Retained calcified guidewire in the kidney mimicking a renal stone

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DESCRIPTION

A 60-year-old woman presented to the urology clinic with a 3-week history of right lumbar pain. Two months earlier, she had undergone right flexible ureteroscopy for uric acid renal stones in another hospital. Her medical history was notable for metabolic syndrome, and in particular for severe hyperuricaemia resistant to therapy. Results of a physical examination and complete blood count were normal.

Urinalysis was notable for the persistent presence of leucocytes and bacteria, and a urine culture grew *Escherichia coli*. Non contrast-enhanced CT of the abdomen revealed a strange finding in the right kidney resembling a kind of calcified skein of thread ([figure 1](#), yellow arrow).

A new endoscopic examination showed a long and tortuous piece of a guidewire completely calcified occupying the right renal pelvis and the lower calyx ([figure 2](#), [video 1](#)).

The patient underwent, in the same session, a endoscopic combined intrarenal surgery with complete removal of the wire and residual stone fragments with no postoperative complications.

The stone and the calcification around the wire were sent for chemical analysis that confirmed uric acid composition.

At 1-month follow-up, the patient was stone-free and wire-free. The patient together with the colleague who performed the first surgery and his medical administrator has been informed about the retained foreign body we found in the kidney. Of note, no damage compensation claims arose after that.

In endourology, inadvertent laser injury of baskets or guidewires, or uncontrolled interaction

Figure 2 Endoscopic view of the long calcified wire in the right kidney.

between sharp inner lumen of a needle with guidewires and their coating is the most common cause of generation of retained foreign bodies.¹

Regarding the natural history, the majority of these retained surgical items are shortly noticeable after the intervention, either as prompt discovery or after development of acute symptoms or during the first postoperative follow-up.²

Retained renal foreign bodies can act as a reservoir for acute/chronic infection or stone formation or mimic a renal neoplasm; the diagnosis and the extraction can be demanding.³

Retained surgical items induce the same concerns of psychosocial and financial burdens on the patient, the involved medical staff and healthcare systems.

Figure 1 Coronal non-contrast-enhanced image through the abdomen demonstrates long calcified wire in the right renal pelvis and lower calyx (arrowhead).

Video 1 Endoscopic examination of the kidney in a 60-year-old woman with right lumbar pain and previous history of ureteroscopy for renal stones revealed a long and tortuous piece of a guidewire completely calcified occupying the renal cavities.

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Additional procedures for extraction of retained renal foreign bodies or correction of their consequences with related claims require extra financial resources.⁴

Moreover, the involved medical personnel may be subject to administrative and medico-legal actions.

As a matter of fact, legal litigation could be a normal evolution especially when nothing has been told to the patient after the surgery. As such, it is important to be frank with patients when a foreign body is left unintentionally inside them.

Learning points

- ▶ Retained renal foreign bodies can act as a reservoir for acute/chronic infection or stone formation or mimic a renal neoplasm; the diagnosis and the extraction can be demanding
- ▶ The surgical aim in the management of retained foreign bodies is to remove them completely and, if possible, in a single stage. In complicated cases, multiple stages can be considered to avoid prolonged surgeries that might imply severe infective complications
- ▶ Frankness with patients when a foreign body is left unintentionally inside them is of utmost importance

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Disclaimer Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

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