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Page kidney secondary to subcapsular hematoma following percutaneous renal allograft biopsy

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ABSTRACT

Percutaneous renal biopsy with ultrasound guidance is a helpful procedure regularly performed to obtain renal tissue diagnosis for rejection in the postrenal transplant setting; however, it is not without risks. We report the case of a 42-year-old male with end stage renal disease who developed a subcapsular hematoma, with subsequent hypertension and renal failure, compatible with acute page kidney as a complication of the renal biopsy. The ultrasound images demonstrated classic imaging appearances which all diagnostic and interventional radiologists should be aware of. The patient was managed successfully with conventional open surgical evacuation of the hematoma with return to baseline laboratories and vital signs after the procedure.

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Case report

A 42-year-old male with end stage renal disease secondary to chronic hypertension had a cadaveric renal transplant 5 months before the current presentation. As part of the post-transplant follow-up, he was noted to have a rising creatinine of 2.2 mg/dL from baseline of 0.6 mg/dL (NR: 0.5–1.4 mg/dL). He was referred for a percutaneous renal allograft biopsy. The biopsy was uneventful with adequate cores obtained to

the satisfaction of the pathologist. The patient then returned a week later with rapid elevation of creatinine (14.9 mg/dL) and new onset hypertension (161/96 mm Hg, post-transplant baseline was 144/70 mm Hg). The patient was admitted and a stat ultrasonography (US) scan of the transplant kidney was performed.

Prebiopsy ultrasound with Doppler images demonstrated an unremarkable allograft kidney, without hydronephrosis. The main renal artery peak systolic velocity was 65.3 cm/s, and the renal artery (RA):Aorta velocity ratio was 0.5. The arcuate artery

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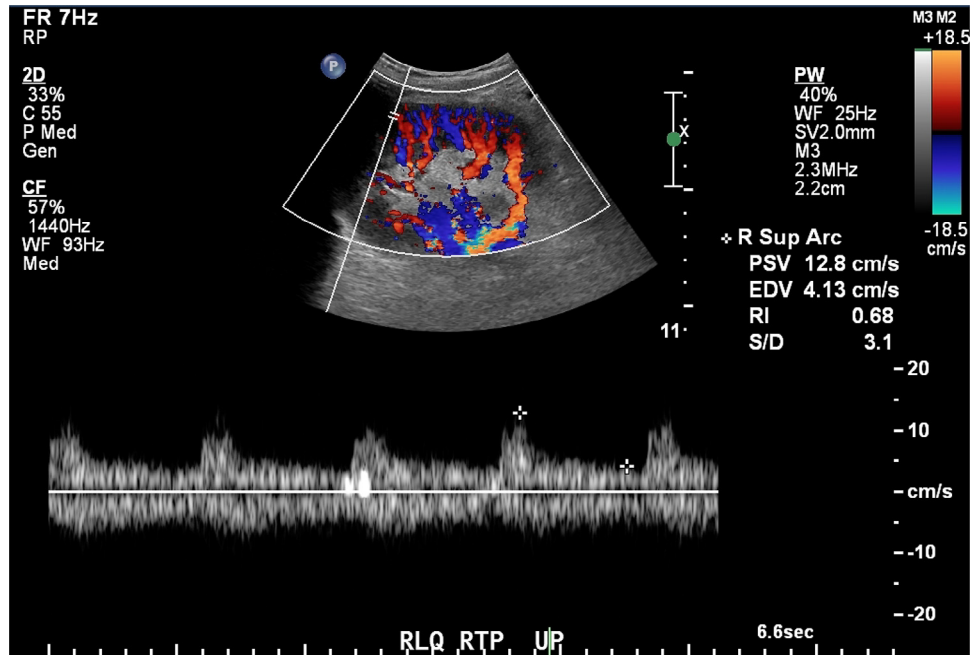


Fig. 1 – Forty-two-year-old male status after allograft kidney transplant with clinical pattern suspicious of rejection. Prebiopsy diagnostic ultrasonography scan demonstrates normal superior internal resistive indices. **FINDINGS:** Longitudinal color Doppler of the superior arcuate arteries of the transplanted kidney demonstrates a normal resistive index of 0.68. **TECHNIQUE:** Longitudinal image obtained with a 5 Mhz curvilinear probe.

resistive indices in the inferior, mid, and superior arteries were 0.68, 0.70, and 0.69, respectively (Figs. 1-3).

Images from the percutaneous renal biopsy demonstrated an 18-gauge Biopence needle within the renal cortical paren-

chyma. The needle was inserted through a 17-gauge coaxial needle placed just outside the renal cortex. The tract was sealed with gelfoam, and no immediate complications were observed (Fig. 4).

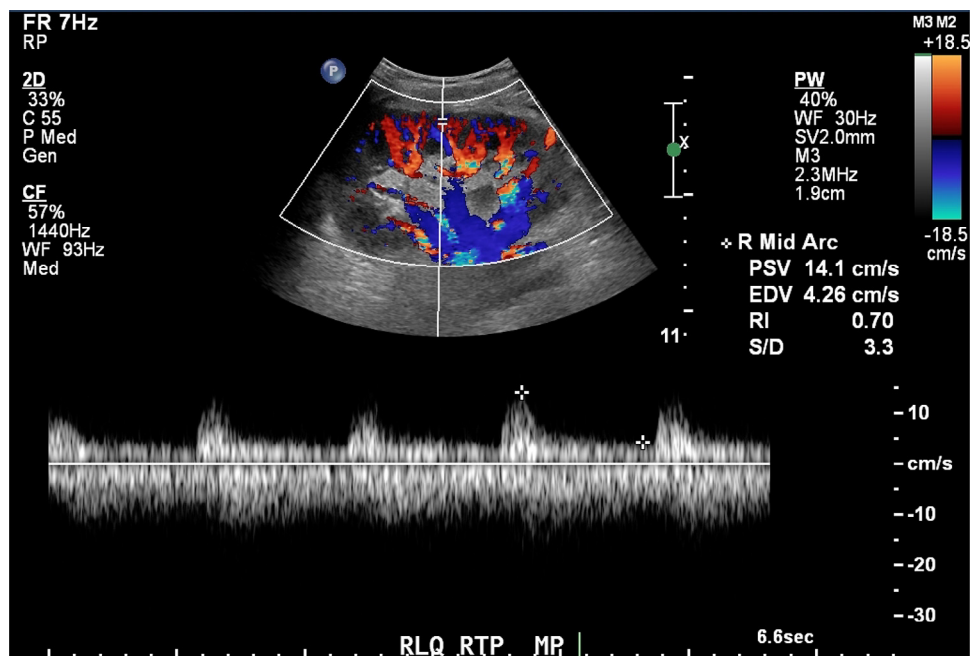


Fig. 2 – Forty-two-year-old male status after allograft kidney transplant with clinical pattern suspicious of rejection. Prebiopsy diagnostic ultrasonography scan demonstrates normal mid internal resistive indices. **FINDINGS:** Longitudinal color Doppler of the mid arcuate arteries of the transplanted kidney demonstrates a normal resistive index of 0.70. **TECHNIQUE:** Longitudinal image obtained with a 5 Mhz curvilinear probe.

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