CASE REPORT

Spontaneous renal haemorrhage in the peritoneal cavity

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A 49 year old woman was admitted to hospital after a sudden onset of severe back pain. Twelve hours later, the haemoglobin had decreased to 5.9 and became unstable. She underwent emergency laparotomy that showed intraperitoneal bleeding, secondary to spontaneous kidney rupture. The patient was given a nephrectomy. Histological examination showed an angiomyolipoma as the cause of the bleeding. To the knowledge of the authors, only five previous cases of spontaneous renal bleeding into the peritoneal cavity have been reported in English literature.

Spontaneous renal haemorrhage in the peritoneal cavity is a rare condition. Clinical awareness and appropriate management may be life saving. Here we present a case of spontaneous kidney rupture secondary to angiomyolipoma presenting as an acute abdomen.

CASE REPORT

A 49 year old woman was admitted to hospital following a sudden onset of severe back pain after lifting a heavy mattress. The pain was radiating to the left leg. She was also complaining of generalised abdominal pain. Medically she had hyperthyroidism, asthma, and angina. She was not taking any anticoagulation.

Physical examination showed a generalised abdominal tenderness with guarding. When in the emergency department, the patient had one episode of hypotension that was treated with colloids, after which she stabilised.

Initial investigations showed a low haemoglobin at 10.5, low albumin at 21, raised C reactive protein at 31, and raised white cell count at 16.4. An abdominal radiograph showed obliteration of the left psoas muscle. Twelve hours later, the haemoglobin had decreased to 5.9 and the heart rate was 102. Because of the significant decrease in haemoglobin, a diagnosis of intra-abdominal bleeding was suspected and the patient underwent an exploratory laparotomy, which showed intraperitoneal bleeding, in addition to a left retroperitoneal haematoma. No obvious cause of the bleeding was found. The haematoma was evacuated. The left retroperitoneal area was packed and the abdomen was closed with a zip.

The patient was transferred to a high dependency unit in a stable condition. Postoperative computed tomography showed a small rupture in the lower pole of the left kidney (fig 1). The patient then started to deteriorate as she became tachycardic at 120 and was oozing from the wound dressing. The patient was then taken to theatre where she had a nephrectomy; this stabilised her condition.

The postoperative recovery was uneventful and the patient was discharged after a few days. Histological examination showed an angiomyolipoma as the cause of the bleeding (fig 2).

DISCUSSION

Spontaneous renal haemorrhage is an uncommon condition. It is even rarer when the bleeding is in the peritoneal cavity, as the kidney usually bleeds in the retroperitoneal space.

The first case of spontaneous renal rupture into the peritoneal cavity presenting as an acute abdomen was described by Pode *et al* in 1985.¹ To our knowledge, only five previous cases have been reported in the English literature. The most common causes are angiomyolipoma and renal cell carcinoma. Other causes have included vascular malformation, kidney infection, and blood dyscrasia.¹⁻⁴

Clinically, the patient usually presents with Lenk's triad,² consisting of abdominal pain, flank mass, and signs of internal haemorrhage. The passage of blood from the retroperitoneal space to the peritoneal cavity could be explained by the gap into the renal fascia that can be congenital or secondary to a pre-existing renal disease. Another possibility is the effect of pressure from a large haematoma through a weakened fascia.^{5,6}

Computed tomography remains the investigation of choice, as it can show the underlying pathology. If it is normal, the angiography might show other causes, permit embolisation of the bleeding artery,^{7,8} and prevent unnecessary nephrectomy in benign disease. The management of spontaneous renal haemorrhage is nephrectomy in an unstable patient or when the underlying pathology is renal cell carcinoma. However, conservative management using computed tomography and biopsy may prevent unnecessary nephrectomy in patients with a benign disease and a stable condition,^{2,8} permitting the possibility of nephron saving nephrectomy if necessary.

To summarise, in front of signs of shock and peritonitis we should consider intraperitoneal bleeding even after a trivial trauma. Ultrasound scan is non-invasive bedside investigation that can be used to evaluate an unstable patient, but computed tomography is the investigation of choice in the stable patient. We think that in our patient a computed

Figure 1 Computed tomography showing a small rupture in the lower pole of the left kidney.

Figure 2 Histopathological appearance of angiomyolipoma of the kidney. (A) and (B) Haematoxylin and eosin showing section of the tumour illustrated in figure 1. The neoplasm comprises a blend of mature adipose tissue, thick blood vessels, and spindle shaped, smooth muscle cells (original magnification $\times 10$). Note comparatively normal kidney tissue on the bottom right of the field in (A) and extensive bleeding in (A) and (B). (C), (D), and (E) Haematoxylin and eosin showing higher magnification of the same tumour. Smooth muscle is more abundant in (D) and thick walled blood vessel in (E).

tomogram would have been helpful before the operation, even though signs of peritonitis were not obvious at the beginning.

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