Intraparietal Migration of copper Intrauterine Device: Case Report and Literature Review

Khadijetou VILALY[1], Ely C. TELMOUDI[2], Ahmed Med. LEMINE[2],
Mouhamed Boukhary Nadi[2] Abdi Ahmed BONAHY[2] Ahmedou Moulaye Idriss[3]

[1] *Department of Gynecology and Obstetrics, Mother and Child Hospital, Faculty of Medicine, Pharmacy and Odontostomatology. University of Nouakchott, Mauritania*
[2] *Department of Gynecology and Obstetrics, Mother and Child Hospital, Nouakchott, Mauritania*
[3] *Clinical Anatomy Research Unit, Faculty of Medicine, University of Nouakchott, Mauritania*
@corresponding author: Khadijetou VILALY1 (Email: khadijetouvilaly@gmail.com*)*

ABSTRACT

Introduction: Intrauterine device (IUD) contraception is effective, reversible, well-tolerated, inexpensive and among the most widely used contraceptive methods in the world. Observation: A 37-year-old female, VI gesture IV part, 2 months postpartum from a caesarean delivery, was seen for moderate pelvic pain ten days after insertion of a copper IUD, resistant to analgesics. Examination failed to detect the IUD thread. Ultrasound showed an empty uterus. An unprepared abdominal X-ray showed the IUD opposite the right iliac fossa. Laparoscopy localized the IUD in a parieto-epilpo-uterine adhesion. Extraction was performed after release of the adhesion. Discussion: The IUD is one of the most widely used long-term reversible contraceptive methods in the world. However, it can present complications, notably migration after uterine perforation, which remains rare, and even rarer parietal localization. Clinical diagnosis is not always obvious, and additional tests are required to locate the IUD, including ultrasound, CT scan or MRI. The WHO recommends surgical removal of the migrated IUD by minimally invasive methods, including hysteroscopy, cystoscopy, colonoscopy or laparoscopy, depending on the location of the IUD. Conclusion: IUDs are effective contraceptive measures, and the majority of patients with uterine perforation due to IUD migration are asymptomatic. Diagnosis is based on a thorough gynecological examination and appropriate radiological imaging.

Keyword: *intrauterine device, migration, intraperitoneal, laparoscopy.*

INTRODUCTION

Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work Introduction related your research work.

OBSERVATION

Ms. Z. A., 37 years old, with four pregnancies and four deliveries, presented two months postpartum after a cesarean delivery. She experienced moderate pelvic pain persisting for ten days following the insertion of a copper IUD. The patient was placed on pain medication without improvement. A speculum exam did not reveal the IUD string. Transvaginal ultrasound showed an empty uterus, as confirmed in Figure 1. Also, diagnostic hysteroscopy revealed no intrauterine IUD. However, an abdominal X-ray showed the IUD in the right iliac fossa area (Figure 2).

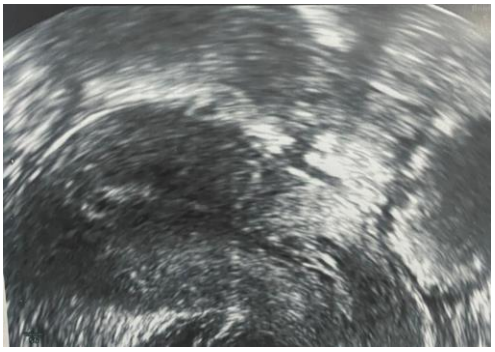

Figure 1.:
fossa
Endo-vaginal ultrasound: normal-sized uterus with regular contours, no intra-cavitary IUDs

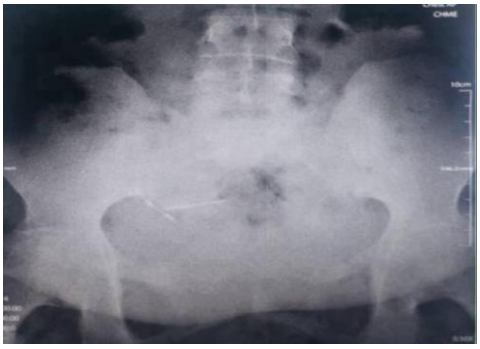

Figure 2.: unprepared abdominal X-ray: IUD in right iliac

Exploratory laparoscopy was indicated, which localized the IUD within a parieto-epiploic-uterine adhesion
The IUD was removed after freeing the adhesion, and the postoperative course was uncomplicated. The patient was discharged home twenty-four hours after the procedure

