

Spontaneous large renal pelvis hematoma in ureteropelvic junction obstruction presenting as an acute abdomen: Rare case report

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Abstract

Patients with ureteropelvic junction (UPJ) obstruction can present with flank pain or hematuria. We present 20-year-old male presenting with acute pain in lumbar and right fossa with tenderness and guarding, this case was clinically mimicking general surgical emergency. On computed tomography with urography and angiography, there was 15 cm × 11 cm × 10 cm size non-enhancing hyperdense lesion (average Hounsfield units - +64) in right renal pelvis suggestive of hematoma. Patient's diethylenetriaminepentaacetic acid diuretic renography was suggestive of right kidney glomerular function rate of 48.4 ml/min with the relative function of 43%, Peak to half peak was not achieved. The patient was managed by retrograde ureteropyelography and double J stenting. After 1 month, clot size decreased to 4 cm × 3 cm × 2 cm. The patient had undergone open reduction Anderson hynes dismembered pyeloplasty with the removal of pelvis clot after 6 weeks. We report the first case of UPJ obstruction presenting as an acute abdomen and spontaneous hematuria with large pelvis clot without rupture of the renal pelvis.

Key Words: Acute abdomen in ureteropelvic junction, hematuria in ureteropelvic junction obstruction, renal pelvis clot in ureteropelvic junction obstruction, ureteropelvic junction obstruction

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INTRODUCTION

Ureteropelvic junction (UPJ) obstruction is one of the most frequent cases of obstructive nephropathy. Usual presentations of UPJ obstruction patients are incidental detection on ultrasonography or flank pain. Hematuria spontaneously or after trivial trauma can be one of the presenting symptoms. However, UPJ obstruction presenting as an acute abdomen

with spontaneous hematuria and large renal pelvis hematoma with intact renal pelvis is very rare, and so far it is the only case reported until now. We report this case that was managed conservatively for 6 weeks with double J (DJ) stenting followed by open Anderson Hynes dismembered pyeloplasty with pelvis clot evacuation.

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CASE REPORT

A 20-year-old male presented to Emergency Department of Tertiary Care Center with complaints of spontaneous painful hematuria and sudden onset right flank and iliac fossa pain; pain becomes generalized over the abdomen, on admission pulse was 120/min, blood pressure was 124/84 mm Hg. On per abdomen examination, the patient was having severe tenderness over right iliac fossa, right lumbar region and generalized guarding all over the abdomen. On blood investigations, hemoglobin was 11.2 g%, and total leucocyte count was 17,800 cells/ μ l. His serum creatinine and coagulation profile were normal. On ultrasonography (USG), there was 14 cm \times 12 cm \times 10 cm clot present in the right renal pelvis. This clot was compressing renal parenchyma. Computed tomography (CT) with urography and angiography was done; suggestive of 15 cm \times 11 cm \times 10 cm size non-enhancing hyperdense lesion (average Hounsfield units - +64) in right renal pelvis suggestive of hematoma. CT scan of this patient is illustrated in Figure 1. There was neither arterio-venous (A-V) malformation inside kidney nor aberrant crossing vessels over the pelvis. Patient's diethylenetriaminepenta-acetic acid diuretic renography was suggestive of the right kidney glomerular function rate of 48.4 ml/min with the relative function of 43%. Left kidney system was normal. On the right side, peak to half peak was not achieved, and there was an obstructive pattern at UPJ. The patient had undergone retrograde ureteropyelography (RGP), which was suggestive of UPJ obstruction. There was no leak of contrast from pelvis; further DJ stenting was done.

The patient was put on conservative management with antibiotics and analgesics. Monitoring of the patient was done by serial USG and hemoglobin level. Active hematuria was stopped in 1 day and the patient was passing cola colored urine. There was no drop in hemoglobin. On serial USG pelvis clot size decreased to 4 cm \times 3 cm \times 2 cm after 1 month. After 6 weeks, the patient had undergone open reduction Anderson Hynes dismembered pyeloplasty with the removal of pelvis clot. This is illustrated in Figure 2.

