

Case Report*Open Access, Volume 2***Urinoma: Saviour of beleaguered kidney****Manjeet Kumar^{1*}; Mehar Chand²; Sanjeev Chauhan³; Sunil Kumar⁴; Kirti Rana³**¹Assistant Professor, Department of Urology, IGMC, Shimla HP, India.²Senior Resident, Department of Radiology, IGMC, Shimla, India.³Junior Resident, Department of Surgery, IGMC Shimla, HP, India.⁴Senior resident, Department of Urology, IGMC Shimla HP, India.***Corresponding Author: Manjeet Kumar**Assistant Professor, Department of Urology, IGMC,
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Abstract

Introduction: Spontaneous extravasation of urine due to High Pressure Chronic Retention is a rare entity. Most cases of urinoma are secondary to ureteric calculi. We present a case of left spontaneous perinephric urinoma with right hydronephrosis with high pressure chronic retention due to benign enlargement of prostate.

Summary: A 70 years male, with no comorbid illness, presented with left flank pain with overflow incontinence. On radiological evaluation, he was found to have distended urinary bladder, with right hydronephrosis and left perinephric collection. Renal function tests were deranged. Patient was managed with per urethral catheter placement, antibiotics and ultrasound guided aspiration. Retention volume was more than one litre. Creatinine content of aspirated fluid was ten times higher to serum creatinine. Transurethral resection of prostate was done. The patient voided well after surgery. The urinoma resolved completely in 2 weeks. Follow up Contrast study revealed preserved left renal function; however the right hydronephrotic kidney shrank in size.

Conclusion: Spontaneous perinephric urinoma formation due to High pressure chronic retention was a blessing in disguise for the patient. It saved the affected kidney from getting knocked out. The other side hydronephrotic kidney suffered anatomical and functional loss.

Keywords: Urinoma, Hydronephrosis, Bladder outlet obstruction

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Introduction

Spontaneous extravasation of urine is a rare entity. It comprises 0.08% - 1% of urograms. Most of the cases occur on unilateral side. Mostly it is self-limiting and resolves with conservative treatment [3]. It results when urine extravasation occurs from the urinary tract. This extravasation can occur from kidney, ureter, bladder, or urethra. Urinoma can be unilateral or bilateral depending on etiology. It can be symptomatic or asymptomatic. It can present as an encapsulated collection or free fluid mimicking ascites [1].

In urinoma, there is urine collection in retroperitoneum, causing a local inflammatory reaction on perirenal fat. It leads to lipolysis causing encapsulation of urine which is called urinoma [2].

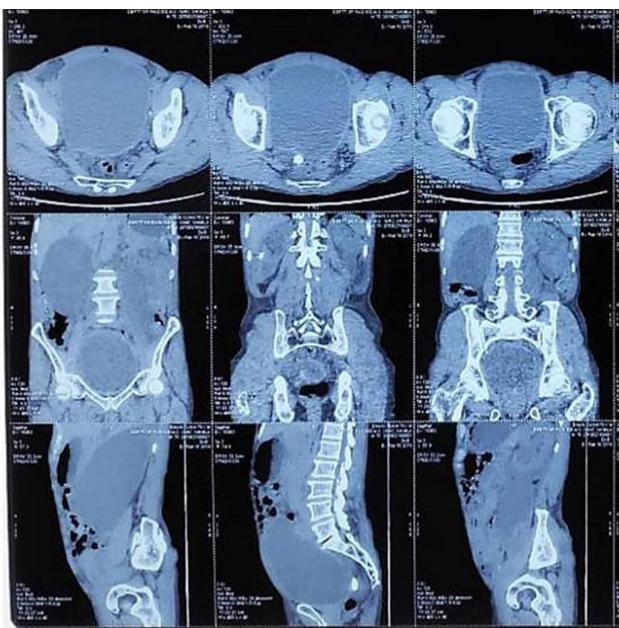


Figure 1: Right hydronephrotic kidney (12 x 5.7 cm) with left mild hydronephrosis (11 X 4.9 cm) and left perinephric collection 12 X 7 X 4.5 cm (urinoma). Urinoma extending from kidney to common iliac vessels.

Case presentation

A 70 years male, with no comorbid illness, presented with left flank pain with overflow incontinence. On examination patient had palpable urinary bladder and tender left renal angle. On radiological evaluation, he was found to have distended urinary bladder, with right hydroureteronephrosis and left perinephric collection. Initial NCCT KUB suggests right hydronephrosis and hydroureter (12 X 5.7 cm Kidney size) till urinary bladder. Left Kidney measure 11 X 4.9 cm with mild hydronephrosis with perinephric collection 12 X 7 X 4.5 cm. The urinary bladder is over-distended and 5.5 mm thick.

Renal function tests were deranged (Urea 40/2.5 mg/dl). He was managed with per urethral catheter placement, antibiotics, left DJ stenting and ultrasound guided aspiration. Retention volume was more than one litre. Creatinine content of aspirated fluid was ten times higher to serum creatinine. He had decrease in creatinine (nadir 0.9 mg/dl) and resolution of perinephric collection. Cystoscopy showed grade II trabeculations and median lobe grade II with grade III lateral lobes. He was planned for transurethral resection of prostate. He voided well after surgery. Follow up Contrast study revealed preserved left renal function; however the right hydroureteronephrotic kidney shrank in size.

