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Missing Intrauterine Device (Copper T) Forming Stone in the Urinary Bladder

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ABSTRACT

Intrauterine device (IUD) is the commonest method of contraception used by women. Complete migration into the urinary bladder though rare, results in lower urinary tract symptoms and stone formation around the migrated IUD. We present a 53 year old woman with a missing IUD (Copper T) who presented with lower urinary tract symptoms and haematuria. Cystoscopy showed a bladder stone anchored to the anterior bladder wall by an intrauterine device. She had cystolithotomy and retrieval of oblong shaped stone measuring about 3cm and intact IUD (Copper T) after failed endoscopic procedure. Adequate counselling prior to insertion is important. This will reduce the incidence of missing IUD.

Keywords: Missing Intrauterine Device, Copper T, Forming Stone , Urinary Bladder

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Introduction

Intrauterine device is the commonest method of contraception used by women. It is safe, effective (birth control) and cost effective [1]. Migration of the device into other viscera including the urinary bladder has been reported[2], [3]. Complete migration into the urinary bladder results in lower urinary tract symptoms. Stone formation around the migrated IUD worsens the clinical picture. This complication though rare[4] increases patient suffering.

There is no generally accepted consensus on the treatment approach; however all agree that IUD in the urinary bladder should be removed.

In this report, we present a case of a forgotten missing IUD (Copper T) that migrated into the bladder with the device forming a nidus for stone formation. The stone was successfully removed by cystolithotomy after failed endoscopic procedure.

Case Report.

A 53yr old woman presented at the clinic with two years history of frequency, nocturia, urgency and painful micturition. There was no obstructive urinary symptom. However she had bilateral flank pain and lower abdominal pain. There was associated persistent low grade fever. Two months prior to presentation she developed haematuria. The haematuria was total and painful. There was no passage of gravel in urine. She had no risk factors for bladder tumor. The use of contraceptive device (IUD) could not be ascertained.

Examination revealed a middle aged woman who was febrile with suprapubic tenderness. She also had bilateral flank tenderness. Urinalysis showed pyuria and haematuria. Urine culture did not grow any organism. Serum electrolyte, urea and creatinine were normal. Abdominal ultrasonography showed normal kidneys, urinary bladder, uterus and adnexae. She was treated for urinary tract infection and subsequently scheduled for cystoscopy. At cystoscopy, the urethra was normal; however there was a stone hanging on the anterior bladder wall close to the bladder neck (figures 1 and 2). The stone was anchored to the anterior bladder wall by an intrauterine contraceptive device. The stone could not be crushed using a lithotrite necessitating cystolithotomy. An oblong shaped stone measuring about 3cm and the anchoring IUD (Copper T) were removed intact (figure 3). Urethral catheter was passed and continuous bladder drainage maintained for a week. Post-operative period was uneventful.

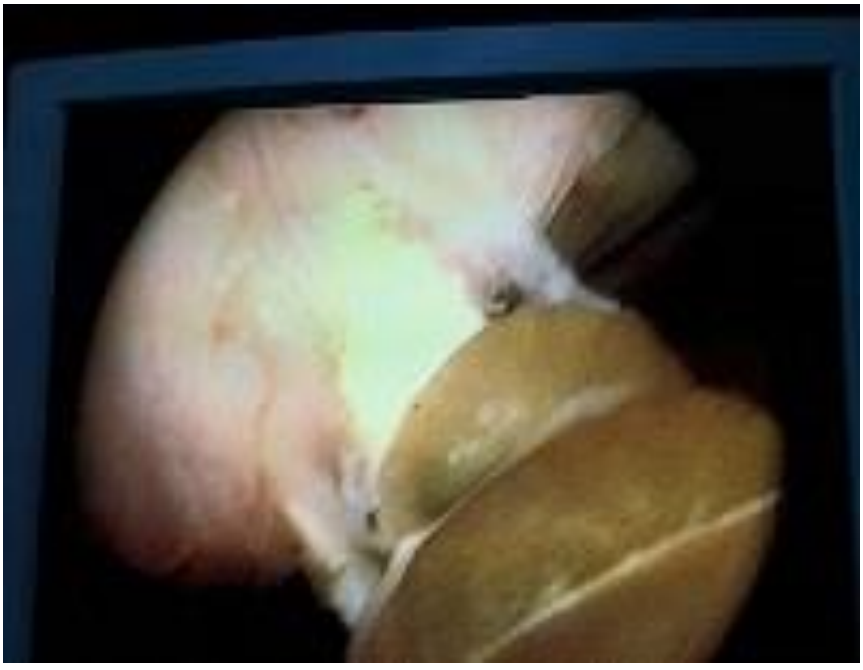

Figure 1: Bladder stone and anchoring IUD on cystoscopy.

