

Flank pain and perinephric collection – a rare diagnosis of spontaneous adrenal haemorrhage

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Background

1. The most common causes of flank pain in context of hypotension are complicated urinary tract infection (pyelonephritis), nephrolithiasis and musculoskeletal pain.
2. Rare causes such as adrenal haemorrhage, retroperitoneal haemorrhage, splenic infarction and renal vascular embolus should be considered.

Case report

A 62 year old man was brought to the A&E following sudden onset left flank pain and collapse at home. The pain radiated to his back, lower chest, and ribs. He had a background of poorly controlled hypertension and medication non-compliance.

On examination there was left flank and left renal angle tenderness. He was afebrile, tachycardiac (ECG showed sinus tachycardia), and hypotensive 70/46 mmHg (but conscious and alert). Other systems examination was unremarkable. Bloods: Haemoglobin 123 g/L, WCC 9.1 mm³ (Neutrophils 6.06), Platelet 279 X 10⁹/L, INR 1.0, Creatinine 140 µmol/L, BUN 7.2 mmol/L, eGFR 46 ml/min/1.73m², ALT 28 U/L, ALP 53 U/L, Bilirubin 4, CRP <1. Initial impression was that of renal colic.

Non-contrast CT urinary tract showed a large volume, left sided perinephric collection. Subsequently, CT Renal with contrast confirmed active haemorrhage in the left perinephric region, likely to be arising from a branch vessel at the upper pole of the left kidney (Fig.1). Major haemorrhage protocol was initiated and he was resuscitated by blood transfusions and IV Fluids.

Renal angiogram performed by interventional radiologist revealed active bleeding from the left adrenal artery which was embolized (Fig.2). Post procedure course in the intensive care unit was complicated by transient uncontrolled hypertension, hospital acquired pneumonia, intubation and ventilation requiring tracheostomy to extubate. His total ICU stay was 21 days following which he was discharged to the ward and then home.

Figures



Figure 1: CT Renal with contrast showing active haemorrhage

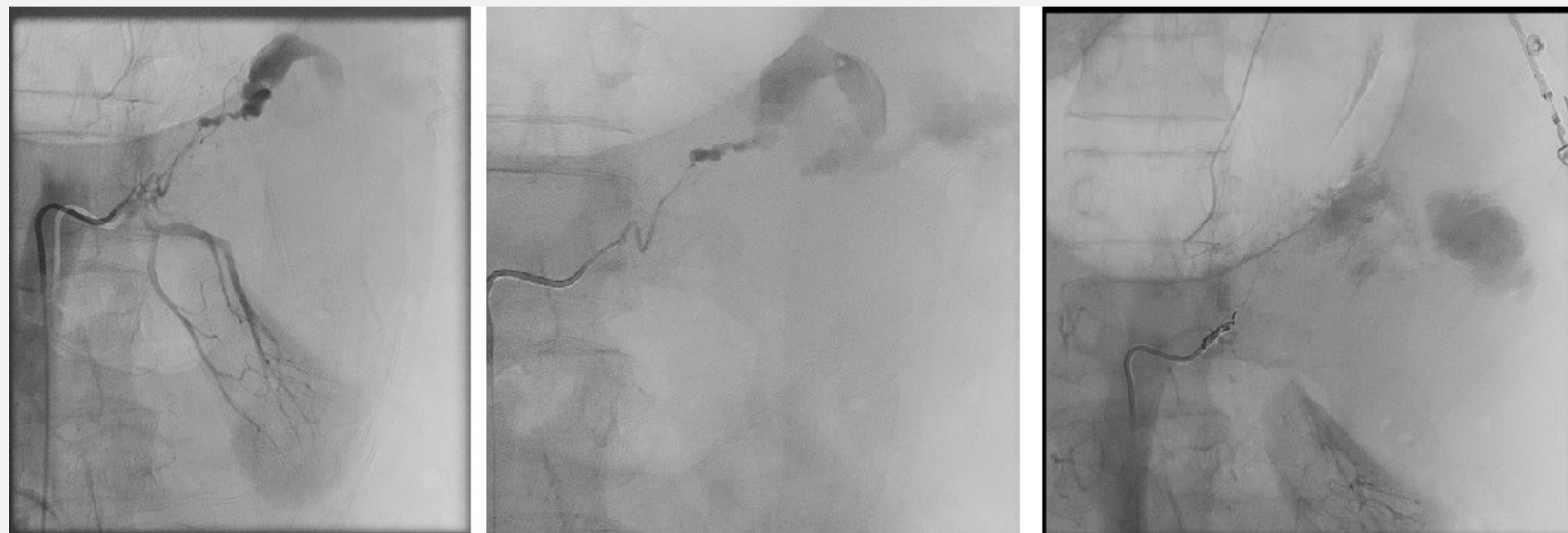


Figure 2: Interventional radiology image showing active bleeding from the left adrenal artery and embolisation

Discussion

Spontaneous adrenal haemorrhage is rare. It is associated with stress, haemorrhagic disorders, anticoagulants, tumours, sepsis and uncontrolled hypertension.

While tachycardia and hypotension are common, a high clinical suspicion is necessary for diagnosis. Additional presenting symptoms can be a consequence of the bleeding and mass effect - abdominal pain, flank pain and renal angle tenderness or circulatory shock due to bilateral adrenal involvement or retroperitoneal haemorrhage.

In this case, uncontrolled hypertension was the likely cause. The clinical suspicion was raised due to hypotension in a patient with known uncontrolled hypertension and left flank pain. Contrast CT scan was essential in the diagnosis, and local expertise in interventional radiology guided the intervention.

The post procedure hypertension was investigated to rule out pheochromocytoma, as an expanding haemorrhage can cause release of catecholamines from the adrenals. Despite an eventful ICU stay, the outcome was favourable.

References

1. Kawashima A, Sandler CM, Ernst RD (1999) Imaging of nontraumatic hemorrhage of the adrenal gland. *Radiographics* 19:949–963]
2. Karwacka IM, Obołończyk Ł, Sworczak K. Adrenal hemorrhage: A single center experience and literature review. *Adv Clin Exp Med*. 2018 May;27(5):681-687