International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Urinoma - Rare Manifestation of Carcinoma Bladder

Jahanvi Singh[1], Sushilkumar Kale[2]

Abstract: ***A urinoma is a collection of urine outside the urinary tract as a result of disruption of the collecting system. Obstructive causes of urine extravasation secondary to carcinoma are not unseen but display a delayed diagnosis due to the gradual onset of symptoms. Urinoma as a presenting sign of carcinoma of bladder, as occurred in this case, is rare. We present the case of a 65 - years - old male patient who was admitted to hospital with lower abdominal pain, increased frequency of urination and haematuria. We describe his case from the initial clinical diagnosis of haematuria to the final diagnosis of an infected urinoma after a calyceal rupture from an obstructive uropathy in form of carcinoma bladder. This case highlights the importance of early computerized tomography imaging in patients as ultrasound scans can sometimes be misleading. Misdiagnosis of infected urinomas delays definitive treatment and leads to increased morbidity.***

Keywords: Carcinoma bladder, urinoma, urine extravasation, diagnosis

1. Introduction

Carcinoma bladder is a common urological admission to hospital, but occasionally we encounter the presence of a urinoma as the cause of the patients' symptoms. In this case, Ultrasound abdomen and pelvis failed to diagnose a collection leading to a delay in the management of an infected urinoma. We believe this case has important learning points that can help guide clinicians on a pathway that can lead to the timely diagnosis of similar cases in the future.

2. Case Presentation

A 65 - years - old male was admitted to hospital with 2 months history of haematuria, associated with urinary frequency and lower abdominal pain. The mass was cystic and smooth, and its lower and upper extension could not be determined on physical examination. Urinalysis on admission was positive for blood and leukocytes, but subsequent urine culture failed to demonstrate any specific bacterial growth, possibly due to the fact that he had recently been on antibiotics. He had a normal renal function. Blood urea nitrogen (BUN) was 22.0 mg % and creatinine 1.0 mg %.

USG abdomen and pelvis (Figure 1a) revealed ill defined solid echotextured predominantly hypoechoic lesion likely arising from right posterolateral wall of urinary bladder and right hydronephrosis & right hydroureter, a hypoechoic collection in right perirenal space with suspicious breech in the right renal middle calyx (Figure 1b).

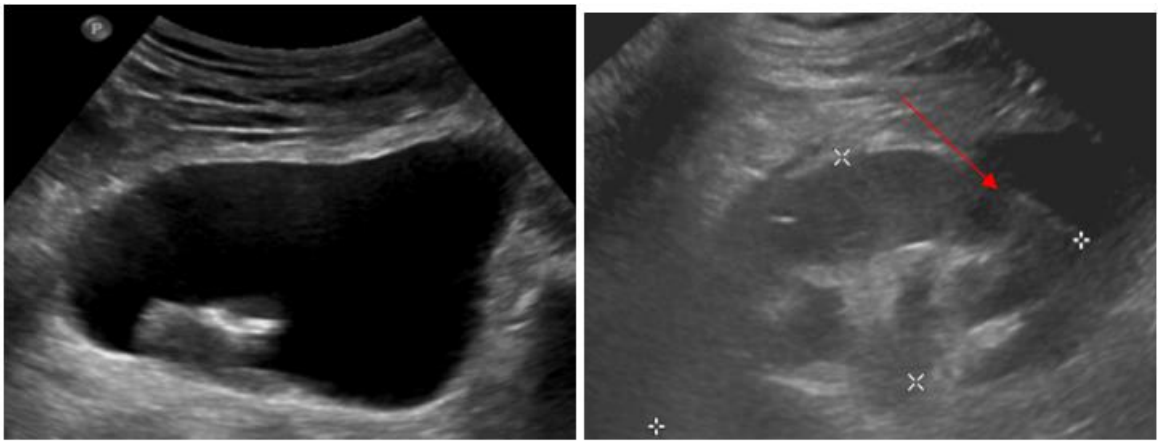

Figure 1: USG A+P showing A) Ill defined heterogenously echotextured mass arising from baldder wall. B) hypoechoic collection in right perirenal space with suspicious breech (arrow) in the right renal middle calyx.

CT scan showed a tumor arising from right posterolateral wall of urinary bladder involving right seminal vesicle, prostate and right vescicoureteric junction, urinoma with soft tissue stranding in right perirenal space extending along right ilio - psoas muscle and right periureter to pelvis and perihepatic space with extravasation of contrast from right middle calyx in right perirenal fluid and perirenal pelvis and multiple simple renal cysts in bilateral renal parenchyma.

