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Lost and forgotten: A case of intravesical migration of an intrauterine device

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ABSTRACT

In this report we explore the clinical journey of a female patient that presented with a history of failed contraception and more recently recurrent urinary tract infection (UTI). Renal tract ultrasound was done to investigate the cause of UTI and a bladder calculus was seen. During cystolithotripsy an intrauterine device (IUD) was seen embedded in the calculus. The risk factors for intravesical migration of an IUD are discussed.

1. Introduction

Intrauterine devices (IUDs) are reportedly used by 7.6–14.5% of women of reproductive age.[1] The rate of serious complications associated with IUDs is very low (<1%), common complications include gynaecological infections, uterine bleeding, dyspareunia, irregular menstrual cycle and excessive menstruation.[2] A rare complication of IUD insertion is IUD migration. One of the main risk factors for IUD migration that have been suggested is insertion by an inexperienced operator leading to uterine wall damage.[3] One study reporting on women undergoing IUD insertion, found that clinicians that inserted <10 IUDs per year were significantly more likely to cause uterine perforation compared to more experienced clinicians.[4] In this report we will explore the clinical journey of a 32 year old female patient that was diagnosed with intravesical migration of an IUD.

2. Case presentation

The patient initially presented to her family physician upon discovering she was pregnant 4 years after IUD insertion. The cause of failed contraception was investigated at the time with pelvic ultrasound study (USS) in 2016 and an IUD was not seen. The treating physician at the time assumed that the IUD had become dislodged and expelled from the uterine cavity and no other investigations were made. In 2019 the patient began experiencing symptoms suggestive of urinary tract infection (UTI) mainly characterised by urinary frequency and dysuria and had been bothering her intermittently. She had been treated with multiple courses of antibiotic therapy after consultation with her family physician. However, this did not provide long lasting relief, with symptoms recurring within days after cessation of antibiotics. The family physician had referred the patient to a urologist for further treatment after renal tract USS done in late 2020 to investigate for recurrent UTI, demonstrated the presence of bladder calculus.

Past medical history included intra-uterine device (IUD) insertion in 2012 and uncomplicated normal vaginal delivery G2P2 (second delivery in 2016, four years after IUD insertion). The patient denied any other previous surgery, drug reactions, smoking, alcohol intake and use of recreational drugs.

Examination (conducted by a urologist) revealed a haemodynamically stable, alert and orientated well female patient in the normal weight range.

Investigations done included multiple urine cultures, which revealed pan sensitive E. coli. Full blood count and renal function tests demonstrated nil raised inflammatory markers or renal impairment. Renal USS was done in December 2020 and revealed a bladder calculus measuring 27mm, nil upper tract pathology was seen.

After a discussion with the patient regarding the management options available for bladder calculus, she was consented for cystolithotripsy. The procedure was carried out in January 2021. Findings during the procedure included a normal urethra and mild reactive cystitis changes likely from the presence of a bladder calculus (Fig. 1). Nil fistulous tract was seen. During cystolithotripsy a T shaped foreign object (Fig. 2) was seen embedded in the calculus. After removal of the foreign object from the bladder with biopsy forceps it was evident that this was