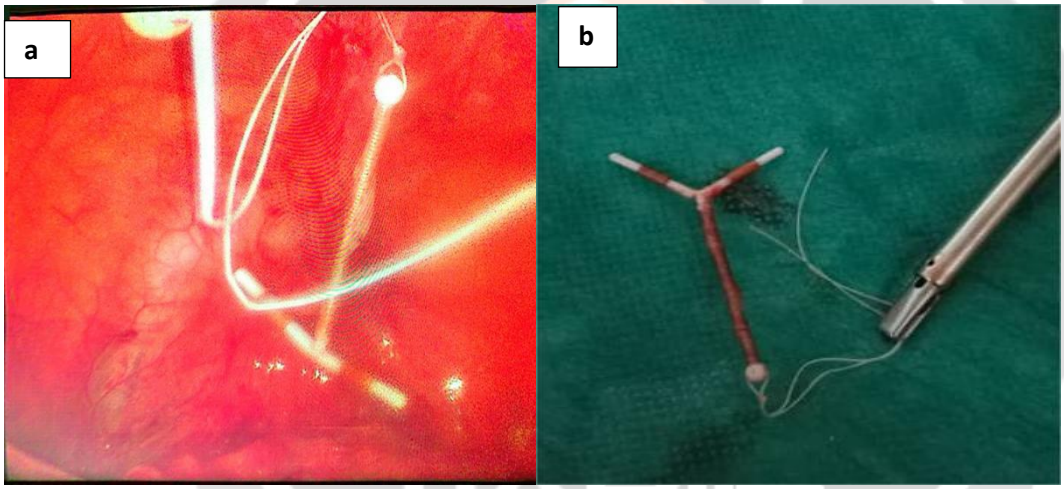

Figure 3:
a) image of the intra-abdominal IUD in the right iliac fossa after adhesiolysis.
b) image of the IUD after laparoscopic extraction

DISCUSSION

The IUD is extensively used worldwide as a contraceptive method; however, there is considerable geographic variation in its usage. The global average IUD use rate is 14.3%, ranging from 27% in Asia and 15.4% in Africa to 1.8% in Oceania (3). In Mauritania, the rate is 1.5%, according to the 2019 Demographic and Health Survey (4).
It is a safe contraceptive technique, though it can lead to various complications. Some complications may occur at the time of insertion, including IUD expulsion, pelvic pain, uterine perforation, vaginal bleeding, and a vasovagal reaction. Other complications can arise later, such as menometrorrhagia, dysmenorrhea, IUD expulsion, unplanned pregnancy, ectopic pregnancy, pelvic infections, pelvic inflammatory disease, and IUD migration. However, in 85% of cases, migration is asymptomatic, and suspicion arises from the absence of the IUD string during a gynecological exam (5,6).
In our patient, persistent pelvic pain unresponsive to usual analgesics raised concern.
IUD migration has an incidence in the literature estimated between 1/10,000 and 1/350 insertions (2).
Risk factors for uterine perforation and IUD migration include uterine size and position, breastfeeding, insertion by an inexperienced practitioner, previous surgeries, and insertion during the postpartum period (within six weeks after delivery). Postpartum insertion may increase migration risk due to uterine involution, strong uterine contractions,

and a softened uterus (7). Our patient had three predisposing factors: a history of cesarean section, being in the postpartum period, and breastfeeding.

According to the literature, preferred sites of IUD migration include the adnexa, appendix, bladder, colon, peritoneum, omentum, rectosigmoid, small intestine, and iliac vein (8). Other rare or anecdotal sites include the thorax or cesarean scar (5,9).

Our patient exhibited migration to the omentum within an epiploic-parietal-uterine adhesion. Migration into the abdominal cavity is among the more frequent locations (10). Perforation can occur immediately after placement or later due to progressive erosion of the myometrial wall. The IUD may become lodged in tissues such as the omentum, which is loose and free (11).

Radiologic exams such as abdominal ultrasound, abdominopelvic X-ray, CT, and MRI are useful in assessing IUD migration. However, ultrasound and abdominopelvic X-ray are usually sufficient to locate a migrating IUD. In our case, diagnosis was made by abdominal X-ray and confirmed intraoperatively. Once identified on abdominopelvic X-ray, the IUD should be considered a surgical emergency requiring immediate removal (12).

According to WHO guidelines, any migrated IUD, symptomatic or not and regardless of its location, should be removed (13).

Several methods have been reported for managing migrated IUDs, including laparoscopy alone, combined laparoscopy and hysteroscopy, and open surgery. The choice of approach depends on the IUD's location, equipment availability, presence of adhesions or bowel perforations, and the surgical team's experience (14).

