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Case Report

Extrauterine migration of an intrauterine device to the right iliac fossa: a rare case report

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ABSTRACT

Intrauterine devices (IUDs) are highly effective, reversible methods of contraception, but uterine perforation and extrauterine migration are uncommon complications. We report the case of a 32-year-old multiparous woman who presented by self-referral from another healthcare facility with a two-week history of right iliac fossa pain and a history of IUD insertion. Abdominal ultrasonography was unremarkable but demonstrated an empty uterine cavity despite the absence of a history of IUD expulsion. A plain abdominal radiograph was subsequently obtained, which demonstrated the IUD in the right iliac fossa. She underwent open exploratory laparotomy, which revealed the IUD lying freely in the right iliac fossa close to the fimbrial end of the right fallopian tube. There was no identifiable uterine perforation, scar, or defect. However, the right fallopian tube was oedematous, raising the possibility of an unusual route of migration through the right uterine ostium, along the fallopian tube and through the fimbrial end into the peritoneal cavity. The IUD was removed, and bilateral tubal ligation was performed at the patient's request because she had completed her desired family size and declined other contraceptive methods. Her postoperative recovery was uneventful, and subsequent follow-up was satisfactory. This case highlights the importance of careful history taking, appropriate evaluation of a missing IUD, and prompt management, particularly in low-resource settings where advanced imaging and minimally invasive surgery may not be readily available.

Keywords: Intrauterine device, IUD migration, Extrauterine IUD, Right iliac fossa, Fallopian tube, Laparotomy, Low-resource setting

INTRODUCTION

The intrauterine device (IUD), also called intrauterine contraceptive device (IUCD), is one of the most effective long-acting reversible contraceptive methods available worldwide.[1,2] It is widely used because of its high contraceptive effectiveness, long duration of action, reversibility and relatively low cost.[1-3] Despite its favourable safety profile, complications including expulsion, abnormal uterine bleeding, pelvic infection, malposition and, rarely, uterine perforation with migration into the abdominal or pelvic cavity may occur.[1-3]

Extrauterine migration of an IUD is uncommon and is generally believed to occur following partial or complete uterine perforation at the time of insertion or through gradual erosion of the device through the myometrium.[3-5] Migrated devices have been reported in different locations within the pelvis and abdominal cavity and may occasionally involve adjacent structures such as the urinary bladder, bowel, omentum, and adnexa.[3-5]

A missing IUD in a woman without a history of expulsion requires careful evaluation to establish the location of the device. Ultrasonography is usually the initial imaging modality.[6] When the IUD is not visualised

within the uterus, further imaging, including plain abdominal radiography, can be valuable in determining whether the device remains within the abdominal or pelvic cavity.[7,8]

We report an unusual case of an IUD found in the right iliac fossa close to the fimbrial end of an oedematous right fallopian tube in a woman in whom no uterine perforation, defect or scar was identified at laparotomy. The findings raised the possibility of migration through the right uterine ostium and fallopian tube into the peritoneal cavity. The case also illustrates the diagnostic and therapeutic challenges associated with IUD migration in a low-resource setting.

CASE REPORT

A 32-year-old multiparous woman presented by self-referral to our facility following initial evaluation at another healthcare facility. She complained of right iliac fossa pain of two weeks' duration. She had previously undergone insertion of an IUD for contraception. There was no reported history of spontaneous expulsion of the device.

Following the onset of the right iliac fossa pain, she sought medical attention. Abdominal ultrasonography was performed and was essentially unremarkable. However, the IUD was not visualised within the uterine cavity. Given the history of previous IUD insertion, absence of a history suggestive of expulsion and ultrasonographic demonstration of an empty uterine cavity, the possibility of an extrauterine IUD was considered.

A plain abdominal radiograph was therefore requested to determine the location of the device (Figure 1). The radiograph demonstrated the IUD within the right iliac fossa, confirming that the device remained within the abdominopelvic cavity despite its absence from the uterus on ultrasonography.

