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Case Report

Spontaneous kidney rupture in a patient with polyarteritis nodosa

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Abstract

Polyarteritis nodosa (PAN) is a systemic necrotizing vasculitis that affects the medium- and small-sized arteries. It involves the renal arterioles in approximately 80% of cases, but spontaneous retroperitoneal hemorrhage is a rare complication of PAN. We report a case of spontaneous kidney rupture in a patient with PAN.

KEY WORDS: Polyarteritis nodosa, hematoma, kidney rupture

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A 17-year-old man, a known case of PAN for 6 years, presented with a 2-day history of abdominal pain (in epigastric area) which had intensified and then localized to the left flank. There was no history of recent abdominal or flank trauma. Six years ago, he had been evaluated for skin rashes and nodules, abdominal and scrotal pain and hematemesis. Clinical presentation and biopsy of the skin nodules had confirmed the diagnosis of PAN. At the time, cyclophosphamide and oral corticosteroids had been administered and his signs and symptoms had subsided. He had an episode of seizure 3 years ago and mild hypertension for the past 4 years. He had discontinued his medications for 1.5 years.

Physical examination revealed a blood pressure of 70/40 mmHg and a pulse rate of 124/min. He was pale and had severe tenderness in left flank. Hemoglobin was 4.8 mg/dl, serum creatinine 1.7 mg/dl, INR 1.8, white blood cells 14100/mm^3 and erythrocyte sedimentation rate 137 mm per hour. Urinalysis revealed microscopic hematuria.

Ultrasonography of the abdomen and pelvis showed a hypoechoic 137×90 mm mass around the left kidney with extension to pelvis and free fluid in the subhepatic and right pleural spaces. Abdominopelvic CT scan with intravenous contrast media revealed a non-functional left kidney with a large perinephric hematoma on the left side (figure 1).

During the first few hours, the patient's hemoglobin dropped to 3.6 mg/dl. After transfusion of 16 units of blood and 3 units of fresh frozen plasma, the patient underwent midline laparotomy and left nephrectomy. There were two deep lacerations on the anterior and posterior aspects of the removed kidney (figures 2 and 3). Treatment with corticosteroids and cyclophosphamide was begun and the patient was discharged after a week. He had no clinical problems on 6-month follow-up post-operatively, but had mild hypertension.

Discussion

PAN is a vasculitis of medium- and small-sized arteries that may involve any organ. The genitourinary system is almost always involved and testicular pathology and renal

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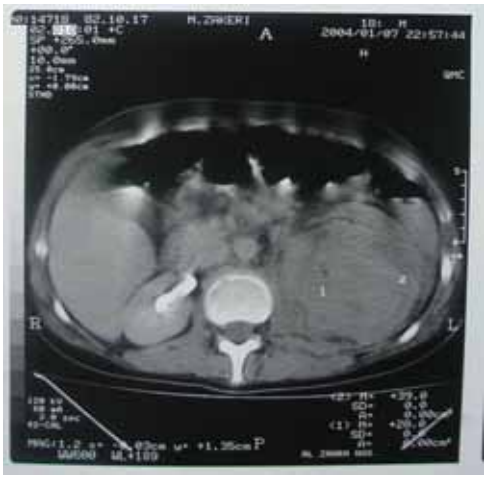

Figure 1. Abdominopelvic CT scan with intravenous contrast media revealed a non-functional left kidney with a large perinephric hematoma on the left side

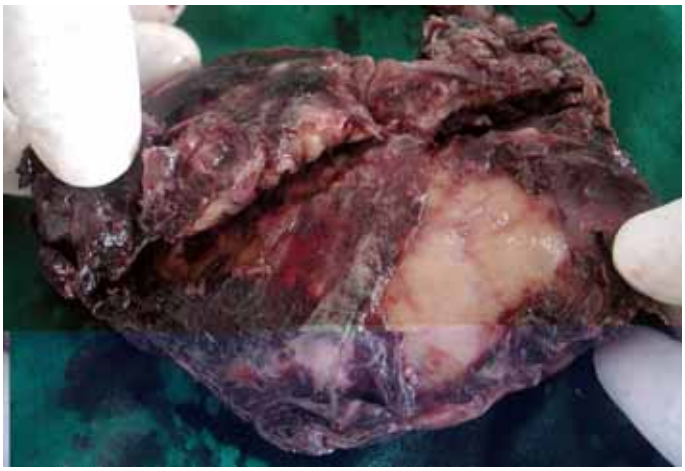

Figure 2. Lacerations on the anterior aspects of the removed kidney.

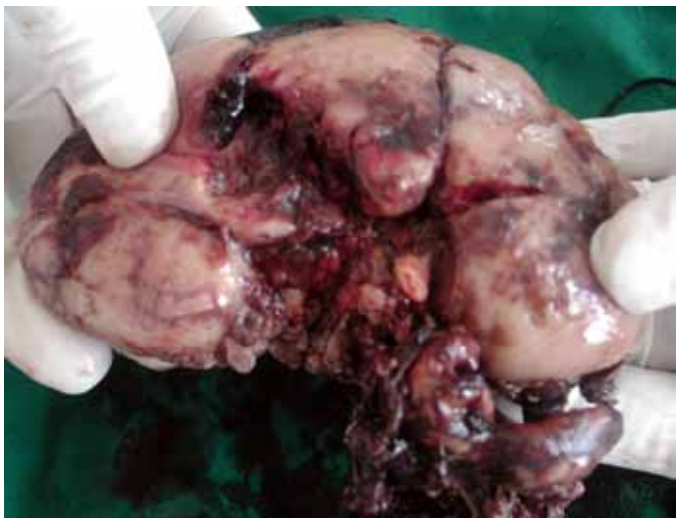

Figure 3. Lacerations on the posterior aspects of the removed kidney.

insufficiency are included in the diagnostic criteria of PAN [1]. Renal involvement may cause microaneurysms, multiple renal infarcts, proteinuria and renal insufficiency. Spontaneous rupture of kidney and perirenal hematoma are rare complications of PAN [2,3] with approximately 60 cases reported, including 8 bilateral hematomas [4,5]. Testicular involvement may present as an acute scrotal pain [6] or a painless testicular mass [7].

The prognosis of PAN has greatly improved with the use of corticosteroids and cyclophosphamide. In the case of acute massive retroperitoneal hemorrhage, urgent nephrectomy is often life-saving [2,8]. There are also several reports of successful management of some cases with selective arterial embolization [5]. It is important to keep in mind that a PAN patient with abdominal or flank pain, hypotension and tachycardia could be a case of perirenal hematoma following spontaneous rupture of kidney.

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