Rare disease

Rupturing of renal angiomyolipoma due to physical examination

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Summary

Renal angiomyolipoma (AML) is relatively a rare benign tumour including vascular smooth muscle, and fatty elements; and the majority of renal AML run an asymptomatic, benign course. Potentially life-threatening complication of renal AML is tumour rupturing that can be seen after a low-velocity trauma. Flank pain and haematuria may be considered not important in emergency department if underlying cause is not kept in mind. In present study, the authors aimed to discuss a patient who developed ruptured AML during physical examination.

BACKGROUND

1. Reminder of important clinical lesson.
2. Rare disease.

CASE PRESENTATION

A 38-year-old man admitted with flank pain and haematuria with duration of 18 h. When he referred to the emergency department (ED), his vital signs were stable. He dropped a kidney stone while urinating 1 day ago. A mild pain that reflected to the back and left side, and abdominal tenderness without rebound was fixed in physical examination. During physical examination her abdominal pain got worse suddenly. Other system examinations were normal. Initial laboratory results were as follows: white blood cells 18200/ μ l (reference range (RR) 4.3–10.3 $\times$ 103/ μ l); haemoglobin (Hb) 13.8 g/dl (RR 13.6–17.2 g/dl); haematocrit 41% (RR, 39.5%–50.3%). Other complete blood cell count parameters and biochemical values were normal. First, the diagnosis of patient was considered as nephrolithiasis.

Intravenous crystalloid and morphine were administered. Vital signs worsened approximately 2 h after administration. Sweating, dyspnoea, tachypnoea, hypotension and tachycardia developed. The control laboratory results showed an acute decrease in Hb level (from 13.8 to 9.3 g/dl). An urgent CT scan of the abdomen and pelvis showed a 5 $\times$ 5 cm heterogeneous mass lesion at the left kidney's middle pole. Also it demonstrated retroperitoneal and intralesional haematomas (figure 1). In addition, three stones were seen at the left lower pole (figure 1). The diagnosis was ruptured angiomyolipoma (AML) due to physical examination and erythrocyte suspension treatment (15 ml/kg) was started. A successful selective angioembolisation was performed by urologist. The patient recovered without any complications, and was discharged on the 10th day of hospitalisation.

TREATMENT

Selective angioembolisation.

Figure 1 (A) CT scan of the abdomen shows a huge tumour (5 $\times$ 5 cm) with retroperitoneal haematoma and (B) tree stones at the left lower pole.

OUTCOME AND FOLLOW-UP

1. The patient recovered without any complications, and was discharged on the 10th days of hospitalisation.
2. He was in good condition at a 3 months follow-up.

DISCUSSION

Renal AML is relatively rare benign neoplasm, composed of perivascular epithelioid cells, smooth muscle and fat tissue. The incidence is 0.01% in male and 0.22% in female patients.¹ The most common symptoms are abdominal-flank pain, a palpable mass and hematuria. Other symptoms are nausea, vomiting, fever, anaemia and hypotension. The symptoms often occur in patients with tumors ≥ 40 mm in diameter. AMLs, as they enlarge, frequently develop aneurysms which can rupture.²⁻³ Ruptured renal AML may represent as life-threatening hypovolemic shock. The patients with AML whose pain increase suddenly, are seen in ED first.

The aetiologies of haemorrhagic of renal AML are three types. First, a spontaneous retroperitoneal haemorrhage of non-traumatic origin occurs in patients with tumours ≥ 40 mm in diameter. Second, trauma can cause intracapsular or retroperitoneal haemorrhage of renal AML, even after a low-velocity trauma. Third, rupture of renal AML during pregnancy is seen seldom.²⁻⁴ In our patient, the pain increased during physical examination and general health status of patient worsened approximately 2 h after abdominal physical examination. This consequence made us think that the AML ruptured due to hard abdominal physical examination.

Abdominal CT is sensitive diagnostic device, because it can show the underlying pathology of life-threatening haemorrhage. Also, it allows us to perceive the differentiation between various causes of a renal mass.²⁻⁵ CT imaging helps us to diagnose and recognise ruptured AML rapidly.

On observation, selective angioembolisation and total or partial nephrectomy are options of treatment lately. These options are based on mass size, clinical signs, the presence

of aneurysms, the presence of pregnancy and renal reserve. Recently, more increasing use of embolisation in symptomatic lesions has decreased the surgical intervention.⁶ Angioembolisation was successfully performed to our patient that ruptured renal AML and hypovolemic shock developed.

Learning points

- Flank pain and haematuria may be considered not important in ED if underlying cause is not kept in mind.
- But sometimes, flank pain and haematuria may be the symptoms of renal AML that may cause retroperitoneal haemorrhage and hypovolemic shock.
- A low-velocity trauma such as abdominal physical examination may be the cause of ruptured renal AML.
- So, in presence of haematuria, flank pain and history of nephrolithiasis, clinicians should be careful during physician examination.
- They should not examine the abdomen deeply and hardly.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. Fujii Y, Ajima J, Oka K, *et al.* Benign renal tumors detected among healthy adults by abdominal ultrasonography. *Eur Urol* 1995;**27**:124–7.
2. Bissler JJ, Kingswood JC. Renal angiomyolipoma. *Kidney Int* 2004;**66**:924–34.
3. Oesterling JE, Fishman EK, Goldman SM, *et al.* The management of renal angiomyolipoma. *J Urol* 1986;**135**:1121–4.
4. Eble JN. Angiomyolipoma of kidney. *Semin Diagn Pathol* 1998;**15**:21–40.
5. Belville JS, Morgentaler A, Loughlin KR, *et al.* Spontaneous perinephric and subcapsular renal hemorrhage: evaluation with CT, US, and angiography. *Radiology* 1989;**172**:733–8.
6. Seyam RM, Bissada NK, Kattan SA, *et al.* Changing trends in presentation, diagnosis and management of renal angiomyolipoma: comparison of sporadic and tuberous sclerosis complex-associated forms. *Urology* 2008;**72**:1077–82.

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