A 65-year-old woman with hypertension and 20-year history of open surgery for right nephrolithiasis presented with complaints of prominent pulsations and progressive pain in the left flank present for five months. On physical examination, there was a continuous murmur radiating from the left abdomen to the left lumbar area. Blood pressure was 145/95 mmHg. Urinary system ultrasound performed with suspicion of arteriovenous malformation demonstrated a dilated, tortuous left renal vein and a probable fistula between the left renal artery and vein. Computed tomography angiography demonstrated a fistula between the left renal artery and vein, a dilated left renal vein with a marked venous reflux to the inferior vena cava and left ovarian vein (Fig. A). Renal angiography performed to better evaluate the fistula and decide the treatment strategy showed an arteriovenous fistula near the hilus, a dilated left renal artery with a maximal diameter of 1.9 cm, and also a dilated, tortuous left renal vein with a diameter of 5.8 cm (Fig. B, C). After assessment of renal function and obtaining urology consultation, renal exploration for intervention to the fistula and a possible nephrectomy in case of necessity were recommended to the patient. She refused surgery and appropriate antihypertensive therapy was planned with close follow-up.

Figures. (A) 3-D reconstruction computed tomography angiography image demonstrating a fistula between the left renal artery and vein, a dilated left renal vein with a marked venous reflux to the inferior vena cava and left ovarian vein. Abdominal aortography: (B) early arterial phase shows a dilated left renal artery and arteriovenous fistula; (C) venous phase demonstrates the aneurysmal left renal vein draining into the inferior vena cava.