

# Bilateral renal infarcts from blunt trauma in a healthy young female patient. Clinical dilemmas, diagnostic conundrum and management.

Kelly Champlin, DO, MS, Austin McCrea, DO, MS, Saptarshi Biswas, MD

## Background

Bilateral Renal infarction noted on abdominal computed tomography (CT) scan without any underlying comorbid condition is a rare finding in a healthy female patient. Most reported cases of renal hypoperfusion have an association with an underlying cardioembolic problem, such as atrial fibrillation, endocarditis, cardiomyopathies, or artificial valve thrombi.

## Case Presentation

We present a case of bilateral renal hypoperfusion evident on abdominal CT scan following blunt trauma. An 23-year-old female without any significant past medical history presented to the emergency department with the complaint of abdominal pain. The patient reported history of motor vehicle accident when she was a pedestrian hit by a car. Her injuries recorded after primary and secondary survey and imaging were as right shoulder dislocation; bilateral renal infarcts; left L5/S1; transverse process fractures; posterior left iliac bone fracture; multiple abrasions. eFAST exam was negative for any free fluid. She denied dysuria, hematuria, fever, chills, nausea, vomiting, abdominal pain, joint pain, leg swelling. She denied any medication use or any history of intravenous drug abuse. No reported family history of kidney disease or blood clots. Initial laboratory tests, including complete blood count, basic metabolic panel, ESR, and urinalysis were unremarkable. However on OB USG intra uterine pregnancy was identified, too early to determine viability on the transabdominal exam which was discussed with the patient in details.

## Images



## Discussion

Contrast-enhanced CT of the abdomen showed bilateral renal infarcts. High suspicion for focal intimal injury in the main left renal artery; right renal artery normal. Given the CT findings of the patient was admitted to the hospital and an extensive workup was performed to rule out vasculitis and cardioembolic etiology. Echocardiogram, renal ultrasound, magnetic resonance angiogram of the abdomen, vasculitis panel, and hypercoagulable workup was unremarkable. The CT findings of renal hypoperfusion were considered secondary to transient hypoperfusion from blunt trauma. Abdominal pain resolved with conservative management and she was discharged to home She is scheduled for regular follow up with trauma and OB gyn .

## Conclusion

Our case highlights a benign incidental finding of bilateral renal hypoperfusion following blunt trauma. On literature search, such CT scan findings of transient renal hypoperfusion of unclear significance have been rarely reported. Even though our patient underwent extensive workup to rule out cardioembolic etiology, it may be reasonable to forego such workup following blunt abdominal trauma.

## References

1. Scuderi, M., Mannino, M., Schembari, E., Terranova, W., & Urzia, V. (2021). Renal Traumas in Nephrologic Patients. In *Imaging in Nephrology* (pp. 125-133). Springer, Cham.
2. Johnson, R. J., & Feehally Jr, J. (2019). *Comprehensive clinical nephrology* 6th Edition. Elsevier Health Sci, 493-4.