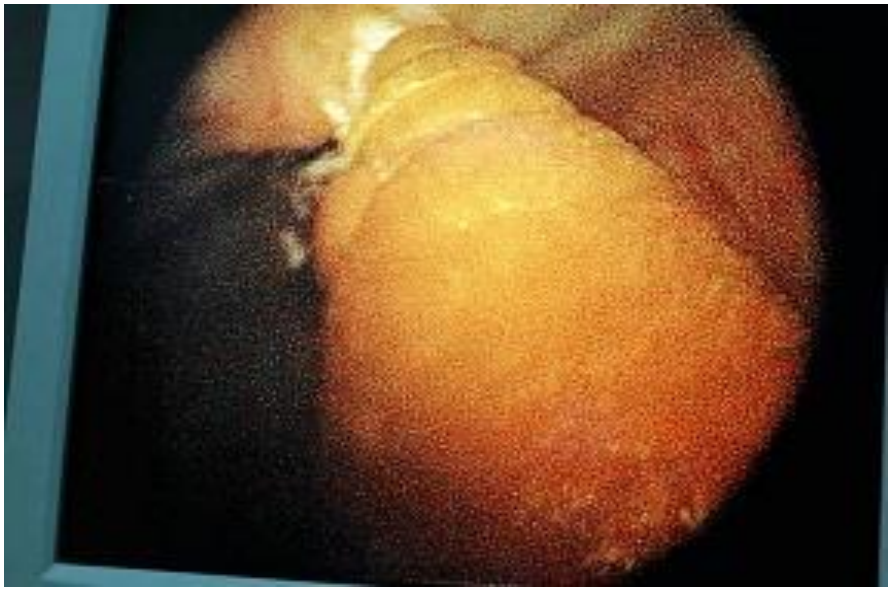

Figure 2: Bladder stone on cystoscopy.

Figure 3: Retrieved bladder stone and IUD.

Discussion.

An intrauterine device (IUD), also known as intrauterine contraceptive device (IUCD or ICD) or coil is a small, often T-shaped birth control device that is inserted into a uterus to prevent pregnancy. IUDs are one form of long-acting reversible birth control[5].

Complications of IUD include menorrhagia, expulsion, migration and ectopic pregnancy[6]. There is also increased risk of pelvic inflammatory disease and infertility[7]. Uterine perforation has been reported in 0.1% of cases[8].

Migration of the IUD from the uterus to the bladder is a rare complication [9], [10]. Approximately 80 cases of IUD migration to the bladder have been reported. Kassab et al, in a review spanning eighteen years noted 165 reported cases of IUD migration. The IUCDs were located in the omentum, rectosigmoid, peritoneum, bladder, appendix, small bowel, adnexa and iliac vein[11].

Different explanations have been given for the migration. These include overlooked iatrogenic uterine perforation, spontaneous uterine contraction, involuntary bladder contraction, gut

peristalsis and peritoneal fluid movement[12]. The mechanism and timing of the migration in our patient cannot be ascertained.

The presence of the IUD in the bladder invokes recurrent urinary tract infection which promotes stone formation.

In the index patient, she presented to the clinic on account of recurrent urinary tract infection, haematuria and lower urinary tract symptoms. One can deduce that the recurrent UTI was the precursor to stone formation. Once the stone was formed it perpetuated the infection. Haematuria can result from either the urinary tract infection or from the effect of the secondary bladder stone.

Presently, there are various treatment options available for retrieval of IUD/ stone in the urinary bladder. In our patient we employed endoscopic procedure for both diagnostic and initial therapeutic intervention. We resorted to open procedure (cystolithotomy) when the lithotrite could not crush the stone. Maskey et al [13] reported a T shaped vesical intrauterine contraceptive device in a nineteen year old woman. This was removed by cystolithotomy. [14]Tejashri et al in his case report treated the bladder stone by cystolithotomy. Cystoscopic stone/ IUD extraction is another option of treatment. Laparoscopic simple excision of the bladder wall around the IUD was used by Shin et al for extraction of stone[12].

Adequate counselling which involves clear communication regarding expectations with IUD placement and continued use[15], proper record keeping and contact tracing are important. These will ensure that complications such as forgotten/ missing IUD are reduced.

Conclusion.

Migration of IUD from the uterus to the urinary bladder with stone formation is a rare complication. It is associated with distressing urinary symptoms. Treatment includes cystoscopic/ laparoscopic extraction and cystolithotomy. Adequate counselling prior to insertion is important. This will reduce the incidence of forgotten/ missing IUD.

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