

CASE SERIES

Family Planning and Contraception

Diagnosis and management of misplaced intrauterine devices: A case series

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Abstract

Background: Intrauterine contraceptive devices (IUCDs) are widely used for long-term contraception and are generally safe. However, misplacement can occur, often presenting as a missing thread and typically remaining asymptomatic. A misplaced IUCD can lead to complications like uterine perforation, migration to adjacent organs, pelvic abscess, or ectopic pregnancy. Various diagnostic and treatment modalities are available for management.

Case series: We present 10 cases of misplaced IUCDs encountered at Kenyatta Na-

tional Hospital, highlighting their clinical presentations, diagnostic approaches, and treatment strategies.

Conclusion: This case series highlights the importance of vigilant monitoring for non-specific symptoms indicative of IUCD displacement or migration. Timely evaluation and intervention are essential, with imaging and minimally invasive surgery playing a central role in achieving favorable outcomes.

Keywords: hysteroscopy, intrauterine contraceptive device, laparoscopy, misplaced IUCD

Introduction

Intrauterine contraceptive devices (IUCDs) are a commonly used and highly efficient method of reversible, long-term contraception (1). Their popularity is attributed to their reliability, cost-effectiveness, and minimal user intervention. Although generally safe, complications related to IUCD placement may occasionally occur (2). The unintended displacement or migration of the device to

ectopic locations within the pelvic cavity is a notable complication. IUCD migration to the adnexa, including the fallopian tubes, ovaries, or adjacent pelvic structures is rare but clinically significant (3). It may be asymptomatic, incidentally discovered, or present with symptoms such as pelvic pain, menstrual irregularities, or infertility (4). Migrated IUCDs can lead to complications including localized infections, formation of

tubo-ovarian abscess formation, or structural damage to adjacent organs, if left untreated, necessitating prompt diagnosis and appropriate management (5).

This case series presents 10 cases of misplaced or migrated IUCDs managed at Kenyatta National Hospital. Cases illustrate a spectrum of clinical presentations, diagnostic challenges, and therapeutic interventions. The insights aim to guide clinicians in managing similar complications.

Case series

Case 1: A 30-year-old para 2 + 0 patient delivered via cesarean section presented to the gynecologic clinic as a referral. She had a 2-month history of pelvic pain and brownish vaginal discharge following IUCD insertion. Her gynecological examination was unremarkable. IUCD strings were not visible. On pelvic ultrasound, IUCD was noted to be partially within the superior endometrial cavity and partially within the fundal myometrium with its tip outside the uterine endometrium. Diagnostic Hysteroscopy was performed, and IUCD was located in the left ostia and was retrieved successfully.

Case 2: A 54-year-old para 4 + 0 patient presented with abnormal uterine bleeding with an 8-year history of IUCD as a referral from a peripheral hospital with failed IUCD removal. On pelvic examination, IUCD strings were not visible. A pelvic ultrasound was performed where IUCD was visualized at the medial cervical canal, with its distal tip partially embedded within the anteromedial cervical parenchyma. Hyteroscopically, we visualized the IUCD embedded in the left midcervical wall and successfully extracted it with a grasper.

Case 3: A 36-year-old para 2 + 1 patient presented with a history of IUCD Insertion for 1 year, amenorrhea for 1-month, and vaginal bleeding for 2 weeks associated with lower abdominal pain. On examination, her vital signs were stable and gynecological examination revealed vaginal bleeding. A pelvic

ultrasound revealed an IUCD in the cervical canal, a nongravid uterus, and a tubal ovarian pregnancy. A pregnant test result was positive. She underwent exploratory laparotomy. Intraoperatively, we noted a ruptured left tubal pregnancy, left salpingectomy was performed, and the patient was discharged on day three.

