

ANSWER TO PHOTO QUIZ (PAGE 257)
TRAUMATIC OCCLUSION OF THE RENAL ARTERY

DIAGNOSIS

Injuries of the renal artery are a rare complication of blunt abdominal trauma and occur mainly in young males.¹ The reported incidence of blunt renal injuries ranges from 0.05% to 4% of all abdominal injuries² and generally effects the left kidney, probably due to its hypermobility because of the longer pedicle.^{1,3} During blunt trauma the sudden acceleration probably causes traction to the renal artery which leads to a subintimal dissection 1 to 2 cm from the aorta, because of the maximal angulation, followed by thrombosis of the artery.^{1,2} Besides abdominal or flank pain, haematuria is seen in 76% of the cases.¹ In general there are three options to manage renal artery thrombosis: observation, immediate revascularisation and prophylactic nephrectomy.² Unfortunately, revascularisation is seldom successful due to the prolonged warm ischaemia time because of patient delay in seeking help but the literature about revascularisation is scarce. In a study by Haas et al. and the study by Knudson et al. approximately 25% of revascularisation attempts in patients with unilateral renal artery injury were successful.^{1,3} Cases studies report successful revascularisation 12 to 19 hours post injury.² Revascularisation should therefore always be considered, especially in patients with bilateral renal artery occlusion.

After hospital discharge, outpatient follow-up of these patients is important because of the high chance of developing arterial hypertension. Hypertension occurs in 32-50% of the patients without revascularisation^{1,4} and can be treated by either nephrectomy of the damaged kidney or with medication alone.

CONCLUSION

Posttraumatic occlusion of the renal artery is an uncommon but serious injury which mostly affects young males with blunt abdominal trauma. In the management of traumatic occlusion of the renal artery revascularisation should always be considered.

REFERENCES

1. Haas CA, Dinchman KH, Nasrallah PF, Spirnak JPM. Traumatic Renal Artery Occlusion: A 15-Year Review. *J Trauma Inj Infect Crit Care.* 1998;45:557-61.
2. Sangthong B, Demetriades D, Martin M, et al. Management and Hospital Outcomes of Blunt Renal Artery Injuries: Analysis of 517 Patients from the National Trauma Data Bank. *J Am Coll Surg.* 2006;203:612-7.
3. Knudson MM, Harrison PB, Hoyt DB, et al. Outcome after Major Renovascular Injuries: A Western Trauma Association Multicenter Report. *J Trauma Inj Infect Crit Care.* 2000;49:1116-22.
4. Stables DP, Fouche RF, de Villiers van Niekerk JP, Cremin BJ, Holt SA, Peterson NE. Traumatic renal artery occlusion: 21 cases. *J Urol.* 1976;115:229-33.

Figure 2. Axial (A) and coronal reconstructions (B) show complete occlusion of the left renal artery (black arrow). Also note the absent contrast attenuation of the left kidney as compared with the right kidney, most likely secondary to the presence of a traumatic dissection in the left renal artery