Discussion

Urinoma or spontaneous extravasation of urine is a rare condition caused by extravasation of from urinary tract. Clinically patients can be asymptomatic or symptomatic. The patient can present as an acute abdomen i.e.; flank pain decreased urine output or deranged renal function tests. However, in a patient with large urinoma and patients with symptoms of pain, fever, and urosepsis, urgent interventions are required. Treatment involves empiric antibiotic and drainage catheter placed into urinoma [2].

Causes of urinoma can be broadly divided into two categories:

Obstructive

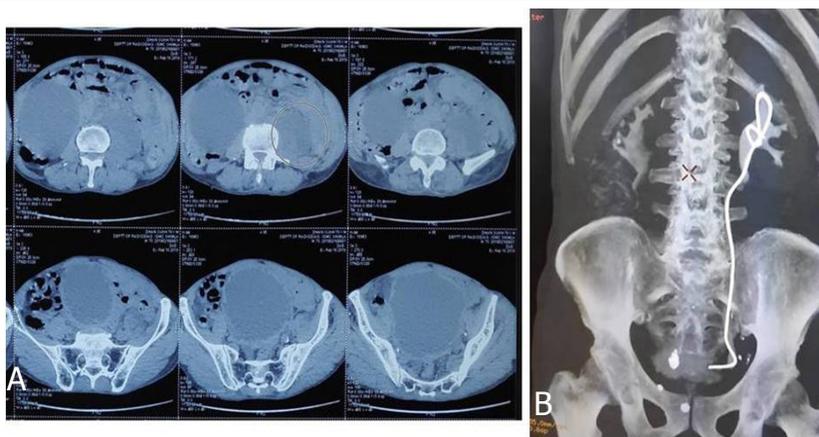


Figure 2: (A) Right hydronephrotic kidney with left perinephric collection(urinoma) with overdistended urinary bladder. (B) Decompressed urinary bladder with left DJ stent in situ.

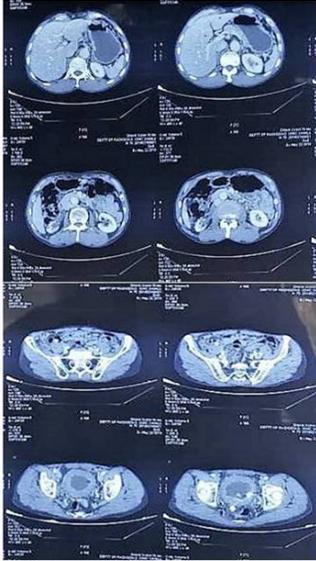


Figure 3: (A) Right small kidney (7.2 X 4.7 cm) with left normal kidney (10.2 X 5.5 cm) with no perinephric Urinoma and Thick walled urinary bladder.
 (B) CT urography shows left normal kidney with right small kidney with highly trabeculated urinary bladder.



Figure 4: (A) Ultrasound urinary bladder show median lobe prostate.
 (B) Cystoscopy show grade II urinary bladder trabeculations.

Ureteric calculus

BPH

Post-radiation scarring

Retroperitoneal fibrosis

Pelvic abscess

Pregnancy

Non-obstructive

Gynecological

External trauma to the urinary system

Genitourinary surgery

Pelvic

Retroperitoneal

Among all these, traumas is the most common cause [1].

For diagnosis of spontaneous extravasation of urine following criteria should be met.

Urine leak can occur between kidney and capsule, which is called subcapsular urinoma, and it can also occur between Gerota's fascia and capsule. The most common urine leak occurs between the kidney and Gerota's fascia. Mostly asymptomatic and symptoms consist of nausea, vomiting, flank pain, fever, ileus, etc. Evaluation of patient with suspected urinoma include, ultrasonography followed by NCCT KUB, NCCT is the gold standard. Management of urinoma is mostly conservative, but if the size of urinoma does not decrease, percutaneous catheter under ultrasound guide can be placed in urinoma. Urinoma, if diagnosed in time, can prove fatal, causing serious complications requiring immediate intervention. A complication of urinoma includes hydronephrosis, abscess formation, sepsis, and paralytic ileus [1].

Our patient had right hydronephrosis and left perinephric fluid collection i.e. urinoma secondary to overdistended urinary bladder as a result of prostatic obstruction. Right Kidney had thin parenchyma compared to left kidney at presentation. This was mainly as a result formation of left urinoma venting off increased pressure in left pelvicalyceal system. The release of urine from left renal pelvis leads to preservation of parenchyma as well leading to symptoms.



Figure 5: Aspiration of perinephric fluid show hemorrhagic fluid with creatine level 23 mg/dl.

Conclusion

Spontaneous perinephric urinoma formation due to high pressure chronic retention was a blessing in disguise for the patient. It saved the affected kidney from getting knocked out. The other side hydroureteronephrotic kidney suffered anatomical and functional loss.

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