



Incidental Finding of Hydroureteronephrosis As A Complication From Suprapubic Catheter

Tommy Yu, M.D.^{1,2}, Peggy Coffey, M.D.¹

¹James A. Haley Veterans' Hospital, Tampa, Florida, ²University of South Florida Morsani College of Medicine, Tampa, Florida



Introduction

- 66 year-old male who sustained a traumatic, chronic C4 AIS A spinal cord injury, who resides in the long-term care unit.
- He has a history of bladder calculi s/p cystolithopexy over 1.5 years ago,
- He uses a suprapubic catheter for management of neurogenic bladder since then.

Presentation

- Noted to have blood from the urethral meatus, but not into the suprapubic catheter or around the cystostomy site.
- Initial workup ruled out urinary tract infection.
- Aspirin and enoxaparin were stopped, and bleeding resolved.
- Since his PSA was trending up, cystoscopy was suggested to evaluate for carcinoma.
- Prior to that, he underwent ultrasound of kidneys and bladder as below:



U/S: New moderate hydronephrosis of L. kidney



CT renal and CT urogram showed:

- Duplicated left renal collecting system
- Left hydronephrosis and a hydroureter
- The tip of the suprapubic catheter passes through the left ureterovesical junction (UVJ) into the distal left ureter

Medical Course

- Regardless of retracting the suprapubic catheter against the bladder wall, CT urogram demonstrated the same finding.
- During this period, his creatinine increased from 0.2 to 0.4, while his GFR remained unchanged.
- Cystatin-C was elevated at 1.88mg/L.
- No hematuria
- Regular drainage of urine from suprapubic catheter
- Urologist performed flexible cystoscopy which showed large prostate, edema and erythema of left ureteral orifice without other intravesical abnormalities.
- A new suprapubic catheter was placed



1 week post-cystoscopy and replacement of catheter. Minimal prominence of the left renal pelvis, significantly improved since last sonogram

Discussion

- Misplacement of suprapubic catheter into ureter is rare among people with SCI
- There were case reports of symptomatic misplacement of suprapubic catheter into ureter
- Unclear risks of individuals with SCI leading to this
 - Atrophic bladder
 - Enlarged prostate
 - Prominent ureteral orifice
- Ultrasound and CT renal and bladder are the imaging of choice
- Retraction or repositioning of the suprapubic catheter would be the initial management, if unsuccessful as confirmed by symptoms and imaging, cystoscopic replacement of urinary catheter is recommended

Conclusion

- There were rare cases of hydroureteronephrosis secondary to catheter tip obstructing the UVJ.
- Past cases in patient with spinal cord injury always presented with symptoms.
- This case describes the discovery of hydroureteronephrosis without infectious presentation or dysfunction of the catheter system.
- There could be a correlation with atrophic neurogenic bladder and enlarged prostate that led to occurrence of catheter tip passing into ureteral orifice.
- Further studies may assist with selection of device which lower such risk.