Case 4: A 45-year-old para 4 + 0 patient presented with a history of menorrhagia for six months, which was associated with lower abdominal pain. The general and pelvic examinations were normal. A pelvic ultrasound revealed an echogenic strip in the lower endometrium. Hysteroscopic retrieval of the IUCD located transversely in the fundal region was unsuccessful. A total abdominal hysterectomy was performed later.

Case 5: A 46-year-old para 3 + 0 patient presented with missing IUCD strings from a peripheral hospital. The general examination was unremarkable. Pelvic ultrasound was performed, but IUCD was not found. A diagnostic laparoscopy was performed. IUCD was located in the loops of the omentum on the right side of the abdomen, which was successfully was retrieved.

Case 6: A 32-year-old para 1 + 1 patient presented at our facility from a peripheral facility where she presented with a 1-month history of amenorrhea and vaginal bleeding associated with lower abdominal pain. Pelvic ultrasound revealed incomplete miscarriage. Manual vacuum aspiration was performed, but the IUCD was not retrieved. At our facility she was stable, and her gynecological examination was unremarkable. A pelvic ultrasound revealed the IUCD was in the posterior myometrium. Examination under anesthesia was performed and the IUCD was successfully retrieved from the fundus of the uterus.

Case 7: A 38-year-old para 1 + 0 patient presented with generalized abdominal pain and fever for 5 days associated with generalized body malaise. On general examination, she was looked sick and had a temperature of 38°C with other vitals normal. There was

mild pallor. On abdominal examination, generalized tenderness was observed. The IUCD strings were not visualized during speculum examination. Pelvic ultrasound did not show an IUCD but revealed free fluid in the peritoneum. Exploratory laparotomy was performed because of a pelvic abscess. Intraoperatively, 500mls of frank foul-smelling pus was noted. A hysteroscopy was also performed, and the IUCD was retrieved near the cervical os.

Case 8: A 24-year-old para 2 + 2 patient presented with left iliac fossa pain for 10 months with a history of missing IUCD strings. On general examination, the patient was stable. Her pelvic examination was unremarkable. A pelvic ultrasound revealed that the IUCD was translocated extrinsically into the outer posterior aspect of the uterine wall at the left adnexal fundal region level. Laparoscopy was performed and the IUCD was successfully retrieved from the posterior mesosalpinx of the left adnexa.

Case 9: A 42-year-old para 3 + 1 patient presented with lower abdominal pain associated with bloating for six months. The general and pelvic gynecological examinations were unremarkable. Pelvic ultrasound revealed that the IUCD was embedded into the fundus myometrium. Hysteroscopy was performed, and the IUCD was embedded in the endometrium and myometrium. Laparoscopy was performed, and the IUCD successfully retrieved from the broad ligament.

Case 10: A 47-year-old para 6 + 0 patient presented with missing IUCD strings associated with intermittent pelvic pain for 12 months. The general and gynecological examinations were unremarkable. IUCD was not visualized in the uterus on pelvic ultrasound. Diagnostic laparoscopy was performed, and the IUCD had perforated the right infundibular. The IUCD was successfully retrieved.

Discussion

The incidence of IUCD malposition or migration is reported in 10.4 - 25.0% of users

(6). Factors such as improper insertion technique, uterine anomalies, parity, and postpartum insertion have been identified as potential contributors to these complications (2). In our series, several patients had a history of prior cesarean deliveries, a known risk factor for IUCD perforation due to altered uterine wall integrity. Similarly, advanced age, as seen in postmenopausal women in case 2, may predispose to migration or embedding due to endometrial thinning and atrophy (2). The cases in this series highlight the diverse clinical presentations of misplaced IUCD complications. Common symptoms included pelvic pain and abnormal uterine bleeding (5). However, as observed in case, some patients presented with systemic symptoms, such as fever and malaise, reflecting secondary infections or abscess formation. Notably, IUCD migration to extra-genital sites, such as the omentum and bowel (cases 5, 8, and 10) underscores the potential for serious complications that may mimic other intra-abdominal pathologies.

