

Endourology

Urinary incontinence: Not a typical ureteric stent symptom

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Introduction

Ureteric stents are very frequently used by urologists and will commonly cause patients to experience a variety of lower urinary tract symptoms.¹ Whilst many practitioners in primary care or emergency departments may be aware of the common stent related symptoms, occasionally these commonly employed devices may have complications which can present unusually. An uncommon complication is stent migration, which may manifest in symptoms not usually seen in the emergency department.

Case presentation

A fifty six year old man presented to an Emergency Department with right sided renal colic symptoms, and was subsequently diagnosed with a 4mm right proximal ureteric calculus. A trial of medical expulsion therapy was unsuccessful as after four weeks a repeat non-contrast computed tomography scan demonstrated no change in position of the calculus. Operative intervention was indicated, and six days later the patient underwent ureteroscopy under general anaesthesia with laser destruction of the stone. A 5 Fr soft ureteric stent (Cook Medical) was placed routinely, with strings left attached and protruding from the urethral meatus to facilitate stent removal planned for eight days' time.

Six days post-operatively the patient presented again to the Emergency Department, this time complaining of constant urinary incontinence for twelve hours. Since the operation he had experienced some urinary frequency and haematuria likely secondary to the ureteric stent, but this was unchanged with the new development of incontinence. The man was still able to pass controlled voids, but in between these he was experiencing constant small amounts of urinary leakage or 'dribbling'. The incontinence was not exacerbated by straining or movement, and the patient reported never having similar symptoms in

the past.

The Emergency Department medical staff performed urinalysis, which was remarkable for only a trace of leukocytes, and blood tests which showed normal inflammatory markers and renal function. The urology registrar was contacted, who advised for a plain radiograph to check the positioning of the ureteric stent. The radiograph clearly demonstrated the ureteric stent in an abnormal position, with the distal coil having migrated distally into the urethra (Fig. 1). This explained the patient's presentation with urinary incontinence, as urine normally stored in the bladder was passively draining through the stent into the urethra, bypassing the urinary sphincter mechanism.

Discussion

Ureteric stents are commonly placed after both uncomplicated and complicated ureteroscopy, despite evidence suggesting it may not be necessary following uncomplicated procedures.¹ It is well documented that patients with ureteric stents *in situ* suffer from lower urinary tract symptoms including urinary frequency, urgency, flank pain and haematuria.¹ Evidence also shows that symptoms from ureteric stents can lead to reduction in quality of life and time off work.² Urologists throughout the world would be familiar with seeing patients in Emergency Departments presenting in distress with symptoms attributable to ureteric stents.

Extraction strings left running from the distal of the end of the stent through the urethra and protruding free from the urethral meatus are becoming increasingly popular.² These stents can be removed by the patient at home, or by a clinician in the outpatient setting, negating the need for elective cystoscopy. Utilising extraction strings has been shown to reduce both costs and overall stent dwell time, with subsequent reduction in patient morbidity.² The main complication reported with using extraction strings was inadvertent stent

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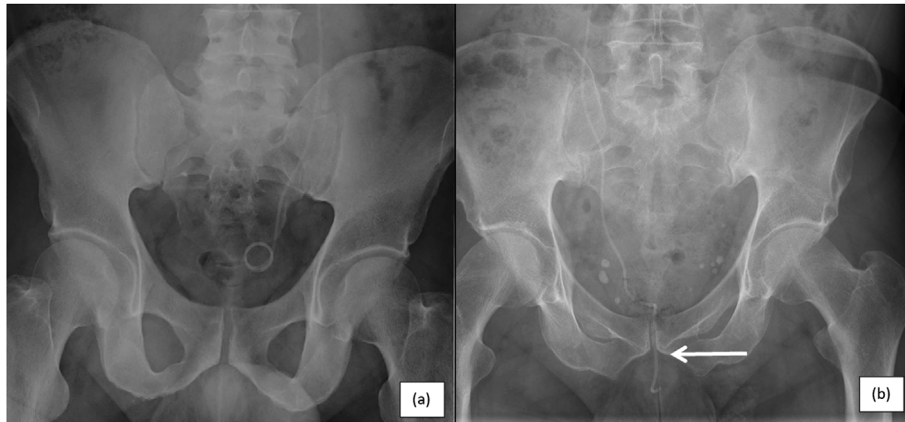


Fig. 1. Plain radiographs demonstrating (a) the expected position of a left ureteric stent, in a different patient and (b) the film of the patient described in this case. The arrow demonstrates the distal portion of the right ureteric stent passing distal to the pubic symphysis, positioned in the penile urethra beyond the urinary sphincter.

dislodgement, which studies demonstrating rates of 4.7–15%.² Stent expulsion or dislodgement occurred as early as the post-operative recovery area, and was found to be four times as likely in women compared to men.² It has been demonstrated there is significant variation worldwide in the tendency for urologists' to leave extraction strings, and no reliable data was found documenting current trends in Australia.²

Migration of ureteric stents is a well-documented complication of their insertion, although available studies tend to focus on migration proximally towards the ureter and kidney.^{1,3} Rates of stent migration have been reported from 2 to 8%.^{1,3} This can be detected with imaging techniques, although more commonly it has been detected at time of cystoscopy and planned stent removal, when the distal stent coil is not visible in the bladder.³ Ureteroscopy under general anaesthesia is the most common technique used to replace, reposition or remove these migrated stents.³ Only two other cases of distally migrated stents were found in the literature, and both reported similar presentations with urinary incontinence.^{4,5} One stent had further migrated past the meatus by the time the urologist arrived, and was removed without operative intervention.⁴ The other report involved a Memokath® ureteric stent, and was removed via cystoscopy.⁵ In the case described in this report, the extraction strings provided a simple method of removal, with no complications and immediate resolution of urinary incontinence.

Conclusion

Medical staff working in emergency departments, as well as general surgery trainees who may cover on-call urology should be aware of common and expected symptoms associated with ureteric stent placement. The reported case demonstrates the need for thinking 'outside the box' when symptoms do not match up with those expected or commonly seen.

Consent

The patient provided informed consent for the information presented here to be shared.

Conflicts of interest

None.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.eucr.2018.03.020>.

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