

Case Report

Migration of IUCD into the Bladder with Stone Formation; Two Case Reports

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Abstract

An IUCD is the most effective and reversible method of contraception worldwide. Few serious complications include uterine perforation and migration of the IUCD. We present two cases of displaced IUCD. A 40 years old female presented to Urology Department Government Sardar Begum Teaching Hospital with severe LUTS and suprapubic pain. She had history of IUCD placement about 10 years ago. She was diagnosed as a case of migrated IUCD into the bladder with stone formation. She was managed endoscopically with the help of stone punch (litholapaxy) and foreign body forceps was used for IUCD removal. In another case, a 37 years old female was referred from Gynae department to Urology department with the complaint of frequency, dysuria and lower abdominal pain. There was history of IUCD (Copper T) placement 4 years ago. She was also diagnosed as a case of migrated IUCD into the bladder with stone formation on one limb of IUCD. This patient was also managed endoscopically with the help of stone punch and foreign body forceps for removal of IUCD

Key Words: Intrauterine Contraceptive Device, Migration, Lower Urinary Tract Symptoms, Stone Punch, Foreign Body Forceps.

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Introduction

An IUCD is the most effective and reversible method of contraception worldwide.¹ IUCDs induce sterile inflammation with increased mucous production in uterine cavity. This inhibiting mechanism increases the risk of perforation, fistula formation and migration of IUCD². One of the most serious complications is uterine perforation although it is very rare for the IUCD to penetrate the bladder after perforation.³

Here we report 2 cases of IUCD migration to the bladder with stone formation.

Case Report

CASE 1: A 40 years old female presented to Urology department Govt Sardar Begum Teaching Hospital Sialkot in May 2023 with the H/O severe LUTS (Lower Urinary Tract Symptoms) including frequency, dysuria, suprapubic pain and occasional hematuria. Patient had no flank pain or fever. There was a history of IUCD placement about 10 years ago. Abdominal examination

revealed mild suprapubic tenderness. Urine examination revealed microscopic pyuria, hematuria with some RBC, leucocytes and epithelial cells. Plain X-Ray abdomen pelvis revealed a foreign body (IUCD) with complete encrustation of stone of about 2 cm (Figure 1). Ultrasound abdomen pelvis with full bladder also confirmed the findings of X-Ray. Urine sample was sent for culture and sensitivity and patient was started empirical antibiotic therapy. Cystoscopy under spinal anesthesia revealed an IUCD with stone formation almost all over the IUCD (Figure 2). Litholapaxy was done with the help of stone punch to fragment the stone. Later, the stone fragments were removed by suction with the help of glass syringe (Figure 3) and IUCD (Copper T) was removed endoscopically with the help of cystoscope and foreign body forceps. The whole procedure was completed within one and a half hour. Foley's catheter was passed post operatively which was removed the next day. Post operative recovery was uneventful and patient was discharged on second post operative day after satisfactory voiding.

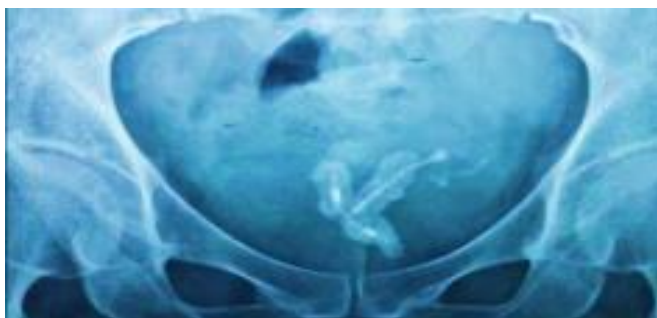


Figure 1. X-Ray Pelvis showing IUCD encrusted with stone.



Figure 2. Endoscopic view of IUCD encrusted with stone in bladder.