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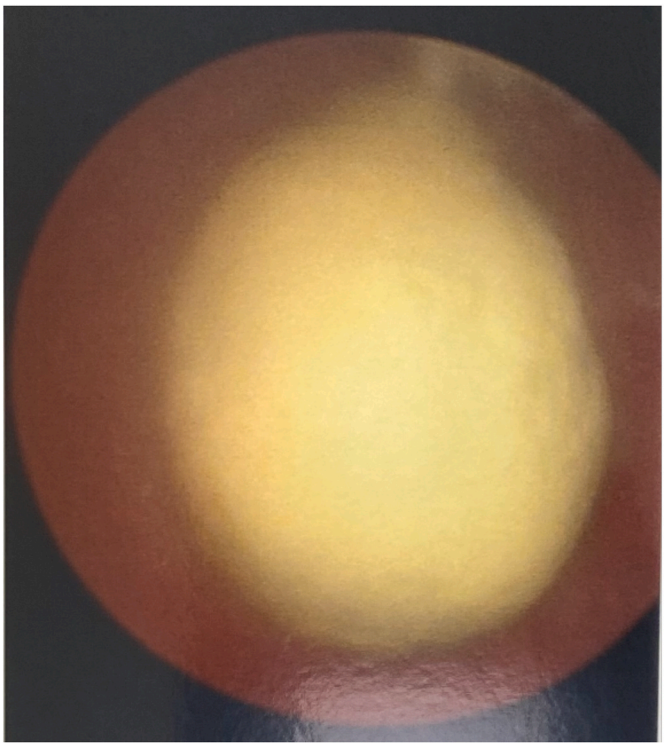

Fig. 1. Bladder calculus seen during cystoscopy.

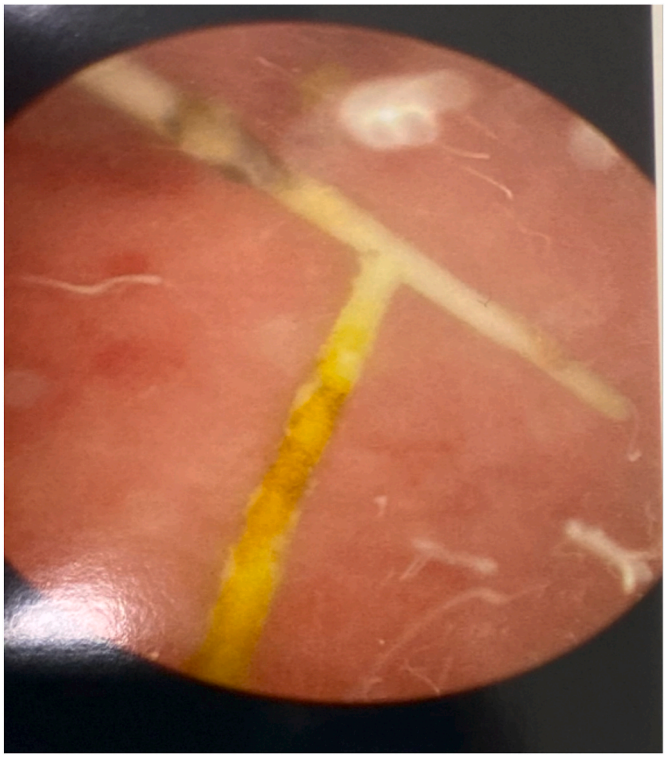

Fig. 2. IUD (Intravesical) seen after cystolithotripsy.

an intact IUD. There were no surgical complications and the patient had an uneventful post-operative recovery.

3. Discussion

In this particular patient, recurrent UTIs were attributed to the presence of a bladder calculus. The trigger for bladder calculus formation in this case was an intravesical IUD which provided a surface for crystallisation. Damage to the uterine wall during insertion has been suggested as a possible risk factor for intravesical migration of an IUD.[3] The IUD was inserted by a gynaecologist in India, the experience of the proceduralist who conducted the IUD insertion could not be verified. However, the patient was told by the gynaecologist post IUD insertion, that there were no reportable complications.

The decision to manage the bladder calculus endoscopically was influenced by the patient's history, size of the bladder calculus and recent guidelines which preference transurethral cystolithotripsy over percutaneous cystolithotripsy and open cystolithotomy.[5]

4. Conclusion

In conclusion intravesical migration of an IUD is a rare complication of IUD insertion. Retrospectively we can identify the signs of IUD migration as failure of contraception and subsequent formation of a bladder calculus. Furthermore, renal tract ultrasound can aid in determining the underlying cause of recurrent UTI.

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Declaration of competing interest

The authors declare that they have no conflict of interest.

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