

## **Laparoscopic Management of a Translocated Intrauterine Device in a Postmenopausal Woman: A Case Report**

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### **Abstract**

Intrauterine device perforation is rare, yet remains one of the most serious complications of long-term IUD (Intrauterine Device) use. Although extrauterine migration has been reported in multiple pelvic and abdominal structures, chronic migration in postmenopausal women with very long retention periods is uncommon. We present a distinctive case involving a 60-year-old female patient who has retained a copper-T intrauterine device for a duration of 19 years without any subsequent medical follow-up and has been in a postmenopausal state for the past 17 years. She presented with a one-month history of abdominal pain. Ultrasonography and abdominal radiography demonstrated the absence of the device within the uterine cavity. Diagnostic laparoscopy elucidated the presence of the intrauterine device penetrating the posterior uterine wall and exhibiting a strong adherence to the right fallopian tube, extending towards the fimbriae, accompanied by substantial adhesions associated with copper. The device was successfully removed via laparoscopic adhesiolysis. This case highlights an unusual presentation of extrauterine IUD migration in which the strings remained visible at the external cervical os despite perforation and adnexal adhesion. Postmenopausal uterine atrophy, myometrial thinning, and the chronic inflammatory response induced by copper likely contributed to progressive erosion and adhesion formation. Current WHO and ACOG recommendations advise the removal of all migrated IUDs regardless of symptoms to prevent complications. The present case demonstrates that ongoing surveillance after IUD insertion and removal of the device following menopause is essential to prevent delayed perforation, chronic migration, and complex surgical retrieval.

**Keywords:** Translocated Intrauterine Device, Postmenopausal Woman, Laparoscopic Management

### **1. Introduction**

An intrauterine device is widely recognized as an effective, convenient, and long-acting reversible contraceptive method, with substantial evidence supporting its safety and efficacy in preventing unintended pregnancy. Contemporary data demonstrate that rates of pregnancy, antagonistic occasions, and early suspension during the to begin with a long time of use stay low and are not of clinical significance.<sup>1</sup> Despite this strong safety profile, uterine perforation represents a rare yet serious complication, with an estimated incidence of approximately 0.5–2.6 per 1,000 insertions according to recent studies published within the last five years.<sup>2</sup> Following perforation, the device may migrate

beyond the uterine cavity and become embedded or adherent to surrounding structures. Reported extrauterine locations include the pouch of Douglas, omentum, mesentery, colon, and bladder.<sup>2</sup>

The mechanisms underlying IUD migration are multifactorial and often involve unrecognized perforation at the time of insertion, particularly in the presence of risk factors such as postpartum insertion, breastfeeding, extreme uterine flexion, operator inexperience, and a softer postpartum myometrium.<sup>3</sup> Secondary migration may also occur due to chronic inflammatory processes or myometrial contractions that gradually propel the device through the uterine wall.<sup>4</sup>

Here, we present a case of an intrauterine device that perforated the posterior uterine wall and became adherent to the right fallopian tube up to the fimbria. The diagnosis was established through a combination of clinical evaluation, imaging, and laparoscopic assessment, allowing for definitive identification and surgical removal of the device. This report outlines the diagnostic workflow and therapeutic approach to this uncommon but clinically important complication.

## **2. Case presentation**

This case included a 60-year-old lady who presented to our department in September 2025 with a one-month history of abdominal pain rated as VAS 6. She reported no dyspareunia, dysuria, dyschezia, vaginal bleeding, or abnormal vaginal discharge. There was no history of abdominal trauma or abdominal massage. Micturition and defecation were normal. The patient got a copper-T intrauterine device (IUD) placed in 2006, and it has never been checked or taken out since then. The device had stayed in place for about 19 years. She had been through menopause for 17 years and had a history of four pregnancies, including three vaginal births and one failed labor. Her last childbirth occurred when she was 32 years old.