Imaging plays a central role in diagnosing misplaced IUCDs (7). In most cases, pelvic ultrasound was the initial investigation and effectively localized the IUCD in several instances. However, plain X-rays and diagnostic laparoscopy were necessary in cases of suspected migration where the IUCD was not visible on ultrasound. These findings align with those of other studies, where ultrasound has been reported as the first-line modality, whereas X-ray and CT scans are reserved for detecting extrauterine migration (2,3). In our series, multiple cases of uterine embedding and perforation necessitated hysteroscopic or laparoscopic interventions. Similar findings have been reported in previous studies (3). Uterine perforation typically occurs during insertion, with rates ranging from 0.2 - 0.6%. Perforation often remains asymptomatic until patients present with complications, as noted in our cases (8).

Cases of IUCD migration to the omentum, bowel, or adnexa, as seen in cases 5, 8, and 10, are rare but well documented. A similar case where an IUCD migrated to the sigmoid

colon, requiring laparoscopic retrieval was also reported (9). Migration is thought to occur through gradual erosion of the uterine wall due to chronic inflammatory processes (8). This highlights the importance of high suspicion and early imaging in patients presenting with missing IUCD strings or atypical symptoms. As seen in case 3, ectopic pregnancy is a known but rare complication of IUCD use. Although IUCDs are highly effective in preventing intrauterine pregnancies, they provide less protection against ectopic pregnancies (10). A systematic review estimated the rate of ectopic pregnancy among IUCD users to be 2.7 per 1000 women, a risk significantly lower than that of noncontraceptive users (10). In our case, timely surgical intervention resulted in favorable outcomes, emphasizing the need for vigilance in such scenarios.

Depending on the complexity of the case, our series demonstrated diverse management strategies, from hysteroscopic and laparoscopic retrieval to open surgical procedures. Hysteroscopy was effective for IUCD retrieval in cases of embedding or malposition within the uterine cavity, as seen in case 1. However, cases involving migration to extragenital sites required laparoscopic retrieval, which is consistent with recommendations from other studies (1-2, 9). In one case, a failed hysteroscopic retrieval necessitated total abdominal hysterectomy, illustrating the challenges of managing deeply embedded devices. These findings emphasize the importance of proper IUCD insertion techniques, routine follow-ups, and thorough patient education to minimize complications. Clinicians should counsel patients to seek evaluation promptly if they experience symptoms such as pelvic pain, abnormal uterine bleeding, or missing IUCD strings. Imaging plays a pivotal role in the diagnosis of suspected IUCD displacement, with ultrasound as the preferred initial modality and additional imaging techniques, such as pelvic X-ray, for further evaluation if required.

Interventions should be tailored based on the complexity of each case, considering the risks and benefits of hysteroscopic, laparoscopic, or open surgical approaches (7). In our series, laparoscopy was the most successful treatment modality, particularly in cases where hysteroscopic retrieval was unsuccessful or when the IUCD had migrated to extra genital locations. Special consideration is warranted for postmenopausal and multiparous women, who may benefit from alternative contraceptive methods or closer monitoring. Although IUCD migration is a rare complication, if undiagnosed, it poses significant risks, underscoring the necessity for heightened clinical vigilance and timely intervention.

Conclusion

This case series highlights the importance of vigilant monitoring for nonspecific symptoms indicative of IUCD displacement or migration. Timely evaluation and intervention are essential, with imaging and minimally invasive surgery playing a central role in achieving favorable outcomes. Standardized follow-up protocols and patient education on warning signs postinsertion are essential to minimize complications. Additionally, targeted training for obstetricians and gynecologists in hysteroscopy and laparoscopy, along with equipping both rural and urban facilities with appropriate surgical tools, is critical to improving quality of care and accessibility.

Informed consent for publication

Informed consent for publication was obtained from the patients.

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Declarations

Conflict of interest

The authors declare no conflicts of interest.

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