

Case Report

Intrauterine Contraceptive Device (IUCD) Migration into the Bladder with Bladder Stone Formation: Case Report

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Abstract

Introduction and importance: Intrauterine Contraceptive Device (IUCD) is commonly used for contraception. Migration into the bladder is a rare complication. We present a case of a 38-year-old woman with a history of an Intrauterine Contraceptive Device (IUCD) insertion presenting with device migration into the bladder complicated with stone formation. This report aims to contribute to the understanding of IUCD-related complication and its management.

Presentation of case: The patient had IUCD inserted immediately following her last delivery. She had a history of unplanned pregnancy 05 months following the IUCD insertion. She also complained of lower urinary tract storage symptoms. Clinical examination revealed suprapubic tenderness. Non-contrast abdominopelvic CT scan and cystoscopy confirmed the presence of an IUCD in the bladder with an associated stone. Open Cystotomy was performed, successfully removing the bladder stone with the intravesical IUCD. The patient was discharged without complications and reported symptom resolution during follow-up.

Clinical discussion: IUCD migration into the surrounding organs including omentum, rectum, sigmoid colon and peritoneum has been reported. The cause of migration can be a technical issue during the insertion time or decreased integrity of the uterine wall due to different causes including infection and having a recent history of deliver or abortion.

Conclusion: IUCD migration into the bladder is a rare but clinically significant complication. There should be a high index of suspicion of migration in a patient with unexpected pregnancy associated with urinary complaint following IUCD insertion.

Keywords: Intrauterine contraceptive device; IUCD; IUD; Contraceptive; Bladder stone; Migration; Case report

Abbreviations

IUD: Intrauterine Contraceptive Device; CT: Computed Tomography; SVD: Spontaneous Vaginal Delivery

Introduction

Intrauterine Contraceptive Device (IUCD) migration is a rare but noteworthy complication that can give rise to diverse clinical manifestations [1]. This case report describes a 38-year-old woman presenting with lower urinary tract storage symptoms attributed to the migration of an IUCD into the bladder, resulting in the formation of a bladder stone. IUCD migration into the bladder is an uncommon occurrence, and its clinical implications can range from asymptomatic cases to presentations with significant lower urinary tract symptoms [2]. The incident reported in this case aligns with the limited literature available on IUCD migration and underscores the importance of vigilance in managing contraceptive complications.

Historically, IUCDs have been established as effective and reliable contraceptives, but their potential for migration and subsequent complications should not be overlooked [3]. Literature review reveals sporadic instances of IUCD migration into adjacent structures, including the bladder, with varied clinical outcomes [4]. The reported case draws attention to the need for a thorough understanding of the potential complications associated with IUCD use, particularly in patients who present with unexplained lower urinary tract symptoms and unplanned pregnancy [5].

To date, there is a paucity of comprehensive studies documenting the incidence, clinical features, and optimal management strategies for IUCD migration into the bladder [6]. This case report contributes to the existing body of knowledge by detailing a clinical scenario, emphasizing the significance of prompt diagnosis, and elucidating the successful management of this infrequent yet clinically relevant complication. This case is written in accordance with SCARE criteria [7].

Case Presentation

This was a 38-years-old Ethiopian woman who came to our hospital outpatient clinic with a complaint of 1-year history of lower urinary tract storage symptoms, characterized by urgency and frequency. The patient had a history of using IUCD5 years ago which was inserted right after she gave birth to her 4th child. All her four children were delivered by SVD. She had no urologic or gynecologic complaint until 05 months later when she had unexpected pregnancy. The pregnancy was terminated at the patients' request at local health facility. She was not evaluated further for the condition of the IUCD since she disappeared from follow-up until her current presentation.

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The clinical examination revealed suprapubic tenderness. The gynecological examination was normal. Urine urinalysis and microscopy was done and it was negative for infection. Serum creatinine, hemoglobin, and white blood cells count were all in the normal limit. Abdomino-pelvic non-contrast CT scan showed a 2 cm by 2 cm stone with an IUCD in the bladder (Figure 1). Cystoscopy showed the IUCD was located in the dome of the bladder, with one arm of the T-shaped IUCD found embedded in the bladder mucosa and a stone on the other arm (Figure 2).

