

<b>Case</b>	(710) Hit me with your best shot: arteriovenous fistula secondary to renal biopsy.
<b>Authors</b>	
<b>Centre</b>	

J. San Miguel Espinosa, C. Cortés León, M. Ibnoukhatib, J. El Khatib Nuñez, M. Collado Torres, P. García Benedito.  
Hospital Universitario Puerta De Hierro Majadahonda.

## CASE PRESENTATION

A 54 year old male presented at our emergency department referring poor general condition and progressive dyspnea for the last two weeks. No significant information was delivered from physical exploration. Blood tests reported high urea and creatinine levels and high PCR value. Long term hypertensive dilated cardiomyopathy and chronic renal failure were the most significant entities among the patient's pathologic background. Core needle was performed to study the chronic renal failure

On that same night the patient appears to be pale and sweaty, referring sudden abdominal pain, more severe on his left flank.

CT scan with IV contrast was performed. CT scan reported a heterogeneous left pararenal space and multiple collections associated, all of them suggestive of hematoma, causing displacement of adjacent anatomic structures. Hemoperitoneum was also identified.

Extravasation of IV contrast on arterial phase particularly apparent on venous phase was patent, as signs of active bleeding. Arterial phase also revealed left vein repletion from the renal parenchima, with no contrast repletion in the right renal vein or the inferior vena cava. Taking into account the recent renal biopsy, these findings demonstrate the presence of arteriovenous fistula (AVF).

Renal angiography was performed identifying the suspected AVF, dependent of an interlobular artery of the inferior left renal pole, which was successfully embolized during the procedure.

As the patient remained hemodynamically stable the whole time with good pain control, no more therapeutic measures were necessary. A CT scan was performed, assessing stability of the left pararenal hematoma, with no findings suggestive of active bleeding or permeable fistulas, with decreasing of intraperitoneal free fluid.

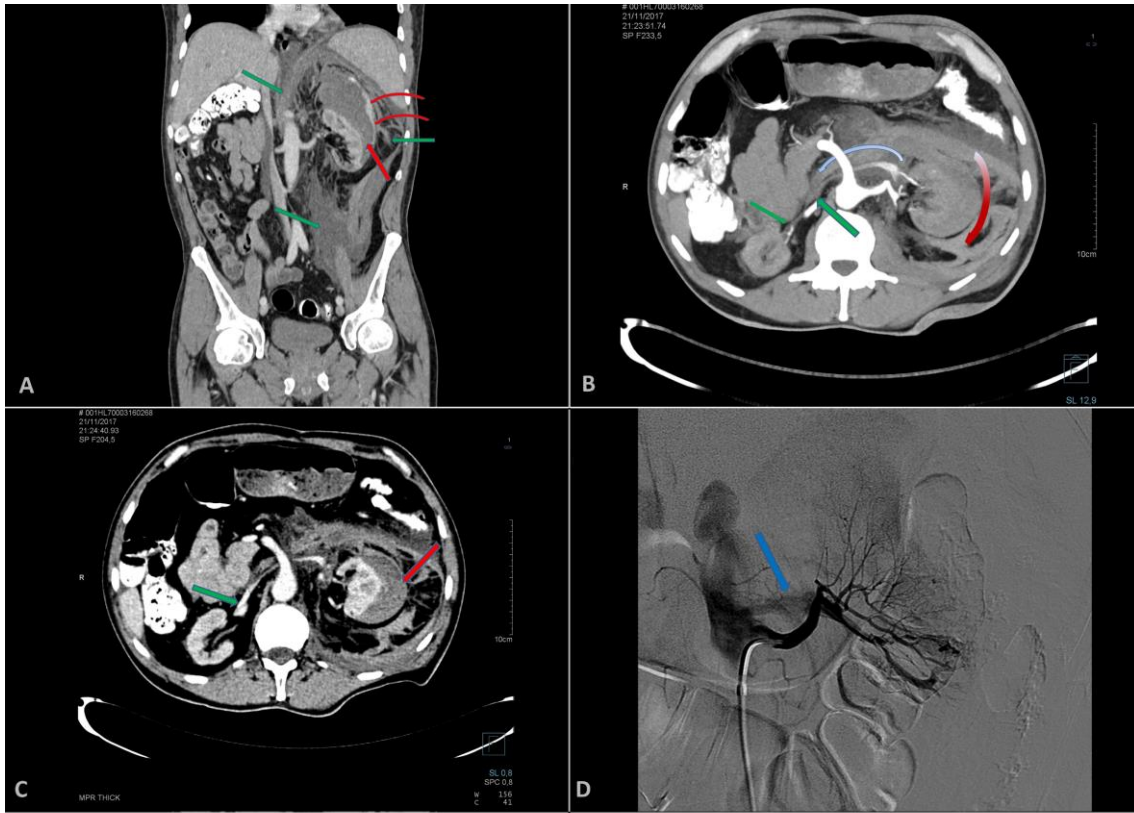
## DISCUSSION

Angiographic manifestations of renal vascular injury include pseudoaneurysm, renal arteriovenous fistula and contrast media extravasation. Treatment of post-biopsy bleeding includes administration of hemostatic drugs or surgical repair or renal resection. However, transarterial therapy is the preferred approach for renal injury.

AVF occurs after 0.5% to 10% of biopsies. They tend to be asymptomatic but in rare cases may cause hematuria, high-output heart failure, resistant hypertension, or acute kidney injury. Doppler ultrasonography can be used to confirm their presence. Most resolve spontaneously, although arterial embolization can be used to correct large or symptomatic AVF.

## CONCLUSION

AVF is a probable complication of renal biopsy. Typical findings described in this case should be recognized in various imaging modalities.



**Image A:** venous phase CT scan. Large left pararenal hematoma (red straight arrow) with contrast extravasation proving active bleeding (red curve arrows). High density free-fluid in perirenal space and retroperitoneum (green arrows).

**Image B:** arterious phase CT scan, MIP visualization. Left renal vein repletion of contrast from the renal parenchyma (blue curve arrow). No repletion of contrast of the right renal vein or the inferior vena cava (green straight arrows). Left pararenal hematoma with hematocrit effect (red curve arrow).

**Image C:** venous phase CT scan with IV contrast. Contrast repletion of the inferior vena cava (green arrow). Left pararenal hematoma with hematocrit effect (red arrow).

**Image D:** angiography with catheterization of the left principal renal artery. Arteriovenous fistula is revealed in the arterial branches of the inferior renal pole, with premature contrast repletion of the kidney's cortex and left renal vein (blue arrow).

## BIBLIOGRAPHY

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