Case	(490) Renal artery dissection due to precipitation trauma. key points
Authors	J.m. Lopez Vega, J.i. Rodriguez Martin, G. Buitrago Weiland, A. Diez Tascon, M. Martí Degracia.
Centre	Hospital Universitario La Paz.

CASE PRESENTATION

In this case, a female 16-year-old patient suffers severe trauma secondary to precipitation due to attempted suicide. She was with orotracheal intubation and low level of consciousness. A body scan was performed (according to protocol with thoracoabdominal arterial phase and venous abdominal phase) where, among other lesions, an absence of enhancement of the left kidney was observed in both phases.

Subsequently, the placement of a stent by the interventional radiologist is indicated, allowing the preservation of the kidney.

DISCUSSION

Injury to the kidney is seen in approximately 8%– 10% of patients with blunt abdominal injuries and can cause lesions of varying degrees of severity at the renal level, including contusion, bruising, laceration and renal artery injury that can trigger renal ischemia due to thrombosis and rarer an intimomedial avulsion with dissection and stenosis being that deceleration causes stretching and tearing of the intima.

In the case of the intimal lesion, a minimum antegrade flow is allowed trough the true lumen, although given the slow flow and the generation of a false lumen, obstruction and thrombosis will eventually occur with the subsequent occlusion of the main artery or some of its branches.

If the kidney is devascularized as a consequence of an isolated intimal injury to the renal artery that results in thrombosis, extensive retroperitoneal hemorrhage and hematuria may be absent.

Although in our case it was evident, the find of the asymmetry of the renal contrast enhancement may be very subtle and it is therefore advisable to assess the nephrogram in different phases.

The abrupt termination of the renal artery at the point of occlusion can be confirmed with angiography but is sometimes seen on reconstructions and maximum-intensity-projection images. Retrograde opacification of the left renal vein from the inferior vena cava may also suggest the diagnosis.

CONCLUSION

This case highlights the importance of suspecting the dissection of the renal artery in cases of abdominal trauma that present asymmetry in renal contrast enhancement, allowing the CT to detect lesions in a timely manner, that can be managed by minimally invasive therapies using interventional radiology reducing morbidity and mortality in treated patients.

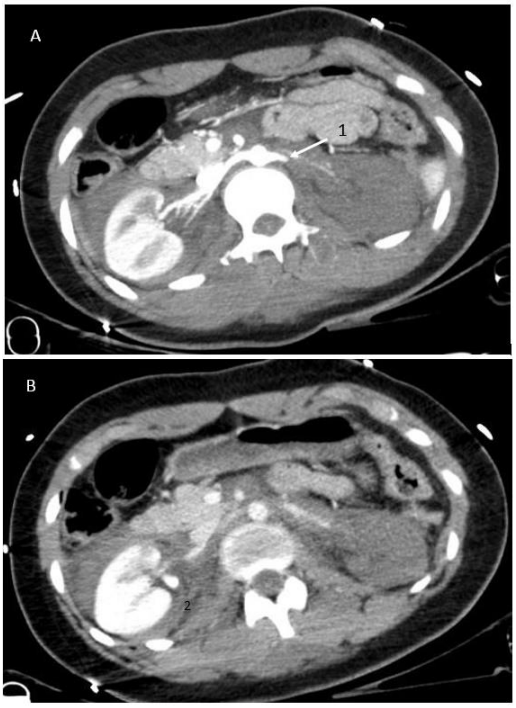

Fig 1 a y b: Axial slide of abdominal CT in arterial phase (a) and venous phase (b), Interruption of the contrast flow of the left renal artery (1) due to arterial dissection/thrombosis is observed. Right perirenal hematoma secondary to renal lacerations (2)

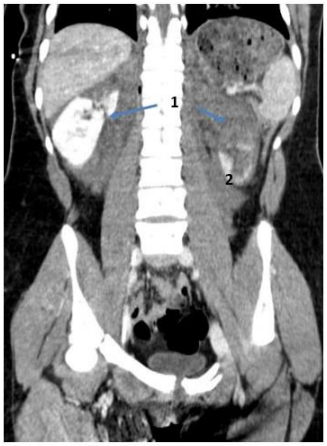

Fig 2: Coronal reconstruction of abdominopelvic CT in the venous phase, asymmetry in the renal contrast enhancement is observed, being practically absent in the left (1) except for an irregular uptake in the lower pole (2) which may suggest the presence of some polar branch.

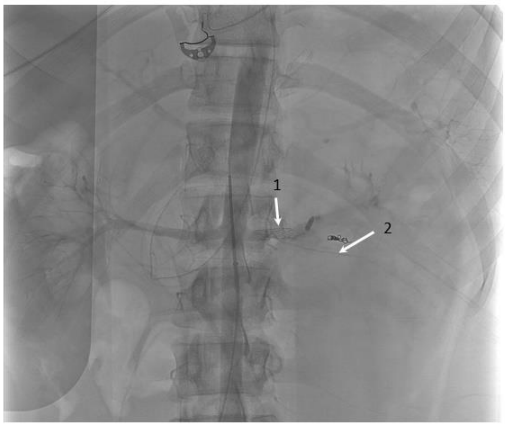

Fig 4: Stent-type Palmaz placement at the level of the left main renal artery lesion. Proper expansion of the Stent was observed without a clear recovery of the distal artery (1). Only a discrete vascularization of the lower pole and a small capsular artery is visualized (2).

BIBLIOGRAPHY

- Ahmed Z, Nabir S, Ahmed MN, Hilli S Al, Ravikumar V, Momin UZ. Renal Artery Injury Secondary to Blunt Abdominal Trauma – Two Case Reports. Polish J Radiol. 2016;81:572–7.

- Lee JT, White RA. Endovascular Management of Blunt Traumatic Renal Artery Dissection. J Endovasc Ther . 2002;9:354–8.

- Cano Alonso R, Susana Borruel Nacenta B, Patricia Diez Martinez B, Angel Sanchez Guerrero B, Carlos Garcia Fuentes B. Kidney in Danger: CT Findings of Blunt and Penetrating Renal Trauma. Radiographics. 2009; 2033–2053