Figure 3. Fragments of stone removed from bladder

CASE 2: A 37 years old female was referred from Gynae department to Urology department Govt Sardar Begum Teaching Hospital Sialkot in December 2023 with the complain of frequency, dysuria and occasional lower abdominal pain. There was H/O IUCD (Copper T) placement 4 years ago. Routine investigations were normal. Urine analysis revealed pyuria and microscopic hematuria. X-Ray pelvis revealed a Copper T in the pelvic area with a tiny stone of about 1.2 cm formed on one limb of Copper T (Figure 4). Ultrasound abdomen pelvis confirmed the presence of foreign body in the bladder. The case was managed endoscopically using a stone punch for stone fragmentation and cystoscope and foreign body forceps for Copper T removal (Figure 5 & 6). The procedure was done under spinal anesthesia. The whole procedure was completed within forty-five minutes. Patient was catheterized post operatively. Post-operative recovery was uneventful and patient was discharged on second post op day after removal of Foley's catheter and satisfactory voiding.

Discussion

Intrauterine Contraceptive Devices (IUCDs) are widely used for contraception as these have low cost, safe, effective, reversible and simple to use. Common complications of IUCD are dysmenorrhea, menorrhagia and pelvic infection. Incidence of migration of IUCD is very low reported to be ranging from 0.1% to 0.9%.⁴



Figure 4: X-Ray pelvis showing Copper T with small stone on one limb of Copper T

Figure 5: Endoscopic view of Copper T with encrusted stone on one limb of Copper T in bladder.



Figure 6: Copper T removed endoscopically

The possibility of IUCD migration is greatest during puerperium and lactation as uterine wall is thin and soft during this period. History of previous C-Section is an additional risk for IUCD migration but none of our patients had C-Section in the past. Type and material of IUCD used are added factors for migration of IUCD but there is no reliable data to confirm it. Perforation is more likely to occur while insertion of IUCD or immediately after IUCD insertion and in cases of difficult insertion, pain or bleeding. The possibility of acute perforation should be suspected.⁵⁻⁷ Usual places of migration of IUCD include peritoneal cavity (broad ligament and space of Retzius) and less frequently to bladder, ovaries, rectum, sigmoid colon and appendix.⁸

According to various studies, only 2% of IUCDs may migrate into the bladder.⁹ After migration into the bladder, it leads to irritative urinary symptoms and stone formation in long standing cases. IUCDs serve as a nidus for stone formation due to its lithogenic nature like any other foreign body.¹⁰ The diagnosis of a displaced IUCD in the bladder mainly depends upon imaging examination. The abdominal ultrasound should be used as the first modality to find the IUCD within the uterus in situ in right place. Transvaginal ultrasound (TVS) is another preferred option to locate IUCD when

abdominal ultrasound is not feasible in cases of empty bladder and a retroflexed uterus.¹¹ The IUCD can also be identified using a plain radiograph of abdomen pelvis if IUCD strings are not visible or palpable during pelvic examination.¹² CT scan should only be reserved in those cases where IUCD cannot be located accurately with the help of abdominal ultrasound and radiography. We were able to diagnose the migrated IUCD into urinary bladder with the help of abdominal ultrasound and plain radiograph in both the cases.

According to WHO recommendation, any migrated IUCD following uterine perforation should be removed regardless of location and whether it is symptomatic or not.¹³ Various non-invasive modalities to remove displaced IUCDs include hysteroscopy, laparoscopy, cystoscopy or a combination of these procedures.¹⁴

Transvesical migrated IUCDs can be removed safely and effectively with the help of cystoscopy. If it is complicated with stone formation, stone punch or holmium laser lithotripsy can be employed for stone fragmentation. Open suprapubic cystotomy is performed at centers which do not have cystoscopic facilities and where IUCDs cannot be removed with cystoscope due to large stone burden.

In both of our cases, we were able to remove the IUCDs endoscopically using stone punch for stone fragmentation and foreign body forceps for IUCD removal.

Conclusion

All patients with IUCD insertion should have visits immediately after IUCD insertion and then periodically to diagnose displacement of IUCD and prevent subsequent complications. Patients should immediately report if she could not feel the string of IUCD. Persistent LUTS (Lower Urinary Tract Symptoms) and recurrent UTI should raise the suspicion of transvesical migration of IUCD. Abdominal ultrasound and plain radiography are usually sufficient for diagnosis. Endoscopic stone fragmentation and removal of IUCD using cystoscopy is a safe, effective and least invasive mode of management regarding transvesical migration of IUCD with stone formation.

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