

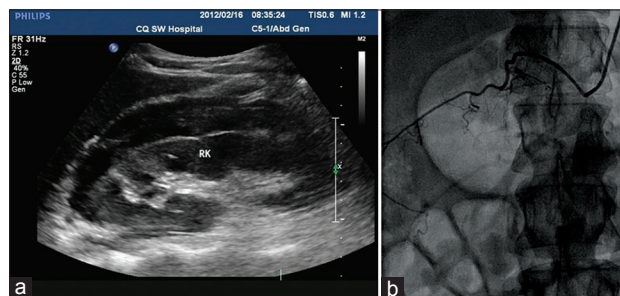
# A Case of Renal Subcapsular Hematoma Caused by an Accident Injection from Renal Capsular Artery

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To the Editor: A 49-year-old woman was admitted with hypertension and diabetes. Electrocardiogram demonstrated inverted T waves in  $V_{1-6}$ . Blood pressure was 180/110 mmHg. Total cholesterol was 4.82 mmol/L, high-density lipoprotein-cholesterol was 1.12 mmol/L, and low-density lipoprotein-cholesterol was 3.08 mmol/L. To exclude coronary heart disease and renal artery stenosis, coronary angiography (CAG) and renal artery angiography were performed simultaneously through the right radial artery by 5 Fr Terumo Optitorque TIG catheter, the results showed that both coronary and renal arteries were normal. After CAG, multifunctional catheter was also used for renal artery angiography. But she complained of a gradually aggravated pain in the right waist immediately after the right renal artery angiography, and blood pressure was decreased to 90/40 mmHg half an hour later. The abdominal ultrasonography indicated a perirenal hematoma around the right kidney [Figure 1a]. We finally found that the right renal artery angiography was just slightly emerged by an accident injection from renal capsular artery above the right renal artery [Figure 1b]. Then an appropriate dosage of protamine was given by venous injection, vasopressor agents were used at the early stage, and the condition become stable after transfusion of totally 1600 ml red blood cells. She was discharged 3 weeks later.

Transfemoral approach is the most common and traditional way for percutaneous renal artery angiography or angioplasty. Nowadays radial approach is more and more popular as its convenience for the patients. Renal subcapsular hematoma (RSH) is a complication that may lead to severe adverse outcome in interventional procedures. The incidence of iatrogenic renal artery injury during the percutaneous transluminal angioplasty is about 6.5%–22.8%.<sup>[1,2]</sup> The most common causes of RSH are guide wire-induced perforation and accident entry of super-slip wire. Transradial renal arteriography reduces complications to some extent, especially pseudoaneurysm and retroperitoneal hematoma, which are related to the elder ( $\geq 60$  years), female gender, hypertension, thrombocytopenia, large-bore catheter use, operator inexperience, poor groin compression after sheath removal, high puncture site, abnormal vessel or graft, peripheral vascular disease and anticoagulant-thrombolytic therapy.<sup>[3,4]</sup> Here, we reported a rare



**Figure 1:** (a) The ultrasonography indicated a perirenal hematoma around the right kidney; (b) The right renal artery angiography was just slightly emerged by an accident injection from renal capsular artery above the right renal artery.

case that an accident injection from renal capsular artery resulted in RSH, which was associated with the inappropriate catheter use. To avoid the similar accidents, enforced injection should not be performed until the target artery is confirmed by a slight injection ahead, and pigtail catheter should be used for unselective renal angiography.

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