Ruptured Renal Angiomyolipoma: An Unusual Cause of Flank Pain in Emergency Department

MUNG-CHEE HU¹, CHU-CHUNG CHOU¹,², CHIN-FU CHANG¹, WEN-LIANG CHEN¹

Case History

A 36-year-old woman presented to the emergency department (ED) with acute onset of excruciating right flank pain of 3 hours' duration. The pain was constant and severe in nature, accompanied by vomiting. Two hours before admission, she came to a local hospital where a diagnosis of renal calculus was made and she was discharged home after a dose of intravenous ketorolac tromethamine. She was taken to our ED because the pain persisted. Upon arrival she appeared emaciated. Her skin was cold and diaphoretic, and her blood pressure was 88/60 mmHg. On physical examination, she was afebrile, with marked tenderness to palpation in the right lumbar area. Blood tests showed WBC count 7800 cells/mm³, with segmented neutrophils 78%, and hemoglobin 7.2 g/dL. Serum creatinine and urine analysis were normal. Bedside ultrasonography revealed a large echogenic mass arising from the right kidney (Fig. 1). A computed tomographic (CT) scan of abdomen with intravenous contrast was obtained (Fig. 2).

Fig. 1 Longitudinal ultrasound image of the right kidney, showing a 5.7 × 5 cm echogenic lesion with a central hypoechoic area
Diagnosis

CT scan of the abdomen (Fig. 2) showed a huge fat-containing tumor with hemorrhage in the right retroperitoneum, a finding consistent with ruptured renal angiomyolipoma. This patient received aggressive intravenous hydration and blood transfusion with four units of packed red blood cells. Emergency angiographic embolization of the bleeding renal vessels was performed. The patient had an uneventful hospital course and was discharged home 4 days later. Renal angiomyolipoma is a benign tumor composed of a mixture of adipose tissue, smooth muscle, and blood vessels in various proportions\(^1\). Ruptured renal angiomyolipoma often misdiagnosed in the ED as renal colic due to nephrolithiasis, but it is a life-threatening condition that will cause critical morbidity and mortality if not diagnosed early\(^2\).

Bedside ultrasound is a useful first-line diagnostic modality for emergency physicians. Renal angiomyolipoma can be diagnosed accurately by abdominal CT scan based on its characteristic fat content\(^3\).

References