



Urinoma: Spontaneous Rupture of Renal Pelvis

Dr. Vishal Gautam¹, Dr. Arvind Mehra²

1. M.S. (SURGERY), CH Tauni Devi, Hamirpur

2. M.S. (SURGERY), CH Dharampur, Mandi

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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 stones are not unseen but display a delayed diagnosis due to the gradual onset of symptoms, which can mimic pyelonephritis.^[1] This is a case of 60-year-old female presented with complaints of B/L flank pain with fever from past 4 days. Patient was diagnosed with urinoma. We believe this case has important points that can help guide clinicians on a pathway that can lead to the timely diagnosis of similar cases in the future.

Keywords: Urinoma, Disruption of the collecting system, Urinary leakage, Ruptured renal calyx, Ureteric Calculus.

I. INTRODUCTION:

A urinoma is a collection of urine outside the urinary tract as a result of disruption of the collecting system.^[1] As urine extravasates into the retroperitoneal space, it can cause a local inflammatory response on the surrounding perirenal fat. This leads to lipolysis and an encapsulation of the urine, known as a urinoma. Three essential factors are required for formation of urinoma: a functioning renal unit, breach in the pelvicalyceal system, and ureteral obstruction.^[2] Urinoma occurs most commonly following renal trauma.^[3] Apart from injury, ureteral stone can induce urinoma, however, it is rare.^[4] Other common causes are ureteral tumor, posterior urethral valves and ureteropelvic junction obstruction in children.^[5] Also there is a possibility that at beginning, urinoma could be clinically asymptomatic but may present itself with pain and lead to complications including, but not limit to, hydronephrosis, imbalance of

electrolyte, ileus, and abscess.^[4]

II. CASE PRESENTATION:

60-year-old female patient presented to the emergency with complaints of pain bilateral flank from past 4 days associated with low grade fever (undocumented). Patient had no history of hematuria, urinary obstructive symptoms, and urinary irritation symptoms. She had no history of renal trauma. Patient was a known case of CAD from past 3 year and was under treatment. On examination, patient's PR: 54/min, BP: 130/80 mmHg, SpO₂: 96% RA. Patient was pallor. On abdominal examination, distension was present. There was generalized tenderness and rebound tenderness. Right renal angle was tender. A diagnosis of acute pyelonephritis was made. On investigation, Hb: 8.2, TLC: 56,400, Plt: 557, BUN: 25, Creat: 1.07, K⁺: 5.41, CRP: 161, Urine RBC: 8-10/HPF, Urine WBC: 15-20/HPF. USG Abdomen + KUB was suggestive of fluid collection in sub hepatic region, peri hepatic region, left paracolic gutter and pelvis. There is right nephrolithiasis with right perinephric fluid collection. CECT was suggestive of large right staghorn calculus with renal parenchymal and large perinephric collection communicating with the PCS with proximal periureteric collection with distal ureteric calculus 5.8*10*18 mm with multiple intraperitoneal collections. A diagnosis of right renal staghorn calculus with right distal ureteric calculus with perinephric collection with multiple intra-abdominal collections. Patient was managed conservatively with iv fluids, antibiotics and analgesics. Right sided DJ stenting with right side pigtail drainage done. The post-intervention period was uneventful.



Fig 1. Right renal calculus



Fig 2. Multiple intraperitoneal collections



Fig 3. Right DJ stent in situ

III. DISCUSSION:

Urinoma is a rare and unique condition that refers to extravasation of urine from a disruption of the urinary collecting system at any level from the calyx to the urethra. Clinically, patients can have symptoms ranging from being completely asymptomatic to an acute abdomen, with vague malaise and pain being the most common. Haematuria and urine output changes can be a clue that injury has occurred.^[6] Pain in the loin and infection are commonly thought to be the effects of pyelonephritis, and USS is an appropriate first-line investigation to exclude hydronephrosis or collections. CT offers non-operator-dependent imaging and also reconstruction images for percutaneous intervention and surgical access planning.^[6] Spontaneous rupture occurs due to high pressure in the PCS due to stone in the pelvis and distal ureter. Initially it caused perinephric abscess which later eroded into the peritoneal cavity caused pyoperitoneum and urinoma which were drained by pigtail. Distal patency of ureter was ensured by DJ stent. Urinary causes must be kept in mind while dealing with intra-abdominal collections. CT UROGRAPHIC PHASE is diagnostic in such cases.

IV. CONCLUSION:

While urinomas remain a rare entity, one must have a high degree of suspicion for one. A dedicated CT scan for a urinoma, which omits the parenchymal phase and involves a low dose non-contrast phase followed by a delayed image phase ten minutes after IV contrast administration, can help with the diagnosis as well as aspiration.

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