Clinical examination revealed moderate hypogastric tenderness. On speculum examination, the IUD strings were unmistakable at the outside cervical os (Figure 1). However, despite visible strings, the device was not located within the uterine cavity on imaging. This finding raised the possibility of partial embedment at the time of insertion or chronic erosion creating a false tract through the posterior uterine wall. Bimanual examination showed a firm cervix, a uterus of normal size and consistency, and supple

adnexal regions. Assessment of the pouch of Douglas was omitted as there was no clinical suspicion of free fluid or mass effect. Laboratory evaluation, including complete blood count, C-reactive protein, renal function tests, and urinalysis, uncovered no variations from the norm. Ultrasonography and abdominal X-ray confirmed the absence of the IUD within the uterine cavity and suggested extrauterine migration (Figures 2 and 3).

A diagnostic and operative laparoscopy was done to find out where the IUD was located and to take it out. During the surgery, thick adhesions were found between the back part of the uterus, the right fallopian tube, and the fimbria (Figure 4). The adhesions were carefully cut away, and then part of the IUD was seen going through the back of the uterus and stuck to the right fallopian tube. The device was fully removed without any problems (Figure 5). The patient recovered well after the surgery and was released from the hospital within 24 hours. An beginning endeavor was made to expel the IUD utilizing alligator-type forceps after performing uterine sounding, which uncovered an anteflexed uterus measuring roughly 6 cm. However, the procedure was unsuccessful. Hence, diagnostic and operative laparoscopy was performed to confirm the diagnosis and retrieve the IUD.

Intraoperatively, thick grips were distinguished between the back of the uterine divider, the right fallopian tube, and the fimbria (Figure 4). Adhesiolysis was carefully performed. After releasing the graspers, part of the IUD was seen perforating the posterior uterine wall and lying adjacent to the right fallopian tube. The IUD was effectively expelled (Figure 5). The patient had an uneventful postoperative recuperation and was released within 24 hours.

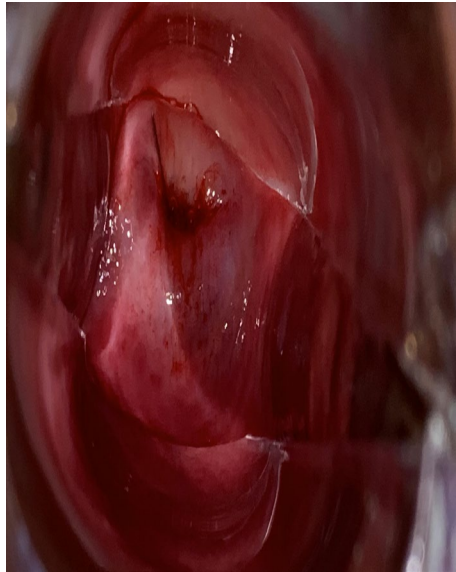


**Figure 1. Speculum Examination Showing Visible IUD Strings at The External Cervical Os Despite Subsequent Confirmation of Extrauterine Device Location**



**Figure 2. Abdominal X-Ray Demonstrating Absence of The Radiopaque Copper-T IUD Within The Uterine Cavity**

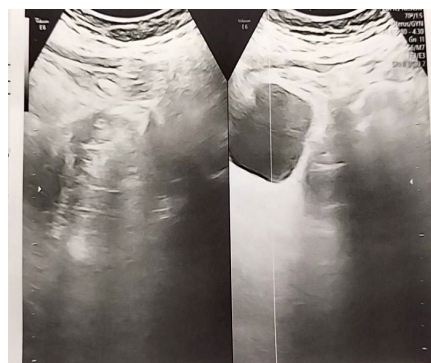


**Figure 3. Transabdominal Ultrasonography Showing Empty Uterine Cavity With No Evidence of Intrauterine IUD**

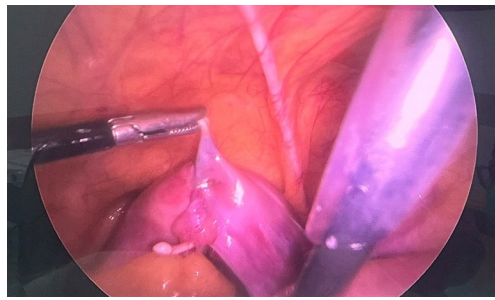


**Figure 4. Laparoscopic View Showing The IUD Arm Perforating The Posterior Uterine Wall And Adherent To The Right Fallopian Tube Up To The Fimbrial, Accompanied By Dense Adhesions**



