

CT FEATURES OF MALPOSITIONED GENITOURINARY CATHETERS IN THE ED

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OBJECTIVE: PRESENT SERIES OF MALPOSITIONED GU CATHETERS AND COMPLICATIONS.

TARGET AUDIENCE: RADIOLOGY RESIDENTS AND FELLOWS.

BACKGROUND:

- LEADING COMPLICATIONS OF URINARY CATHETERIZATION INCLUDE URINARY TRACT INFECTION AND GENITOURINARY TRAUMA.
- URINARY CATHETER MALPOSITION IS RARE IN RELATION TO NUMBER INSERTED.

MALPOSITIONED FOLEY CATHETER



Fig 1. Delayed phase scan from contrast-enhanced CT in 26-year-old male involved in MVC with Foley catheter placed in ED. Sagittal image depicts Foley catheter traversing bulbar urethra, with tip and balloon (black arrow) anterior to prostate, extraperitoneal gas (white arrowhead), and presacral hematoma (white arrow). Pelvic fractures are not pictured.

MOST COMMON LOCATIONS OF MALPOSITIONED FOLEY CATHETERS: PROSTATIC URETHRA, URETER
ASSOCIATED COMPLICATIONS: URETERAL RUPTURE, HYDROURETERONEPHROSIS, URINARY OUTFLOW OBSTRUCTION (1).

MALPOSITIONED SUPRAPUBIC CATHETER

**MOST COMMON LOCATIONS
OF MALPOSITIONED
SUPRAPUBIC CATHETERS:
RECTUM, SMALL BOWEL**

ASSOCIATED

COMPLICATIONS:

HEMORRHAGE, PAIN,
URINARY TRACT INFECTION,
URINARY LEAK (2).

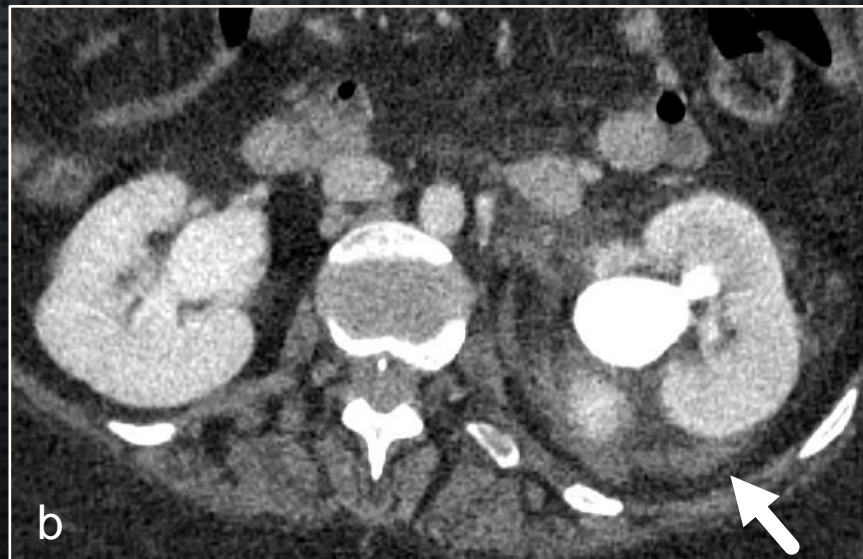


Fig 2. Contrast-enhanced CT in 41-year-old female with multiple sclerosis and neurogenic bladder presenting with left flank pain 7 days post suprapubic bladder catheterization. Axial image (a) shows suprapubic catheter tip extending into left ureteral orifice (black arrow). Axial image (b) shows left hydronephrosis, delayed nephrogram, and perinephric fat stranding (white arrow).

MALPOSITIONED URETERAL STENT



Fig 3. 71-year-old post laparoscopic TAH-BSO and pelvic lymph node dissection for endometrial adenocarcinoma, complicated by right ureteral transection and repair. KUB (a) shows right ureteral stent located abnormally medially (black arrow). Coronal contrast-enhanced CT image (b) shows proximal pigtail of right ureteral stent within the IVC (white arrow) and pelvic urinoma (arrowhead). Surgery confirmed inadvertent anastomosis of right ureter to right gonadal vein.

MOST COMMON LOCATIONS OF MALPOSITIONED URETERAL STENTS: URETER, COLLECTING SYSTEM, RENAL PARENCHYMA

ASSOCIATED COMPLICATIONS: URINOMA, HEMATOMA (3).

CONCLUSION: MDCT ALLOWS FOR ACCURATE LOCALIZATION OF URINARY CATHETER POSITION AND COMPLICATIONS OF MALPOSITION.

REFERENCES:

1. PATEL A, FRIEDMAN EA. OBSTRUCTED OR MALPOSITIONED URETHRAL CATHETER INDUCED ACUTE KIDNEY INJURY. CASE REP NEPHROL 2012; 2012: 731502.
2. DYER RB, CHEN MY, ZAGORIA RJ, REGAN JD, HOOD CG, KAVANAGH PV. COMPLICATIONS OF URETERAL STENT PLACEMENT. RADIOGRAPHICS 2002; 22:1005 –1022.
3. CRONIN CG, PRAKASH P, GERVAIS DA, HAHN PF, ARELLANO R, GUIMARES A, MUELLER PR. IMAGING-GUIDED SUPRAPUBIC BLADDER TUBE INSERTION: EXPERIENCE IN THE CARE OF 549 PATIENTS. AJR AM J ROETGENOL 2011 JAN;196(1):182-8.

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