Conservative management of a patient with a renal gunshot injury

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Introduction

Classic teaching mandates exploration of penetrating renal injuries. This article reports a case of gunshot injury to the kidney with a retained pellet, which was successfully managed conservatively. The patient discharged against medical advice from the emergency department immediately after imaging but re-presented with ongoing loin pain 5 days later. Repeat cross-sectional imaging showed a reduction in the size of the associated perinephric haematoma, so it was decided to continue conservative management. No delayed intervention was required. This case highlights the feasibility of conservative management for a gunshot injury with a retained pellet in select circumstances.

Discussion

Classically, penetrating renal trauma has been considered an indication for surgical exploration (McAninch and Carroll, 1989), particularly in the setting of gunshot trauma, given the velocity of these injuries (Voelzke and McAninch, 2009). More recently, the safety and feasibility of non-operative management of renal trauma has been demonstrated in highly selective patient groups (Schellenberg et al, 2019), particularly in those who have

Case report

A 37-year-old man presented to the emergency department of a district general hospital after suffering a gunshot injury to his left flank. The patient was haemodynamically stable with normal haemoglobin level and renal function blood tests. He did not have haematuria. A trauma protocol computed tomography scan was performed, which revealed a pellet lying at the anterior aspect of the upper pole of the left kidney (Figure 1a) with evidence of a tract between the left ninth and tenth ribs. There was a moderate sized left perinephric haematoma (Figure 1b). There were no injuries to other viscera and the contralateral kidney was normal.

The patient discharged against medical advice immediately after imaging had taken place. He re-presented with ongoing loin pain 5 days later. Repeat blood tests showed no change in his haemoglobin level. His renal function was again normal. The patient was transferred to the tertiary centre for observation and commenced on prophylactic antibiotics. Repeat imaging showed reduction in the size of the perinephric haematoma. The patient was safely discharged after a successful trial of conservative management.

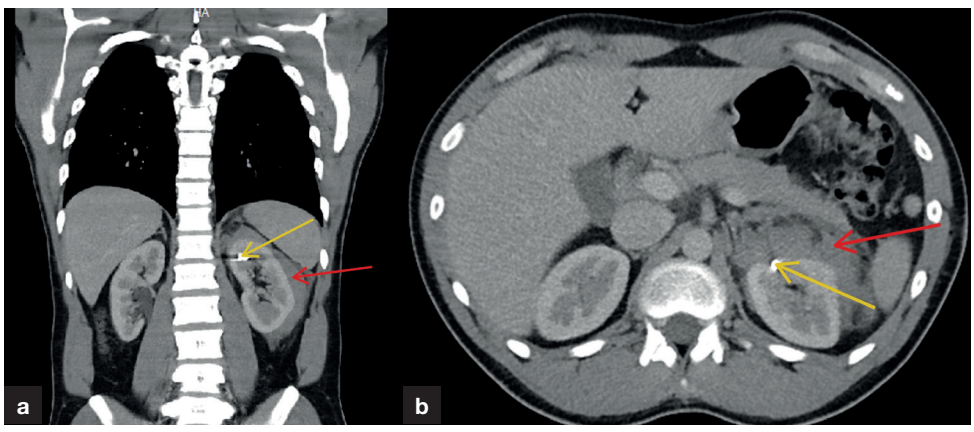

Figure 1. a. Coronal and (b) axial computed tomography scan showing perinephric haematoma (red arrow) and pellet (yellow arrow).

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Learning points

- In selected patients, conservative management of penetrating gunshot injuries can be appropriate and safe.
- In the well patient, retained pellets can be safely left in the renal parenchyma in the absence of infection or haemodynamic compromise.

had stab wounds (Resch et al, 2019). Conservative management has also been successful in a small proportion of patients with gunshot wounds (Kitrey et al, 2020). By avoiding renal exploration in these cases, the rates of complication and nephrectomy can be minimised (Schellenberg et al, 2019).

This case was further complicated by the presence of the retained pellet in the renal parenchyma. Examples of this are very scarce in the literature. This case highlights the safety and feasibility of conservative management of penetrating gunshot injuries to the kidney with retained projectiles, in patients where there are no vascular or other visceral injuries, provided serial imaging and review in a trauma centre are performed.

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