**Figure 5. Retrieved Copper-T IUD Specimen Following Laparoscopic Adhesiolysis And Extraction**

### **3. Discussion**

Intrauterine devices are widely used contraceptive methods with established safety profiles, yet complications such as displacement, embedment, and perforation, though uncommon, remain clinically significant. Uterine perforation occurs in approximately 0.5–2.6 per 1000 insertions and is often underdiagnosed because up to one-third of patients with migrated devices remain asymptomatic. Recent studies highlight that postmenopausal women represent a unique risk group due to the anatomical and hormonal changes that occur following estrogen decline. Endometrial atrophy, thinning of the myometrium, and cervical stenosis reduce uterine elasticity and make the tissue more vulnerable to chronic erosion by a long-standing IUD. This pathophysiologic state is further exacerbated by the chronic inflammatory response triggered by copper ions, which induces local fibrosis, neovascular fragility, and adhesion formation over time. These mechanisms are

consistent with the dense adhesions found in our patient after 19 years of uninterrupted device retention.<sup>5</sup>

Two mechanisms of IUD migration have been described: acute perforation during insertion and delayed secondary perforation caused by chronic pressure necrosis or inflammation. In our case, the long interval between insertion and symptom onset, combined with menopausal atrophy and copper-induced tissue reaction, supports a chronic erosion mechanism rather than primary insertion-related perforation. Compared with previously published reports of postmenopausal migration, most of which involve retention beyond 10–15 years, our case represents one of the longest durations described in the literature, with a 19-year-old copper-T device still presenting visible strings at the cervical os yet perforating through the posterior uterine wall and adhering to the right fallopian tube up to the fimbria. This dual feature of visible strings and extrauterine location is unusual and sets this case apart

from typical “lost strings” presentations.<sup>6,7</sup>

The diagnostic approach in this patient followed a logical escalation. Ultrasonography was performed as the initial modality because it is inexpensive and widely available; however, its sensitivity decreases significantly in postmenopausal uteri due to reduced uterine volume and poor acoustic windows. In this case, ultrasound failed to visualize the IUD within the uterine cavity, prompting a confirmatory abdominal X-ray, which remains a reliable tool for detecting any radiopaque copper-containing device. Cross-sectional imaging (CT or MRI) may provide a more detailed evaluation of adhesions and organ involvement, particularly when surgical planning is required, and could have been considered before laparoscopy. Nonetheless, diagnostic–operative laparoscopy remains the gold standard both for confirming device location and for facilitating definitive removal.<sup>3</sup>

In this case, the operative laparoscopy used a standard three-port method. The surgeon found thick adhesions between the back of the uterus, the right fallopian tube, and the fimbriae. To remove the adhesions, bipolar electrocautery and gentle separation were used. This helped to reveal the IUD arm that was stuck in the back wall of the uterus. The amount of blood lost during the procedure was minimal (<50 mL), and the total operative time was approximately 45 minutes. No bowel, bladder, or adnexal injury occurred. The device was retrieved intact. Although histopathologic examination of adhesion tissue is not mandatory, biopsies were taken to exclude granulomatous inflammation; results showed chronic inflammatory changes consistent with copper-induced fibrosis.<sup>3</sup>