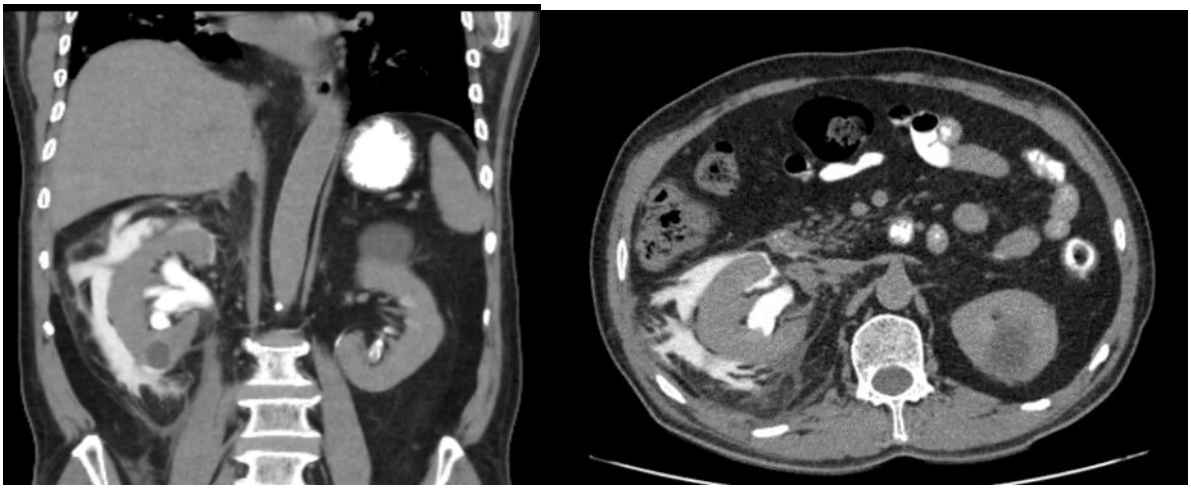

Figure 2: CT scan of kidney shows fluid collection with extravasation of contrast from right middle calyx in right perirenal fluid and perirenal pelvis (peripelvic extravasation) with soft tissue stranding in right perirenal space extending along right ilio-psoas muscle and right periureter to pelvis and simple cortical cyst in left kidney.

Figure 3: CT scan of urinary bladder shows an enhancing soft tissue density mass from right posterolateral wall of urinary bladder involving right seminal vesicle, prostate and right vescicoureteric junction.

Additionally, there was heterogenously enhancing soft tissue density mass lesion arising intraluminally from lessor curvature of stomach near gastro - oesophageal junction. On cystoscopy, the mass occupied the right posterolateral wall of urinary bladder and right vescicoureteric junction. Biopsy showed poorly differentiated urothelial carcinoma infiltrating into muscle of urinary bladder and prostate.

3. Discussion

Painless hematuria is the most common symptom of carcinoma of the bladder occuring in 80 % of cases and the remaining 20 % present with frequency of urination, loss of weight and varied symptoms from metastatic disease. Rarely, carcinoma of bladder may present as a collection of urine without a true lining or urinoma.

Three essential factors necessary for formation of a urinoma are continuing renal function with production of urine, rupture of collecting system and obstruction distal to the rupture. The development process begins with obstruction of the collecting sytem following by rupture of a fornix. The urine passing out of the rupture of a fornix might be absorbed from the renal sinus through lymphatics, or veins or may extravasate into the retroperitoneum. The extravasated urine is associated with a low grade inflammation.

The obstruction which initiates the development of a urinoma could be from external trauma, surgical procedures including instrumentation of the urinary tract, external compression of the ureter from a retroperitoneal mass and rarely, tumor within the urinary tract as in our case. In a review of 90 patients with urinoma by *McInerney et al.* (1) 56 % were due to blunt renal trauma. Trauma could be a light blow or major blast injury, 24% were iatrogenic including procedures like pyelolithotomy, ureterolithomy, pyeloplasty and common complications arising from gynecologic and vascular surgery. The remaining 20 % were idiopathic. In 4 cases of peripelvic extravasation reported by *Twerskey et al.,* (3) 3 formed urinoma. All 4 cases reported by them had a tumor and 1 was carcinoma of the bladder, as in our case.

Time between the insult to the urinary tract and formation or detection of urinoma is difficult clinically, but has been reported from a few days to 37 years (4) . Diagnosis of urinoma can be made by various means, can be suspected with the help of the history and physical examination, pyelogram, sonogram, DTPA scan, gallium scan and CT scan. Fluid aspiration from the cystic lesion is necessary to confirm the diagnosis.

Management of the urinoma depends on the etiology, but correcting the obstruction is an important feature. For infective urinoma, drainage is done and urinomas associated with blunt trauma are managed conservatively. Ocassionally, drainage in the form of marsupialization may be necessary. In urinoma resulting from carcinoma of the urinary bladder where immediate treatment in emergency department is not desired, drainage is a reasonable first step before surgical correction. Among drainage modalities, percutaneous drainage is the recommended procedure when the patient is hemodynamically stable and the urinoma is fixed (4) . We emphasize that all urinomas should be thoroughly evaluated by radiologic imaging for an underlying cause. Immediate drainage under ultrasound or CT guidance is a reasonable

first - step treatment before surgical correction is done as any delay can lead to serious complications (5) .

Declarations

Ethics approval and consent to participate: Ethics approval taken for study from Insitutional Ethics Committee. Written informed consent was taken from the patient.

Consent for publication: Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Availability of data and materials: The datasets used and/or analysed during current study are available from the corresponding author on reasonable request.

Competing interests: No conflict of interest.

Funding: No funding source is used for the case.

Authors' contributions: First author has written the case report. Second guided with the diagnosis as well as with the imaging. Both authors read and approved the final manuscript.

Acknowledgements: We acknowledge the patient for giving the consent for reporting and publication of his case.

References

[1] McInerney, D.; Jones, A.; Roylance, J,: Urinoma. Clin. Radiol.28: 345 - 351 (1977).
[2] Twerskey, J. Twersky, N. Phillips, G.: Coppersmith, H.: Peripelvic extravasation, urinoma formation and tumor obstrution of the ureter. J. Urol.116: 305 - 307 (1976).
[3] Ketabchi AA, Ketabchi M, Barkam M. Percutaneous drainage of a late - onset giant posttraumatic urinoma. Urol J 2009; 6: 214 - 6.
[4] doi. org. /10.4103/0019 - 509X.92251.