The findings and available management options were discussed with the patient. Surgical removal of the migrated IUD was advised. Minimally invasive laparoscopic retrieval was not readily available in the setting; therefore, an open exploratory laparotomy was planned.

At exploratory laparotomy, the IUD was identified in the right iliac fossa, close to the fimbrial end of the right fallopian tube (Figure 2 and 3). The device was retrieved successfully (Figure 4). Careful inspection of the uterus did not reveal any obvious perforation, scar, or defect that could indicate a previous site of uterine perforation. There was also no obvious evidence of recent or healed uterine injury.

The right fallopian tube, however, was noted to be oedematous, particularly in relation to the side where the IUD was located. The absence of an identifiable uterine perforation together with the proximity of the IUD to the fimbrial end of the oedematous right fallopian tube raised the possibility that the device may have migrated from the uterine cavity through the right uterine ostium, traversed the fallopian tube and exited through the fimbrial end into the peritoneal cavity before becoming located in the right iliac fossa. This mechanism, however, could not be conclusively established.

Prior to surgery, the patient had expressed that she had completed her desired family size and did not desire future fertility. Following appropriate contraceptive counselling, she requested permanent contraception because she was not interested in using another reversible family planning method. Bilateral tubal ligation was therefore performed during the same exploratory laparotomy after retrieval of the migrated IUD.

The procedure was completed without intraoperative complications. Her postoperative course was unremarkable. She recovered satisfactorily, was discharged from the hospital in stable condition and was followed up after surgery. Subsequent follow-up was satisfactory, with resolution of her presenting symptoms and good recovery from surgery.

Figure 1: Plain abdominal x-ray showing IUCD in right iliac fossa.

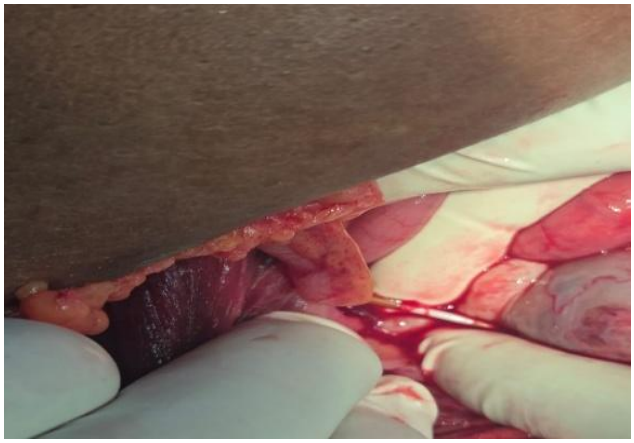

Figure 2: IUD visualized in the right iliac fossa.

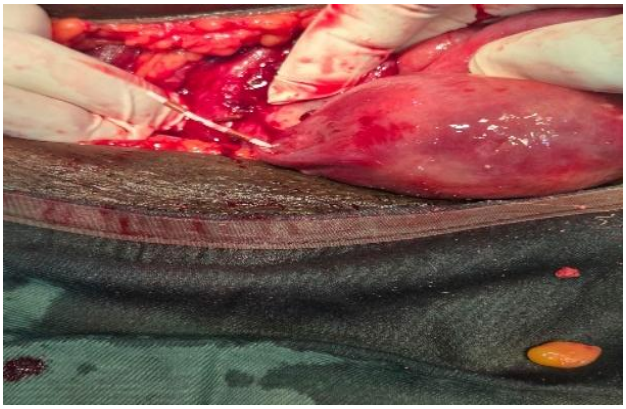

Figure 3: During IUD removal.

Figure 4: The removed IUD.