Postoperatively, the patient received prophylactic antibiotics and non-opioid analgesia, and was monitored for signs of infection or bleeding. Given the complete

intraoperative retrieval and absence of residual fragments, no follow-up imaging was required. The patient remained symptom-free at the outpatient evaluation. According to WHO guidelines, all extrauterine IUDs should be removed upon detection, regardless of symptoms, a recommendation that aligns with the management in our case.<sup>8</sup>

When compared with previous reports, such as Benaguida et al., who described peritoneal migration managed laparoscopically, and Huang et al., who successfully removed an intramyometrial IUD with associated fibrin deposition via hysteroscopy, our case highlights an uncommon combination of chronic extrauterine migration, visible cervical strings, adherence to adnexal structures, and prolonged postmenopausal retention. These factors underscore the importance of routine follow-up and timely removal of an expired IUD, particularly in postmenopausal women whose altered pelvic tissue characteristics predispose them to chronic erosion and extrauterine migration.<sup>8</sup>

Copper in the abdominal cavity can lead to adhesion formation, making laparoscopic removal difficult. In this case, adhesions were observed involving the posterior uterine wall and adherent to the right fallopian tube up to the fimbria. Adhesiolysis was performed to release the adhesions, followed by removal of the IUD. Although inert and immobile devices were sometimes left in the abdominal cavity in the past, intrauterine devices (IUDs) may perforate the uterus during insertion. Therefore, correct placement should be confirmed by checking for the presence of the IUD strings within a few weeks after insertion. Uterine perforation typically causes only transient pain and minimal bleeding and may remain unrecognized immediately after IUD insertion. When perforation is suspected, prompt ultrasonographic evaluation is recommended to facilitate early removal of

the device and prevent adhesion formation with surrounding structures. IUD use is associated with several potential complications, including infection, uterine perforation, expulsion, and ectopic pregnancy. The risk of perforation is highest during insertion; however, delayed perforation may also occur. Therefore, proper insertion techniques and appropriate post-insertion follow-up are essential. In the present case, a copper-T IUD had remained in situ for nineteen years without follow-up.<sup>3</sup>

Two main mechanisms of IUD migration have been described. The first is immediate uterine perforation resulting from improper insertion by a healthcare provider. The second is delayed or secondary perforation, which occurs gradually over time, particularly when the uterine wall is weakened, such as during the postpartum period or in the presence of chronic inflammation.<sup>5</sup>

Device migration or translocation is a rare but noteworthy complication that can have severe consequences, with an incidence ranging from 0.2 to 9.6 per 1000 insertions, although most cases remain asymptomatic. Many places where the IUD can move have been seen, such as the peritoneum, omentum, and intestines.<sup>10,11</sup> The movement is usually a slow process that takes years, but in our patient's case, the IUD was in for only nineteen years, which is within the usual ten-year period that devices are expected to last.<sup>12</sup>

As menopause progresses and ovarian function declines in postmenopausal women, hormonal levels decrease, leading to atrophy of the uterine cavity, cervical stenosis, and endometrial tissue atrophy. The size of the IUD remains constant, which makes it more likely to be compressed and embedded in the myometrium. The IUD, as a foreign object in the uterus, evokes a chronic inflammatory response in the endometrium. Inflammatory responses involve severe damage to the vascular walls, increased vascular

permeability, and enhanced fibrinogen exudation, resulting in fibrinous inflammation.<sup>13</sup>

These include not only stomach or lower belly pain, unusual bleeding, painful periods, unexpected pregnancy, and miscarriage, especially in the first few months after the device is placed, but also the device coming out of the body, which can happen in up to 25% of cases, infections, and movement of the device after it accidentally goes through the uterus wall, which is still a very uncommon issue.<sup>2</sup> In this patient, menopause had occurred 17 years ago, and the IUD was not removed after its expiration period, with no follow-up conducted for 19 years. The presenting symptom was abdominal pain.<sup>11</sup>

