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Case Report

Rare Complication of IUCD Migration into the Urinary Bladder Presenting as Vesical Calculus: Case Report at Dr. Sikander Ali Mandhoro Civil Hospital, Badin

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Abstract: *Intrauterine contraceptive devices (IUCDs) are widely used, effective, and reversible, but rare complications include uterine perforation with extrauterine migration. Intravesical migration is uncommon and may serve as a nidus for vesical calculus formation, presenting with persistent lower urinary tract symptoms (LUTS) that are often misattributed.* ***Objective:*** *To describe the presentation, diagnostic pathway, and endoscopic management of an intravesically migrated IUCD with secondary bladder calcifications, emphasizing key follow-up and imaging considerations.* ***Methods:*** *This single-patient case report was conducted in the Department of Urology at Dr SAM CHB. The observation period spanned the index urology evaluation through a 1-week postoperative follow-up. The clinical data included a comprehensive history, a thorough examination, and relevant imaging studies. The diagnostic work-up consisted of a plain X-ray of the kidneys, ureters, and bladder (KUB), which revealed a metallic foreign body projected over the bladder, and ultrasonography, which demonstrated intravesical calcifications. The patient underwent diagnostic cystoscopy followed by same-session cystoscopic extraction of the IUCD with removal of adherent calcifications. Peri-operative outcomes and early symptom resolution were recorded. No statistical analysis was applicable due to the single-case design.* ***Results:*** *A 32-year-old woman with a 4-year history of dysuria, frequency, urgency, and intermittent fever had an IUCD inserted 5 years earlier that was presumed expelled after abnormal uterine bleeding; she subsequently conceived and delivered vaginally, with LUTS persisting postpartum. X-ray KUB identified a T-shaped metallic foreign body within the pelvis consistent with an IUCD; ultrasound confirmed intravesical calcifications. Initial management elsewhere was planned as an open cystolithotomy for presumed primary vesical calculus. On referral, cystoscopy revealed a partially encrusted IUCD within the bladder. Complete endoscopic removal of the IUCD and attached calcifications was achieved in a single session without complications. At 1-week follow-up, the patient reported complete resolution of LUTS.* ***Conclusion:*** *Intravesical IUCD migration, though rare, should be considered in women with unexplained LUTS and a history of IUCD insertion, especially when expulsion is suspected. Early use of plain radiography and targeted cystoscopy can expedite Diagnosis and enable minimally invasive, single-stage endoscopic removal, avoiding unnecessary open surgery. Routine post-insertion follow-up and prompt imaging when strings are not visualized or expulsion is suspected are essential to prevent delayed morbidity.*

Keywords: Intrauterine contraceptive device (IUCD), Migration, Vesical calculus, Urinary bladder, Cystoscopy, Case report

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Introduction

Intrauterine contraceptive devices (IUCDs) are among the most prevalent reversible contraceptive methods globally. They are mostly safe, but pelvic pain, abnormal bleeding, and expulsion are common problems. Uterine perforation, which can lead to the movement of the IUCD into nearby organs, such as the urinary bladder and peritoneal cavity, is a less common but serious complication (1).

When an IUCD moves into the bladder, it often serves as a nidus for the formation of calculus, which leads to the development of vesical stones. Patients may exhibit recurrent urinary tract infections, hematuria, dysuria, or lower urinary tract symptoms that resemble primary urological disease (2). The Diagnosis is frequently missed, especially when the IUCD is thought to be expelled or when the device was inserted several years prior (3).

Recent studies have identified various risk factors for migration, including improper insertion technique, inexperienced operators, and insufficient follow-up when IUCD strings are not visible (4). Migration may occur immediately following insertion due to primary perforation or progressively through chronic erosion of the uterine wall (5).

Due to the possible complications, doctors should be very suspicious of women who have urinary problems and have used an IUCD in the past. Ultrasound and plain radiography remain crucial for Diagnosis, and cystoscopic removal is the most effective treatment for this condition (1–5).

Case Presentation

A 32-year-old woman from Malkani City came in with a 4-year history of recurrent lower urinary tract symptoms.

