



A 20-YEAR-OLD WOMAN WITH ABDOMINAL PAIN AND A MISSING INTRAUTERINE DEVICE: A CASE STUDY

Obstetrics & Gynaecology

Disha S. Jain*	Department Of Obstetrics And Gynaecology, Khan Bahadur Bhabha Hospital, Kurla West, Mumbai *Corresponding Author
Roshu C. Shetty	Department Of Obstetrics And Gynaecology, Khan Bahadur Bhabha Hospital, Kurla West, Mumbai
Hemlata Kuhite	Department Of Obstetrics And Gynaecology, Khan Bahadur Bhabha Hospital, Kurla West, Mumbai
Supriya. Gaikwad	Department Of Obstetrics And Gynaecology, Swatantryaveer V. D. Sawarkar BMC Hospital, Mulund, Mumbai
Alish R. Mehta	Department Of Paediatric Surgery, Lokmanya Tilak Municipal Medical College & General Hospital, Sion, Mumbai

ABSTRACT

Copper T is one of the most commonly used intrauterine contraceptive devices (IUCD) in India. Complications associated with intrauterine devices (IUDs) are rare but serious. Uterine perforation and transmigration of the IUD may be associated with serious consequences and require prompt surgical intervention. A 20-year-old female, gravida 1 para 1, was referred to a tertiary gynaecology clinic with a complaint of intermittent lower abdominal pain persisting over three to four months. Examination and imaging revealed a uterine perforation with migration of the IUCD into the peritoneal cavity and possible entanglement with the omentum. A decision was made to proceed with exploratory laparotomy for definitive management. Under general anaesthesia, a Pfannenstiel incision was made. The IUCD was carefully dissected from the omental tissue and retrieved intact. Adhesiolysis was performed, and hemostasis was secured.

KEYWORDS

Intrauterine device, Copper T, Uterine perforation, IUD translocation.

1. INTRODUCTION

With an increased global use of Intra-Uterine Devices (IUDs) for contraception, a greater number of complications are now being reported (1). Although rare, these IUD-related complications often result in adverse clinical outcomes and require immediate attention (1,2). Two of the most important complications associated with IUD use are Uterine Perforation/ Transmural Migration and IUD Migration/ Translocation (1,3). While both these complications are closely related and part of the same progression, specific distinctions exist between them. Uterine perforation, as the word indicates, pertains to an event where the IUD penetrates the uterine wall (4). On the other hand, Translocation is when the device, after perforating the uterus, moves to the other parts of the body (5). Subsequently, the presentation and risks of Intrauterine Perforations and Translocation, while showing a considerable overlap, may be different in many aspects. For instance, Intrauterine Perforations may be asymptomatic, or cause pain and bleeding, or may be associated with contraceptive failures (1), fragility of the uterine wall (6), and sometimes increased localized infection risk (7). While some of these features may also be present in IUD translocations, such cases are also associated with visceral damage, infections (8), adhesions (9), septicemia, organ failure, and even death (4). Therefore, prompt identification and management of these complications are crucial.

Further, the translocated IUDs are generally located within the peritoneal cavity or pelvic organs/ cavity. A systematic review (10) has discussed specific locations to which IUDs may translocate. Of these, omentum is the most common site (26.7% of cases), followed by the gastrointestinal tract, where IUDs have been reported to be located at the sigmoid colon, terminal ileum, and rectum. Urinary tract, especially the urinary bladder, is another important site of translocation, with a study reporting this as a site of IUD in 24% of the cases (11). Additionally, the Pouch of Douglas is also reported as a major site of transportation in 21.5% of cases (10). Retrieval of IUDs from these sites may involve different surgical approaches (2).

Usual surgical approaches for the retrieval of a translocated IUD include laparoscopy (1), laparotomy (5), cystoscopy (12), endoscopic removal (12), hysteroscopy. (6) and in extremely rare cases, manual extraction (1). Their use is guided by the location of the IUD, with laparotomy being the most frequently followed procedure (1). However, the choice between laparoscopy and laparotomy may be a complex one and may be influenced by previous obstetric history, especially a previous caesarean section, which may cause a weakened

uterus. Also, the presence of dense adhesions or bowel perforations may convert an initially planned laparoscopy to a laparotomy (2).

