



ANURIA FOLLOWING URETEROSCOPY A RARE COMPLICATION

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Abstract :

Ureterorenoscopy (URS) is one of the most commonly done procedure in urology. Incidence of serious complications like urinary extravasation following URS is reported to be 1 in literature. Herein we report a case of renal calculus disease who developed urinary extravasation following bilateral ureterorenoscopy and its further management. This case is being reported for its rarity.

Keyword : Ureterorenoscopy (URS), Urinary extravasation, Anuria

Case report:

60 year old female patient has come with complaints of bilateral loin pain for one month duration. Loin pain was intermittent colicky and not radiating. She had no history of obstructive and irritative lower urinary tract symptoms. Patient is a known hypertensive on Tab. Amlodipine. Preliminary investigations revealed no radio opaque shadows on Xray KUB. On ultrasound right renal pelvic calculus 1 cm in size was noted with left hydronephrosis.

CT scan revealed 1.5 cm right renal pelvic calculus, 1 cm simple cortical cyst in upper pole and left side hydronephrosis. Basic blood and urine investigations were within normal limits and urine culture showed no growth. Patient underwent right ureteroscopy with DJ stenting and left diagnostic ureteroscopy. There was no difficulty in instrumentation and intraop period was uneventful.

Post operative period:

Patient had no urine output for the first 6 hours. Serial examination of the patient revealed abdominal distension with dyspnea, tachycardia and no tenderness. Renal parameters initially normal began to rise with a serum creatinine of 2 mg/dl and electrolytes within normal limits. Bedside USG showed perinephric fluid collection bilaterally. An emergency plain CT scan of the abdomen was done that showed bilateral perinephric fluid collection with normal bowel loops and mild mesenteric edema. Right DJ stent was seen in position. Left ureter was normal, traced up to the bladder.(Fig1)

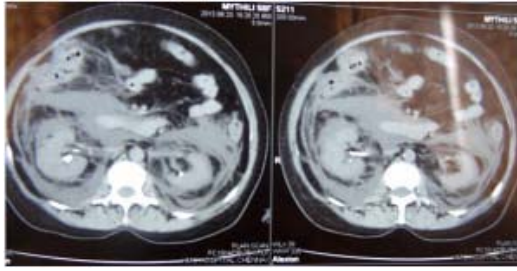


Fig.1: Post URS plain CT showing bilateral perinephric fluid collection

Laparotomy findings

Due to increasing abdominal distension and features of abdominal compartment syndrome, patient was taken up for laparotomy with mid-line incision. Intra operatively bowel loops were normal and fluid collection was seen in both paracolic gutters. Fluid from the retroperitoneum was drained by opening along the white line of Toldt's. About 1.5 litres on right side and around 500 ml on left side were drained. Drain tubes were kept in flanks and wound was closed in layers.

Post operative period

Patient's urine output improved gradually and within a week drainage from DT subsided. Serum creatinine gradually reduced to normal range after 1 week. Repeat CECT scan taken on 10th POD showed no extravasation on both sides and right DJ stent was in position (Fig.2). Bilateral DT was removed and patient underwent ESWL for right renal pelvic calculus. Stone clearance was complete and right DJ stent was removed after 4 weeks (Fig.3).



Fig.2: Post Laparotomy Contrast CT showing both kidney and ureter with no extravasation



Fig.3: Post laparotomy X ray KUB with stone and post ESWL X ray KUB showing stone clearance

Discussion:

In this case probably fornix rupture might have occurred on the right kidney and irrigation fluid might have reached left perirenal space through midline fascial communication. The kidneys, suprarenal glands, and the fat surrounding them are enclosed (except inferiorly) by a condensed, membranous layer of renal fascia, which continues medially to ensheath the renal vessels, blending with the vascular sheaths of the latter. Complications following URS are 1.9% to 17%. Urinary extravasation can occur following ureteral wall lesions or fornix rupture (1) and leads to retroperitoneal urinoma. The incidence of urinary extravasation is 0.6–1% (2). As retrograde intraoperative pyelography is not routinely done, real incidence of extravasation may be under reported. The degree of extravasation is directly related to the parietal lesion size as well as to the moment of perforation. Absorption of hypotonic irrigant may cause volume overload, hyponatremia, and hemolysis (3). Using saline solutions for irrigation

during URS may prevent this complication. Also, to avoid calyceal rupture or perforation, an appropriate irrigation pressure is recommended. The existence of an associated urinary infection may cause retroperitoneal abscesses. Urinary extravasation causes peri-ureteral fibrosis. In case of significant extravasation, ureteral stenting for 4 to 6 weeks may ensure an adequate drainage and ureteral healing without sequelae (3). In case of failed ureteral stenting, percutaneous nephrostomy or antegrade stent insertion is necessary. If the percutaneous or retrograde approaches are impossible, open surgery is required(2). It is advisable to perform a careful follow-up of the patient in order to identify ureteral stenosis or fistula. When postoperative urinary extravasation is suspected, intravenous pyelography exploration is mandatory (2).

References;

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