

Spontaneous rupture of kidney: a rare presentation of nephrolithiasis

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Abstract

Spontaneous rupture of kidney is a rare clinical entity. A 35-year-old female presented in emergency with left flank pain and features suggestive of haemorrhagic shock. Investigations showed rupture of kidney with perinephric haematoma. Emergency left nephrectomy was done. Patient was discharged in satisfactory condition. Nephrolithiasis with secondary bacterial infection rarely presents as spontaneous kidney rupture. In presence of haemorrhagic shock management is emergency surgery.

Introduction

Spontaneous rupture of kidney is an uncommon surgical emergency. In most cases management is an emergency surgical intervention as the underlying diseases only becomes clear intra-operatively or after histopathologic examination. We describe a case of a young man with a chronic renal stone disease presented in emergency with massive retroperitoneal haemorrhage.

Case Report

A 35-year-old male, known case of bilateral multiple renal calculi with no associated comorbidities, presented in emergency with acute severe left flank pain. Initial clinical assessment revealed tachycardia, hypotension moderate pallor. After resuscitation ultrasound was done which showed hyperchoic lesion posterior to left kidney causing compression and anterior displacement. Also there was a single large mobile calculus in left mid calyx and one at pelvic-ureteric junction. Contrast-enhanced computed tomography was done which showed enlarged left kidney with multiple calculi, dilated pelvicalyceal system with a leak around left kidney with extension across midline towards right side

(Figure 1). In view of clinical and radiological findings patient was taken up for emergency surgery. Intraoperatively there was enlarged left kidney with rupture at mid and lower pole with extensive haematoma (Figures 2 and 3). Left nephrectomy was performed. Postoperative course was uneventful and patient was discharged on postoperative day 10. Histopathological examination showed bacterial infection and no evidence of malignancy.

Discussion

Spontaneous rupture of kidney is a rare entity, even rarer when the cause is nephrolithiasis. Most patients with spontaneous renal rupture have a renal tumor^{1,2} but other causes are hydronephrosis, pyelonephritis, tuberculosis, abscess, calculous, nephritis, aneurysm, infarct, during pregnancy with or without pre-existing pathology,³ medical renal disease, autoimmune disorder. Patients present with sudden onset flank pain with haematuria, dysuria and anemia.

Nephrolithiasis with secondary infection makes kidney so weak by pathological changes that the trivial or even without trauma kidney may rupture. Management in almost all cases is emergency nephrectomy and it is often life saving. Computed tomogra-

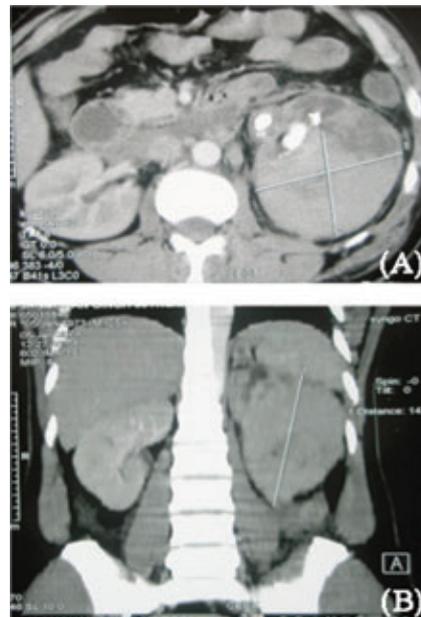


Figure 1. Contrast enhanced computed tomography showing enlarged left kidney with multiple calculi, dilated pelvicalyceal system with a leak around left kidney with extension across midline towards right side.

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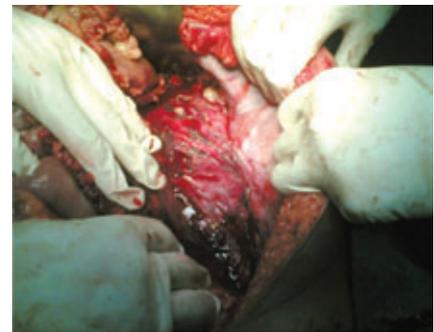


Figure 2. Intra operative picture showing enlarged left kidney with rupture at the lower pole and haematoma around it.

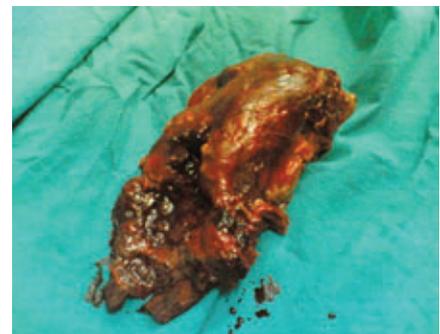


Figure 3. Resected left kidney showing rupture at lower pole.

phy is the investigation of choice for diagnosing perinephric and subcapsular haematomas and in some cases for identifying the underlying cause.⁴ If the patient is stable selective angiography can be done. There are case reports of successful management with conservative approach with arterial embolization,⁵ partial nephrectomy.⁶ Although kidney can be explored through flank incision, in our case it was explored through midline transabdominal approach, which allows safer vascular control before exploring ruptured kidney. Incidence of kidney tumor is high in cases of spontaneous rupture so nephrectomy is the treatment of choice.⁷

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