Exploratory laparotomy may be selected as the procedure of choice in complex cases involving a history of C-section and dense adhesions (13). It may enhance visualization and provide direct access to the displaced IUD (14), provide effective adhesiolysis (9), and prevent conversion of a planned laparoscopy into an unplanned laparotomy (10). However, only a few case reports exist where exploratory laparotomy was planned for the retrieval of an IUD translocated to the peritoneal cavity and embedded in the omentum (15–17). The present case study provides details of one such patient, where IUD translocation was managed using exploratory laparotomy.

2. Case Presentation

A 20-year-old woman, gravida 1 para 1, was referred to a tertiary gynecology clinic with complaints of intermittent lower abdominal pain persisting over three to four months. The pain was dull, poorly localized, and non-radiating, with no relation to micturition, bowel movements, or menstrual cycles. She reported no associated fever, gastrointestinal symptoms, or weight changes.

In the present case, the patient's obstetric history was significant for a full-term cesarean section two years prior, after which she had opted for long-term contraception. At six months postpartum, she underwent insertion of a Copper-T 380A intrauterine contraceptive device (IUCD) at a local health center. No follow-up imaging or thread check was performed post-insertion.

Approximately one year after insertion, she noticed that the IUCD retrieval thread was no longer palpable. Concern developed over time with the onset of vague lower abdominal discomfort. Her menstrual cycles remained regular, every 28 to 30 days, lasting three to four days, with no clots or dysmenorrhea. She denied any history of IUCD expulsion or unusual vaginal bleeding.

She had no significant medical history, including hypertension, diabetes, tuberculosis, or asthma. No history of prior abdominal surgeries apart from the cesarean delivery was reported. Family history was non-contributory.

Physical examination revealed a hemodynamically stable patient. The abdomen was soft, non-tender, and without masses. On speculum examination, the IUCD thread was not visible at the cervical

inspection. Bimanual examination confirmed a normally sized, anteverted uterus with no adnexal tenderness or mass.

2.1. Diagnostic Evaluation

Transabdominal and transvaginal pelvic ultrasonography showed an anteverted uterus measuring $7.7 \times 3.7 \times 4.6$ cm with preserved endometrial echo pattern. The endometrial cavity was devoid of any intrauterine device. A right ovarian hemorrhagic cyst measuring 28 mm was noted. The left ovary was normal. There was no free fluid in the pouch of Douglas (Figure 1).

Given the absence of an IUCD in the endometrial cavity and to better localize the missing device, an MRI of the pelvis was performed. MRI demonstrated a uterus of normal size and configuration, with a cesarean section scar clearly delineated.

A linear T2 hypointense structure abutting the right lateral aspect of the uterus was observed, that appeared to breach the anterior myometrial wall, closely approximated to bowel and omental fat—interpreted as a displaced IUCD. A focal thinning of the anterior myometrium was seen in the region of IUCD contact, with mild adjacent soft tissue reaction. Also, a right ovarian hemorrhagic cyst measuring 36×27 mm, with no adnexal mass or free fluid (Figure 1).

These imaging findings suggested a uterine perforation with migration of the IUCD into the peritoneal cavity and possible entanglement with the omentum.

2.2. Differential Diagnosis

The Primary Differential Considerations Included:

1. IUCD expulsion — unlikely due to the absence of patient awareness of passage and imaging confirmation of extrauterine presence.
2. Complete uterine perforation with secondary IUCD migration — most consistent with current imaging and clinical features.
3. Pelvic inflammatory disease — no supporting clinical or sonographic findings.
4. Ovarian torsion or endometrioma — ruled out due to the simple nature of the ovarian cyst and preserved vascularity.

3. Management And Surgical Procedure

A decision was made to proceed with exploratory laparotomy for definitive management. Under general anesthesia, a Pfannenstiel incision was made, and the peritoneal cavity entered. Moderate omental adhesions to the anterior uterine wall were encountered. The IUCD was identified embedded within the omentum and fibrous tissue adjacent to the anterior abdominal wall (Figure 2).

