Selective coil embolisation in spontaneous perirenal haemorrhage

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DESCRIPTION

A 54-year-old man presented with acute right flank pain. He had a history of liver transplantation due to cryptogenic liver cirrhosis 13 years before and reported no trauma. At the last follow-up, his laboratory findings had been normal, including coagulation parameters and haemoglobin (14.9 g/dL). On admission the patient was anaemic (haemoglobin 8.4 g/dL), leading to subsequent transfusion of five erythrocyte concentrates. Sonography showed free fluid in the right abdomen. Contrast-enhanced CT revealed a large perirenal haemorrhage, extending from the subcapsular space to the retroperitoneum. Additionally, an active bleeding was visible,

originating from the right lower kidney (figure 1, arrow). This corresponded to the bleeding source at angiography (figure 2A, arrows). After selective microcatheter-based embolisation with four coils (figure 2B, short arrow), the bleeding had stopped, and only a small part of the renal parenchyma had been excluded from the circulation (figure 2B, long arrow). Further diagnostics revealed no obvious cause for the bleeding. The patient recovered and was discharged from the hospital after some days.

Figure 1 CT showing a large haemorrhage in the subcapsular and perirenal space of the right kidney. Additionally, it showed an active bleeding with extravasation of the iodinated contrast medium from the lower part of the kidney (arrow).

Figure 2 Interventional angiography. Digital subtraction angiography confirmed the active bleeding (A, arrow). After microcatheter-based selective embolisation with four coils (B, short arrow) the bleeding had stopped. Only a small part of the renal parenchyma had been excluded from the circulation by the coiling (B, long arrow). The dark area in the right upper part of (B) is a subtraction artefact, which was evident when viewing the full angiography sequence.

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Spontaneous, non-traumatic renal bleeding into the subcapsular and/or perirenal spaces (Wunderlich syndrome) may have different aetiologies such as neoplasms, vascular diseases and inflammation, and occasionally there is no obvious cause.^{1 2} The diagnosis is well established by CT, which may also show the bleeding source in case of active bleeding. In some patients, the haemorrhage stops by self-tamponade. However, in the present case, the bleeding was still active. Renal angiography with selective embolisation is a minimally invasive method for sparing most of the kidney parenchyma.¹⁻³

Learning points

- ▶ Acute flank pain with perirenal fluid at sonography may be caused by spontaneous, non-traumatic renal haemorrhage into the subcapsular/perirenal spaces (Wunderlich syndrome).
- ▶ Contrast-enhanced CT is well suitable for establishing the diagnosis and for assessing whether there is a persistent active bleeding.
- ▶ Persistent active bleeding may be treated by selective renal artery embolisation, while sparing most of the kidney parenchyma.

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