

# Secondary vesical calculus following translocated IUCD in urinary bladder

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## Abstract

We describe an uncommon case of bladder calculus arising from a translocated intrauterine contraceptive device (IUCD) in a 36-year-old female patient with a 5-year-old IUCD who consulted for recurrent episodes of cystitis. Her evaluation established a bladder calculus that warranted surgery. She underwent a cystolithotomy, which dislodged a calculus (8 × 6 × 4 cm) that was attached to the IUCD. This is very rare.

## Keywords

Intrauterine; contraceptive; translocated; bladder; stone.

## Introduction

Two types of stones are usually recognized in the bladder, those that appear to have formed in the upper tract and are trapped in the urinary bladder, and those that are formed in the bladder in the presence of various types of outlet obstructions. Very occasionally, bladder stones develop because of foreign bodies in the bladder<sup>[1, 2]</sup>.

A rare case of encrusted cystitis complicating translocated chronic indwelling contraceptive device is described.

## Case report

This case involves a 36-year-old married G<sub>7</sub> P<sub>6+1</sub> (all living) female trader whose last menstrual period was 29th November 2001 and last childbirth was 2 years previously. She was a self-referred case with a 5-year history of recurrent lower abdominal pain associated with dysuria and urinary frequency. She had no associated fever, vaginal discharge, irregular vaginal bleeding or haematuria. The patient was initially seen at the referring hospital for the same complaints, for which she has been prescribed antibiotics several times and received urinary acidification with little improvement. She continued to experience recurrent symptoms. Previously, she had had an intrauterine contraceptive device (IUCD) inserted, which remained in situ for a year, after which she presented to the provider for its removal as a result of repeated lower abdominal pain and to enable her to have more children. She subsequently had spontaneous vaginal delivery of two normal babies. She was not known to be hypertensive or diabetic.

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**Fig. 1.** Intravenous urography showing normal upper tract and a filling defect at the bladder with a foreign body (copper T) in the core.

Examination showed the patient to be obese and afebrile. Main findings in the abdomen where there was lower abdominal tenderness with no palpable abdominal mass. Vaginal examination revealed no discharge with grossly normal digital examination saves for minimal tenderness anteriorly. The full blood count, urea and electrolyte were normal. Urine microscopy, culture and sensitivity revealed no casts, however, cultured *Klebsiella* species were found sensitive to Gentamycin and ofloxacin. Intravenous urography showed normal upper tract and a filling defect at the bladder with a foreign body the shape of an IUCD in the core (Fig. 1). A pelvic ultrasonography showed a solitary stone in the urinary bladder. Patient had antibiotic for a week and subsequently had urinary bladder exploration. At surgery, a solitary stone in the shape of an IUCD measuring  $8 \times 6 \times 4$  cm was dislodged from the fundus of the bladder. There was no obvious fistula connecting the uterus to the bladder, no fibrous adhesions between the urinary bladder and the uterus, no other growth in the bladder, no bladder diverticular and the internal bladder opening was normal. The abdomen was closed en mass. The patient did well post operatively. The stone was submitted for culture and biochemical analysis. The patient has remained symptoms free since discharge.

## Discussion

Two types of stones are usually identified in the bladder, those that have apparently formed in the upper tract and are then trapped in the urinary bladder, and those that appeared to have been formed in the bladder in the presence of various types of outlets obstructions<sup>[1]</sup>. Most endemic bladder stones appear to originate as aggregate of calcium oxalate crystals in the kidney, which subsequently descend to the bladder where they may acquire secondary deposits of calcium phosphate, magnesium ammoniumphosphate, or ammonium acid urate<sup>[3, 4]</sup>. Bladder stones occasionally develop because of foreign bodies in the bladder. This type of secondary bladder stone may be composite of struvite and carbonate apatite formed around non-absorbable surgical materials in urine with urease producing (*p mirabilis*) bacterial infection. The most common foreign bodies to be found in the bladder are surgical sutures and urological material<sup>[2-6]</sup>.

We describe a bladder stone in a 36-year-old woman that was found to have formed around an IUCD that was supposed to have removed 4 years previously, but which had merely been dislodged into the urinary bladder. She presented a year after the placement of the IUCD to the original hospital for its removal. The service provider claimed to have successfully carried out the procedure, but the 'retrieved' device was never shown to the patient. The patient subsequently had two successful pregnancies. It appeared that the lost IUCD had migrated from the uterus into the bladder where it became mineralised forming a foreign-body stone in the bladder. No one knows at what point the IUCD migrated into the bladder, whether it was at the time of attempted removal

or prior to this. The patient had presented for its removal because of the suprapubic pain she was experiencing and to enable her have more children. The patient was later seen for severe suprapubic pain for which she underwent urinary acidification and was prescribed antibiotics, resulting in slight relief. She reported to our centre after 6 months of continuous treatment. During this period there were a number of serious recurrences of her symptoms. Evaluations at our centre with intravenous urography and pelvic ultrasonography revealed a bladder stone.

She underwent a cystolithotomy resulting in the successful removal of the stone and has remained symptom free since. Plain abdominal x-ray should be routine in the evaluation in patients with a history of an unretrieved IUCD and in patients with unrelenting urinary symptoms to rule out foreign bodies. An accurate diagnosis cannot be over emphasised in all cases of surgical problems. Surgeons should endeavour to provide patients with proof of a procedure (in this case, show the patient the removed IUCD), after which any specimens should always be submitted for laboratory confirmation in all relevant cases.

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