The uterus appeared grossly normal in size, with a small area of serosal thinning on the anterior wall suggestive of prior IUCD perforation. No injury to adjacent bowel loops was seen.

The IUCD was carefully dissected from the omental tissue and retrieved intact. Adhesiolysis was performed, and hemostasis was secured. The uterine wall did not require surgical repair. After thorough peritoneal lavage, the abdominal layers were closed in standard fashion.

3.1. Postoperative Course

The postoperative period was uneventful. The patient was mobilized early and discharged on postoperative day two with no complications. Pain had subsided completely by her one-week follow-up. At the six-week review, she remained symptom-free.

The patient was counseled on alternative contraceptive methods and the importance of follow-up after device placement.

4. DISCUSSION

This case underscores an uncommon yet recognized complication of IUCD insertion, uterine perforation with extrauterine migration. The risk of perforation is estimated at 1 to 2 per 1000 insertions (1) and increases when insertion occurs in the immediate postpartum period, especially following cesarean delivery (10,15). Contributing factors include involutional uterine changes and altered myometrial tone. The Cu T IUCD used in the present patient is one of the more commonly used intra-uterine devices in India. Earlier studies have shown lower perforation rates in Copper-releasing IUDs (1.6 per 1000 insertions) as compared to levonorgestrel IUDs (2.1 per 1000 insertions) (18). Even

though rare, complications of IUD, as seen in the present case, have a significant effect on the quality of life and health status of the patient. Prevention of uterine perforation and transmigration of IUD is multifaceted (19). It involves provider-related factors (19,20), patient selection (19,21), timing of insertion (20,22), procedural precautions (19,20,23), and patient-related factors (19).

Experience level of healthcare providers, currency of knowledge, and training of the provider are important in the prevention of IUD complications (20). Since IUD insertion is relatively uncommon in India, the providers, especially at primary-care level, may not be sufficiently trained. Therefore, it is important to have periodic training sessions to brush up on the knowledge and experience of IUD insertion.

Another factor that may lead to IUD complications is the unavailability of imaging guidance during insertion. Placement guidance using a pre-insertion ultrasound is important to assess the uterus's structural integrity, size, and shape, which can help identify anatomical disorders such as Mullerian anomalies, fibroids, or a retroverted/anteverted uterus (19). These factors can increase the risk of misplacement of the IUD.

Further, the time of IUD insertion is also important in mitigating the risk of displacement and uterine perforation. Research suggests that placement during menstruation reduces the risk of complications (20). The postpartum period, especially till the 23rd week postpartum, is associated with an increased risk of complications (23). Therefore, the timing of IUD insertion should be borne in mind before insertion.

In the present case, several factors necessitated an open surgical approach. While laparoscopy is typically preferred for retrieval, laparotomy was judiciously selected due to the patient's surgical history and the potential complexity of adhesions. (24). The presence of extensive intra-abdominal adhesions may complicate retrieval in a laparoscopic surgery; therefore, laparotomy is often indicated for such cases. Additionally, dense adhesions may also lead to issues with visualization; in these cases, laparotomy enhances access and visibility to the operating field and makes retrieval easier and safer (14). Laparotomy also allows for reconstruction of any vaginal wall defects that may be associated with penetration of the IUD. These defects, which may range from small defects or fistulas, may be repaired during laparotomy (25).

IUCD migration may remain asymptomatic or present with nonspecific pelvic pain. Role of imaging in such cases cannot be understated. In this case, the absence of retrieval threads and extrauterine localization on imaging raised strong suspicion of perforation. Both ultrasound and MRI played pivotal roles, with MRI providing precise anatomic delineation critical for surgical planning. Prompt recognition and surgical management are essential to avoid complications such as bowel injury, adhesion-related infertility, or chronic pelvic pain.

5. CONCLUSION

Transmigration of an intrauterine device, even though a rare and preventable complication, occurs in a minority of cases. It may, however, lead to further complications and needs immediate redressal. While emphasis should be laid on prevention, whenever it occurs, prompt diagnosis, decision on retrieval technique, and retrieval procedure should be performed. The present case presents a scenario where an exploratory laparotomy was chosen as the procedure of choice to successfully retrieve a transmigrated Copper T intrauterine device.