In our patient's case, we opted for laparoscopy, as it was available in our department, allowing accurate localization and removal of the IUD under visual guidance.

All these complications could be prevented or minimized with regular gynecological follow-up for patients with an IUD. Patients should also be educated on the importance of regular monitoring of IUDs and maintaining medical records related to their follow-up (15).

Certain precautions cited in the literature may also reduce IUD migration risk, including:

- Avoiding insertion from 48 hours to 4 weeks postpartum, especially if breastfeeding,
- Using a release mechanism with traction rather than pushing,
- Having IUDs inserted by experienced clinicians.

There is no evidence that routine ultrasound-guided IUD insertion reduces perforation risk. In our patient's case, we performed an ultrasound check immediately after insertion, which was satisfactory. However, complex insertions are performed under ultrasound guidance, helping minimize uterine perforation risk. Ultrasound is also a very useful tool for verifying IUD placement after insertion, especially if perforation is suspected (11).

For future contraception, the patient may choose between a new IUD insertion or an alternative contraceptive method (16).

Our patient expressed a certain hesitation (phobia) toward the IUD. We respected her choice and inserted a subcutaneous implant.

CONCLUSION

IUD migration is a rare complication, often asymptomatic, underscoring the importance of regular follow-up and prompt investigation in cases of uncertainty. When location is in doubt, plain X-ray is suitable for the working conditions in developing countries like Mauritania. Laparoscopy has improved the management of these sometimes-delicate cases

CONFLICTS OF INTEREST

None.

AUTHORS CONTRIBUTION

All authors have reviewed and approved the final manuscript

REFERENCES

1. Sabbahi RA, Batyyah ES, Sabbahi AA. A 47-Year-Old Woman with Gastric Transmigration of an Intrauterine Contraceptive Device Managed by Laparoscopic Wedge Gastric Resection. Am J Case Rep. FEVVRIER 2022;
2. N. Samouh. INTRAUTERINE DEVICE MIGRATION: A CASE REPORT OF TWO. World J Pharm Res. 10 juill 2022;11(10):52-9.
3. KA. Robotic-assisted laparoscopic retrieval of a migrated IUCD in the pelvis. Journal of Surgical Case Reports, juill 2021 ;
4. Office National de la Statistique. Enquête Démographique et de Santé de la Mauritanie 2019-2021. MAURITANIE : Office National de la Statistique (ONS); 2022 avr. Report No.: MRT_2019_DHS_v01_M.
5. Fadli Robby Amsriza. Far-migration of an intrauterine device in the intrathoracic cavity: A rare case report. Wiley Clinical Case Report. 15 mars 2021;1-4.
6. Magatte FAYE. Unusual Intracaecal Migration of a Intrauterine Device: The Place of Laparoscopy in the Diagnosis and Treatment. Recent Adv Clin Trials. 2023;1-3.
7. Tabatabaei F., Masoumzadeh M. Dislocated intrauterine devices: clinical presentations, diagnosis and management. Eur J Contracept Reprod Health Care. 2021;160-6.
8. Nouioui MA. A Mislocated Intrauterine Device Migrating to the Urinary Bladder: An Uncommon Complication Leading to Stone Formation. Case Rep Urol. 7 avr 2020;
9. Jigang Jing. Case report: An intrauterine device hugging the musculus rectus abdominis through the center of a cesarean scar. 6 janv 2023 ;
10. Wail Bouzouba1. Migration intra-péritonéale d'un dispositif intra utérin diagnostiqué 20 ans après l'insertion : à propos d'un cas. Pan African Médical Journal. 13 janv 2014 ;
11. Rowlands S. Intrauterine devices and risk of uterine perforation: current perspectives. Journal of Contraception. 16 mars 2016;
12. Azadeh Tarafdari,. perforation and embedment within omentum: A rare and perplexing incidence. Clin Case Rep.
13. World Health Organization. Mechanism of action, safety and efcacy of intrauterine devices. Tech. Geneva, Switzerland.; 1987.
14. c Alharbi K.Y., Filimban H.A., Bafageeh S.W., Binaqeel A.S., Bayzid M.A., Brasha N.M. Removal of a migrated intrauterine contraceptive device perforating the terminal ileum: a case report. Int J Surg Case Rep. 29 sept 2022;
15. Audrey S. Koh. Neglected Intrauterine Device Migration Complications: Case Reports. Women's health report. 2023;11-8.
16. Ramos-Rivera M., Averbach S., Selvaduray P., Gibson A., Ngo L.L. Complications after interval postpartum intrauterine device insertion. Am J Obstet Gynecol 2022. 2021 ;