. Three patients had their tract balloon-dilated and tract was done with Amplatz dilators. Three of the patients underwent a combination of antegrade nephroscopy and retrograde flexible ureteroscopy. The mean operative time was of 230 minutes and 3 patients had their nephrostomy tube removed after 3 days. Two patients were considered to be stone-free immediately after surgery and the other 2 patients had millimetric urolithiasis found in a subsequent CT evaluation. Regarding complications, there was a 3A Clavien-Dindo score event (renal pelvis perforation) in the patient with the upper pole calyx access, and a grade 2 event (blood transfusion due to significant blood loss without hemodynamic instability) in another patient.There was no kidney loss.

Conclusions: PNL in a pelvic kidney can be a challenging procedure. When planning the surgical approach, the calyx access is a key feature to ensure a successful outcome. Usually, this is performed in an anterior calix due to the anterior location and rotation of the transplanted/pelvic kidney. In this situation, the ultrasound guidance is of extreme importance to provide a better perspective due to the abnormal localization of the kidney. In our series, there was a higher risk of bleeding but 2 factors can contribute to this situation: the hypervascularization of the kidney capsule in kidney grafts and the small number of patients identified in our center. Nevertheless, a medium or inferior calyx approach allowed for a safer outcome and a successful stone-free rate.