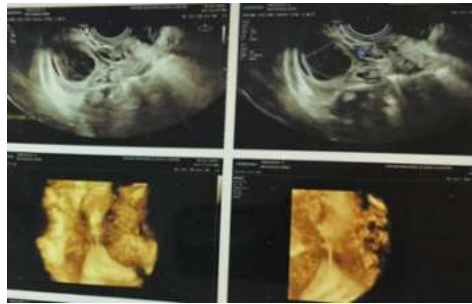


Figure 1: Radiographic, Ultrasound and MRI Presentation

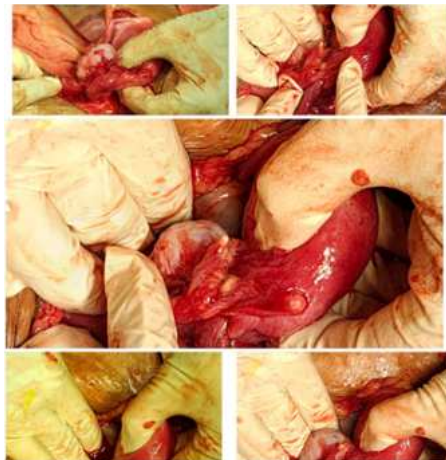


Figure 2: Surgical Management through Exploratory Laparotomy

REFERENCES

- [1] Addis NA, Sibhat YA, Molla YD, Mengestu WN, Seid AS, Damite MA, et al. Migrated intra-uterine device to infra-umbilical skin: a rare case report. *BMC Womens Health*. 2024 Dec 30;24(1):672.
- [2] Almatary A, Alsharif A, Ghabisha S, Ahmed F, Badheeb M. Open surgical retrieval of intra-uterine contraceptive device perforating the ileum: A case report. *Int J Surg Case Rep*. 2023 Aug;109:108635.
- [3] Alabi T, Keshavamurthy M, Ahmed S, Ojewola R, Jain M, Tijani K. Combined Laparoscopic and Cystoscopic Retrieval of Forgotten Translocated Intrauterine Contraceptive Device. *Niger J Surg*. 2018;24(1):48.
- [4] Boushehry R, Al-Taweel T, Bandar A, Hasan M, Atnuos M, Alkhamis A. Rare case of rectal perforation by an intrauterine device: Case report and review of the literature. *Int J Surg Case Rep*. 2022 Oct;99:107610.
- [5] S. Alkatlan H, M. Al-Tuhoo A, AbuFaza M, Obaid M, Abdelazim I, M. Alkandari I. Intraperitoneally retained contraceptive device after uterine perforation: a case report. *J Mother Child Med Wieku Rozw [Internet]*. 2023 [cited 2025 Jun 19];27(1). Available from: <https://sciendo.com/article/10.34763/jmotherandchild.20232701.d-22-00054>
- [6] Liu G, Li F, Ao M, Huang G. Intrauterine devices migrated into the bladder: two case reports and literature review. *BMC Womens Health*. 2021 Dec;21(1):301.
- [7] Li X, Li H, Li C, Luo X, Song Y, Li S, et al. Migration of an intrauterine device causing severe hydronephrosis progressing to renal failure: A case report. *Medicine (Baltimore)*. 2019 Jan;98(3):e13872.
- [8] Isikhuemen ME, Idolor AG, Uwagboe CU, Sodje JDK, Anya CJ, Okonofua FE. Case report of an unusual finding of intrauterine contraceptive device in the rectum. *Int J Surg Case Rep*. 2024 Mar;116:109436.
- [9] Carroll A, Paradise C, Schuermann K, Schellhammer SS, Carlan SJ. Far migration of an intrauterine contraceptive device from the uterus to the small bowel. *Clin Case Rep*. 2022 Mar;10(3):e05589.
- [10] Santos AP, Wetzel C, Siddiqui Z, Harper DS. Laparoscopic removal of migrated intrauterine device. *BMJ Case Rep*. 2017 Sep 27;2017:bcr-2017-221342.
- [11] Piriye E, Ali Azim A, Jigarov G, Suleymanov A, Mukhtarov E, Römer T. Case report: Bladder stone caused by dislocated Cu-IUD. *Int J Surg Case Rep*. 2024 Dec;125:110562.
- [12] Benaguida H, Kiram H, Telmoudi EC, Ouafidi B, Benhessou M, Ennachit M, et al. Intraperitoneal migration of an intrauterine device (IUD): A case report. *Ann Med Surg [Internet]*. 2021 Aug [cited 2025 Jun 19];68. Available from: <https://journals.lww.com/10.1016/j.amsu.2021.102547>