According to my patient, she underwent an intrauterine contraceptive device (IUCD) insertion five years ago. About 9 to 10 months after the IUCD insertion, she started having heavy periods with clots, and the thread of the IUCD was not visible to the patient. She visited her physician, who, after a thorough examination, told her that her IUCD had "dropped." A year later, she developed lower urinary tract symptoms, such as burning urination, frequency, and off-and-on fever. She visited many doctors in Digri and Judho, where an ultrasound revealed that she might have a urinary bladder stone. Despite these complaints, she conceived and delivered a healthy baby through a normal vaginal delivery three years ago. She continued to have urinary symptoms intermittently, and they were partially alleviated by medication, but recurred repeatedly. Then her surgeon planned for open cystolithotomy on ultrasound findings and advised investigations, including X-ray KUB, revealing a metallic foreign body in the bladder representing an IUCD, and ultrasound KUB, which validated the formation of calcifications representing vesical

calculus over the device. The patient was referred to the gynaecology department of Dr. SAM Civil Hospital. They then discussed the matter with the urologist and planned a diagnostic cystoscopy. Patient underwent removal of calcified IUCD with thread one step using a cystoscope. The surgery procedure and post-operative course were uneventful.

Table 1: Clinical Parameters

Clinical Parameter	Details
Age	32 years
Residence	Malkain City
History of Present Illness	IUCD inserted 5 years ago. After 9–10 months, developed heavy menstrual bleeding with clots; told device had 'dropped'. One year later, the patient developed burning micturition, intermittent fever, and increased urinary frequency. Multiple consultations suggested a bladder stone. Symptoms persisted intermittently despite treatment.
Obstetric History	Conceived after presumed IUCD expulsion, delivered by normal vaginal delivery 3 years ago.
Investigations	X-ray KUB: metallic foreign body in bladder (IUCD). Ultrasound KUB: vesical calculus with IUCD at its core.
Management	Cystoscopic removal of an IUCD with calculus at Indus Hospital is a single-step procedure.
Outcome	Procedure uneventful, patient recovered well.

Discussion

Migration of intrauterine contraceptive devices (IUCDs) into the urinary bladder is an uncommon yet well-documented complication, typically occurring due to perforation of the uterine wall during or following insertion. Once inside the bladder, the IUCD acts like a foreign body, causing urinary salts to accumulate and form calculi. In this case, an IUCD that had been in place for five years was first thought to have been expelled, but it was later found to be the nidus of a vesical calculus.

It is common for patients to have a delay in Diagnosis, as our patient did. Migration may remain clinically silent for years or manifest with nonspecific urinary symptoms, such as dysuria, frequency, urgency, recurrent urinary tract infections, or hematuria (6). Because these signs are similar to those of common urological problems, it is common to receive an incorrect Diagnosis. As with our case, the patient was seen multiple times for lower urinary tract symptoms and suspected urinary bladder stone before referral.

The presumption that the absence of an IUCD thread signifies expulsion, in the absence of confirmatory imaging, constitutes a significant risk for delayed identification of migration. Many writers have said that if the IUCD is no longer visible, it should be checked by a doctor instead of just being told everything is fine (7, 8). In our case, the device was presumed to have "dropped" due to significant bleeding occurring 9–10 months post-insertion; however, imaging was not conducted, resulting in years of morbidity.

Imaging remains fundamental to Diagnosis. Ultrasound is a helpful first step, but plain radiographs (KUB) or CT scans may be necessary to locate migrated IUCDs and assess for potential problems (8, 9). For our patients, the combination of KUB and ultrasound made it easy to Figure out what was wrong before any surgical intervention was needed.

Treatment depends on the extent of the calculus and the degree of bladder wall involvement. When possible, cystoscopic removal is the preferred minimally invasive method due to its excellent results and rapid recovery (6, 9). Open surgery may be necessary when large calculi have developed (5). Our patient had the calcified IUCD, which was represented as a vesical calculus, removed in one step using a cystoscope. She was discharged the next day, and upon follow-up one week later, her symptoms had resolved.

Conclusion

This case illustrates a rare yet significant complication associated with intrauterine contraceptive device (IUCD) utilization: migration into the urinary bladder leading to calculus formation. Our patient had recurrent urinary problems, which affected her quality of life and increased morbidity. When the thread was no longer visible, it was thought that the IUCD had been expelled, which delayed the right evaluation. In the end, removing the device with calcifications through cystoscopy completely alleviated the symptoms.

This case highlights the necessity of consistent follow-up following IUCD insertion and the urgency for imaging when device expulsion is suspected. Healthcare providers should be very suspicious of women who have ongoing urinary problems and have used an IUCD in the past. Early detection and minimally invasive treatment can prevent long-term illness and improve patients' outcomes.

Declarations

Data Availability statement
All data generated or analysed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department concerned.

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The authors declared the absence of a conflict of interest.

Author Contribution

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Study Design, manuscript review, and critical input.

All authors reviewed the results and approved the final version of the manuscript. They are also accountable for the integrity of the study.

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