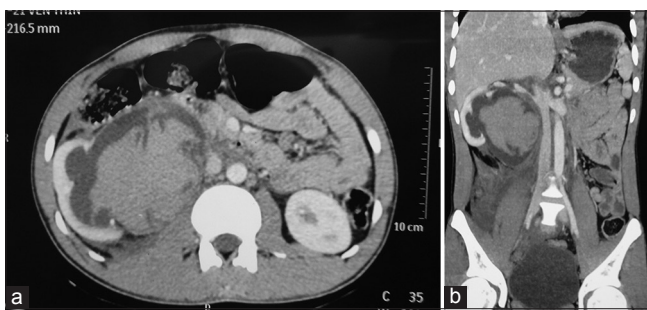


Figure 1: Computed tomography with urography (a) axial plane (b) coronal plane

DISCUSSION

Patients with UPJ obstruction can present with chronic flank pain^[1] or other nonspecific symptoms such as hematuria spontaneously or post trivial trauma. Trivial trauma to UPJ obstruction patients presenting as hematuria is more common in children because the kidney is less protected in perirenal fat.^[2] UPJ obstruction presenting as an acute abdomen had been documented post trivial abdominal trauma with renal pelvis rupture and extravasation of urine.^[3] However, patient of UPJ obstruction presenting as an acute abdomen with huge pelvis clot and intact pelvis is very rare, and to our knowledge, it is the first case reported in the world. Although in the present case, it was spontaneous hematuria without any A-V malformation; we presume that hematuria may be due to unnoticed trivial trauma causing renal pelvis mucosal bleeding.

The typical pain of kidney is nephralgia; this is localized or visceral pain confined to flank or lumbar region. This pain is due to acute or chronic tension on kidney capsule or inflammatory changes adjacent to the kidney. Typical nephralgia is intermittent, mild to severe and dull in nature.^[4] In the present case, the pain was sudden onset at lumbar region and right iliac fossa. On clinical examination, there was severe tenderness at right iliac fossa with generalized guarding all over the abdomen. On clinical grounds, there is strong suspicion of general surgical emergency. The cause for acute presentation in a case of large pelvis clot is severe stretching of renal pelvis causing nonsuppurative perirenal inflammation. Hence, urological pain might mimic an acute abdomen.

Main goals of radiological investigations used in the diagnosis of UPJ obstruction are to determine the anatomical site of obstruction and functional significance of obstruction. Various radiological investigations used are excretory intravenous urography, CT, and diuretic renography. However, in cases of hematuria with renal pelvis clot one should always do renal helical CT angiography to look for A-V malformation or crossing vessels. The approximate incidence of crossing vessels across ureteropelvic junction is 25–50%.^[5] In our case report, CT angiography was done, and it was suggestive of no evidence

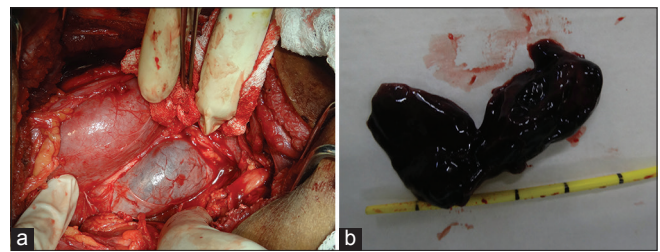


Figure 2: (a) Intraoperative photo showing dilated renal pelvis (b) evacuated renal pelvis clot

of A-V malformation or crossing vessel. There was no contrast excretion in pelvis or ureter; hence diagnosis of UPJ obstruction was made with the help of RGP. Primarily RGP was done to look for any rupture of the pelvis.

There are cases reported in literature for lysis of renal pelvis clot with the help of streptokinase or trypsin by retrograde ureteral route.^[6,7] However in our patient, obstruction was relieved using DJ stent and expectant management was given for clot dissolution. In 1-month time, clot size decreased from 14 cm to 4 cm. In the present case, we gave conservative management for 6 weeks before definitive surgery for local inflammation to settle down. There are various options available for management of UPJ obstruction like percutaneous antegrade endopyelotomy, Anderson-Hynes dismembered open or laparoscopic pyeloplasty. However, there were theoretical chances of bleeding in antegrade Endopyelotomy hence open Anderson-Hynes dismembered pyeloplasty was done. Patient is followed up until 18 months with serial USG and diuretic renography.

CONCLUSION

We report the first case of UPJ obstruction presenting as an acute abdomen and spontaneous hematuria with large pelvis

clot without rupture of the renal pelvis. CT angiography should be done to rule out A-V malformation in those cases. Conservative treatment with DJ stenting until definitive surgery for UPJ obstruction is advised.

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Conflicts of interest

There are no conflicts of interest.

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