- [13] Jia G, Liu X, He Y, Du P, Sun Z, Chai W. Asymptomatic uterine perforation and IUD migration to the broad ligament: A case report. *Medicine (Baltimore)*. 2024 Feb 16;103(7):e33857.
- [14] Chen Z, Lv Z, Shi Y. A Case Report of Intrauterine Device Migration: Uterine Penetration and Bladder Involvement with Secondary Stones 3 Years Post-Insertion. *Int J Womens Health*. 2024 Nov;Volume 16:1903–7.
- [15] Gebremichael A, Tekla H, Abadi K, Siferih M, Moges M, Arusi M, et al. Missed Diagnosis of Perforation and Intraperitoneal Migration of an Intrauterine Device and Its Management in a Resource-Limited Setting: A Case Report. *Int Med Case Rep J*. 2024 Jan;Volume 17:71–6.
- [16] Gómez-Arciniega KD, Palomares-Castillo ED, Benítez-Jauregui HA, Gastelum-Sarabia JR, Ayala-López MD. Perforation, Migration, and Omentum Embedding of a Levonorgestrel Intrauterine Device: A Case Report. *Cureus [Internet]*. 2024 Aug 19 [cited 2025 Jun 19]; Available from: <https://www.cureus.com/articles/286108-perforation-migration-and-omentum-embedding-of-a-levonorgestrel-intrauterine-device-a-case-report>
- [17] Tarafdari A, Malek M, Pahlevan Falahy E, Hadizadeh A. IUD perforation and embedment within omentum: A rare and perplexing incidence. *Clin Case Rep*. 2022 Apr;10(4):e05732.
- [18] Zhang GR, Yu X. Perforation of levonorgestrel-releasing intrauterine system found at one month after insertion: A case report. *World J Clin Cases*. 2023 Jan 6;11(1):172–6.
- [19] Tabatabaei F, Hosseini STN, Hakimi P, Vejdani R, Khademi B. Risk factors of uterine perforation when using contraceptive intrauterine devices. *BMC Womens Health*. 2024 Sep 27;24(1):538.
- [20] Gündüz R, Ağaayak E, Akkılıç Dönmez D, Findik FM, Evsen MS, Gül T. Evaluation of patients with uterine perforation after intrauterine device placement and determination of risk factors: A Retrospective Case-Control Study. *East J Med*. 2022;27(2):264–71.
- [21] Myo MG, Nguyen BT. Intrauterine Device Complications and Their Management. *Curr Obstet Gynecol Rep*. 2023 Apr 27;12(2):88–95.
- [22] Ramos-Rivera M, Averbach S, Selvaduray P, Gibson A, Ngo LL. Complications after interval postpartum intrauterine device insertion. *Am J Obstet Gynecol*. 2022 Jan;226(1):95.e1-95.e8.
- [23] Verstraeten V, Vossaert K, Van Den Bosch T. Migration of Intra-Uterine Devices. *Open Access J Contracept*. 2024 Mar; Volume 15:41–7.
- [24] Uçar MG, Şanlıkan F, İlhan TT, Göçmen A, Çelik Ç. Management of intra-abdominally translocated contraceptive devices, is surgery the only way to treat this problem? *J Obstet Gynaecol*. 2017 May 19;37(4):480–6.
- [25] Patel S, Halder A, Dubey P, Sanghamita R, John JH. Postplacental Intrauterine Contraceptive Device Transmigration – Rare but the Real Concern for Service Providers. *Int J Appl Basic Med Res*. 2022 Jan;12(1):54–6.