In this case, IUD translocation was associated with abdominal pain persisting for the past month. Standard X-ray imaging and ultrasound proved efficient in diagnosing the migration of the intrauterine not inside the uterus. A laparoscopy should be performed, as it offers a direct visualization of the device to establish a definitive diagnosis and removal of the IUD. Management of IUD migration in this case, perforating the posterior uterine wall and adherent to the right fallopian tube up to the fimbria, should be removed immediately. This is consistent with the recommendation of the World Health Organization, which recommends the immediate removal of any migrated intrauterine device upon detection, regardless of its type or location.<sup>10</sup>

The approach consisted of laparoscopy for the removal of the IUD, which was successfully performed despite the presence of adhesions involving the posterior uterine wall and adherent to the right fallopian tube up to the fimbria. The procedure included adhesiolysis to release the adhesions and remove the IUD that had been retained for 19 years. We suggest this less invasive procedure as the first choice for similar situations

because it helped the patient fully recover and get rid of all the symptoms they had before. After the surgery, it's important to closely check for pain to make sure the patient is completely free of it.<sup>10,13</sup>

Several studies have described cases of IUD migration. Benaguida et al. reported a case of intrauterine device migration into the peritoneal cavity that was successfully treated with laparoscopic intervention. Similarly, Huang et al. reported successful hysteroscopic removal of an IUD embedded in the myometrium, with fibrin deposition and adhesions observed on the device.<sup>2,13</sup>

This case demonstrates several uncommon features that distinguish it from typical reports of IUD migration. Although the IUD strings remained visible at the external cervical os, laparoscopy revealed extrauterine placement with firm adhesion to the right fimbrial, suggesting the development of a chronic false tract or partial embedment that allowed the strings to persist while the device gradually eroded through the myometrium. The exceptionally long retention period of 19 years, combined with 17 years of hypoestrogenic uterine atrophy, likely contributed to progressive myometrial thinning and facilitated delayed perforation. Dense adhesions between the posterior uterine wall and the fimbrial were consistent with chronic copper-induced inflammation, a finding rarely described in the literature. Together, these elements illustrate a unique migration pathway driven by chronic erosion, copper-related fibrosis, and postmenopausal tissue changes, rather than the more common early-insertion perforation mechanism. The case also highlights diagnostic limitations, as ultrasonography has reduced sensitivity in postmenopausal uteri, while abdominal X-ray confirmed extrauterine positioning and cross-sectional imaging could have better delineated adhesions.

According to the WHO guidelines, a

fragmented or migrated IUD must be removed as soon as possible, regardless of its location. The most frequent surgical procedure is laparoscopy, which is also considered the first treatment option.<sup>14</sup> Long-term IUD retention after menopause may lead to chronic inflammation and translocation. Routine post-menopausal evaluation and timely removal are essential. Then, laparoscopy remains the gold-standard diagnostic and therapeutic modality for migrated IUDs.<sup>6</sup>

#### **4. Conclusion**

Although the IUD is an effective contraceptive method because it is cost-effective and easy to use, migration of the device may lead to various complications. The diagnosis of a migrated IUD should be based on a thorough gynecologic examination and appropriate radiologic imaging. Complications associated with IUD use include displacement, embedment, expulsion, and uterine perforation. The longer the duration after menopause, the higher the risk of IUD incarceration, which may make removal more difficult. Therefore, removal of the IUD is recommended within 6–12 months after menopause. In patients with long postmenopausal duration and embedded IUDs or unsuccessful removal attempts, preoperative ultrasonography and abdominal radiography are commonly used diagnostic tools to detect translocated or intravesical IUDs. These imaging modalities can help determine the position and morphological changes of the device. In the present case, laparoscopic removal of the IUD was considered appropriate, as laparoscopy is regarded as the gold standard diagnostic and therapeutic approach for translocated IUDs. Therefore, routine follow-up and timely removal of the IUD are essential to prevent complications.

#### **5. Informed Consent**

Written informed consent was obtained from the patient for the publication of this case report and all accompanying images. The patient's identity has been protected, and all identifying information has been removed.

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