After discussing the options of management with the patient, open surgical management was decided. Under spinal anesthesia, through a pfannenstiell incision with extra-peritoneal approach, the bladder was identified. Cystotomy was performed and the IUCD was identified with one arm embedded in the bladder mucosa around the dome of the bladder. The bladder was mobilized away from the covering peritoneum and the fistula tract was witnessed to have sealed completely with a scar and there was no communication between the uterus and the bladder. The IUCD along with the bladder stone was removed (Figure 3). The bladder was closed in two layers with vicryl. A Foley urethral catheter was inserted. The patient was discharged on the 3rd post-operative day without any complications. The catheter was removed on the 10th post-operative day at the outpatient clinic. 02 month after the procedure, patient was seen at the outpatient clinic and had no urinary complaint.

Discussion

IUCD migration, though uncommon, has been documented in various anatomical locations, including the bladder [2]. The incidence of IUCD perforation is said to be 0.05/1,000 to 13/1,000 [8]. The etiology of such migrations remains multifactorial, which includes insertion of the device by inexperienced personnel, inappropriate position of the IUCD, susceptible uterine wall due to multiparity, and a recent abortion or pregnancy [9]. Our patient is a multiparous who had the IUCD inserted right after her last delivery which can be taken as a risk factor [10].

The clinical presentation of IUCD migration into the bladder can vary widely, ranging from asymptomatic, recurrent urinary tract infection, dyspareunia to lower urinary tract storage symptoms, as seen in our patient [11]. The presence of suprapubic tenderness raised suspicion, leading to further imaging studies.

Imaging modalities, such as ultrasound, plain abdominal x-ray and abdomino-pelvic CT scans plays a crucial role in diagnosing IUCD migration into the bladder. In our case, the CT scan revealed a stone with the IUCD in the bladder, confirming the diagnosis. Cystoscopy further elucidated the extent of penetration, with one arm of the T-shaped IUCD embedded in the bladder mucosa and a stone

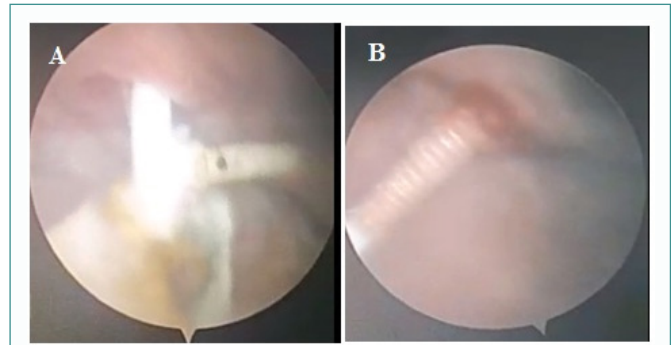


Figure 2: Cystoscopy. (A, B), IUCD seen eroded through the bladder mucosa.

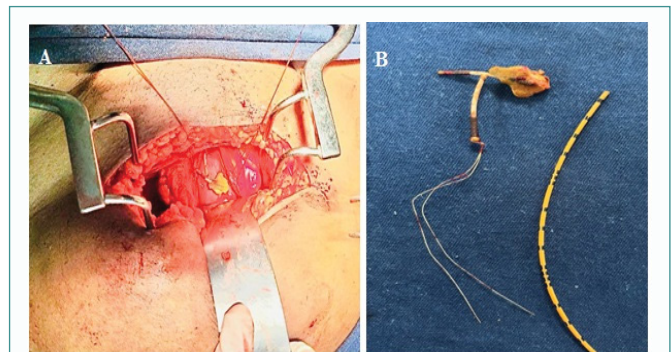


Figure 3: Intraoperative images. (A), IUCD along with stone seen in the bladder. (B), Extracted IUCD and attached stone next to ureteric catheter for size

on the other arm. These findings are consistent with other reports emphasizing the value of imaging in confirming the diagnosis and guiding subsequent management strategies [12].

The optimal management strategies may vary based on individual patient, institutional set up and clinical presentation. Typically, surgical intervention is mandatory [11]. The intervention can be either open surgery or minimally invasive intervention including laparoscopic or endoscopic extraction using laser lithotripsy [13]. In our set up, due to the limitations of minimally invasive options of management, open cystotomy and extraction of the IUCD along with the stone was done.

Conclusion

IUCD migration into the bladder is a rare complication which can have significant morbidity. IUCD should be inserted by trained personnel following the standard procedural steps. Migration should always be suspected in a woman using IUCD as a contraceptive



Figure 1: Abdomino-pelvic non-contrast CT scan. (A) Coronal View (B) Axial View (C) 3D reconstruction. IUCD with attached stone seen in the bladder.

method and presenting with unplanned pregnancy and unexplained urinary complaint. The location and condition of the IUCD should be sought early.

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