DISCUSSION

Extrauterine migration is an uncommon but clinically important complication of IUD use.[2-5] The usual mechanism is uterine perforation occurring during insertion or gradual erosion of a malpositioned device through the uterine wall.[2-5] The risk may be influenced by the timing and technique of insertion, uterine position, experience of the provider, and postpartum or lactational status at the time of insertion.[2-5]

Clinical presentation of an extrauterine IUD is variable.[9,10] Some patients remain asymptomatic, and the device is discovered following inability to visualise the retrieval threads or during imaging for unrelated reasons.[2-5,9,10] Others may present with abdominal or pelvic pain, abnormal bleeding or complications related to involvement of adjacent structures.[2-5,9,10] In the present case, the patient presented with right iliac fossa pain of two weeks' duration, and the location of the IUD corresponded anatomically with the site of her symptoms.

A particularly important feature of this case was the diagnostic value of combining clinical history with appropriate imaging. Initial abdominal ultrasonography was otherwise unremarkable and failed to identify the IUD within the uterus. An empty uterus on ultrasonography may suggest expulsion; however, in a patient with a definite history of IUD insertion and no recognised expulsion, an extrauterine location must be considered. The decision to obtain a plain abdominal radiograph subsequently demonstrated the device in the right iliac fossa and facilitated definitive management. This illustrates an important principle relevant to low-resource clinical practice. A normal or apparently unremarkable ultrasound examination should not terminate the investigation of a missing IUD when the clinical history remains suggestive that the device has not been expelled. Plain abdominal radiography is inexpensive, widely available, and can provide valuable information because most IUDs are radiopaque.[6-8] More advanced imaging, such as computed tomography, may provide more precise anatomical localisation and demonstrate involvement of surrounding organs where available, but its absence should not prevent appropriate evaluation and management.[6-8]

Another unusual finding in this patient was the absence of any visible uterine perforation, scar or defect during careful inspection at laparotomy. Although a small perforation may heal completely and subsequently become difficult to identify, the operative findings did not demonstrate evidence of either recent or previous uterine perforation. The IUD was instead located close to the fimbrial end of an oedematous right fallopian tube.

These findings raised the possibility of an alternative route of migration. Theoretically, an IUD could enter the right tubal ostium from the uterine cavity, migrate along the lumen of the fallopian tube and subsequently exit through the fimbrial end into the peritoneal cavity.[11] The oedematous appearance of the right tube and the location of the device close to its fimbrial end provide circumstantial support for this possibility. However, this proposed mechanism remains speculative. A previously healed uterine perforation that was no longer macroscopically visible at the time of surgery cannot be excluded. The case therefore represents an unusual pattern of extrauterine IUD migration rather than definitive proof of transtubal migration.

Once an IUD has migrated into the peritoneal cavity, removal is generally considered because of the potential for adhesions, chronic pain, infection and involvement or injury of adjacent organs. Laparoscopic removal is usually preferred where expertise and facilities are available because it is associated with less postoperative pain, shorter hospital stay and faster recovery compared with laparotomy.[9,10] However, access to laparoscopy remains limited in many low-resource settings.

In this patient, open exploratory laparotomy was the available surgical option and allowed successful localisation and retrieval of the IUD. This highlights the need to adapt management to available resources while

maintaining patient safety and ensuring timely definitive treatment. Lack of advanced minimally invasive facilities should not result in prolonged delay when an appropriate and safe alternative is available.

Bilateral tubal ligation was performed during the same operation following the patient's request for permanent contraception. She had completed her desired family size, did not desire further pregnancy, and declined alternative family planning methods. Combining IUD retrieval with bilateral tubal ligation avoided the need for a subsequent surgical procedure and provided her chosen method of permanent contraception.

The favourable outcome in this case demonstrates the importance of a systematic approach to women with a missing IUD. Careful history taking, appropriate interpretation of imaging findings and further investigation when the initial ultrasound is inconclusive can prevent missed diagnosis. The case is particularly relevant to low-resource settings, where plain radiography and open surgery may remain important diagnostic and therapeutic options when more advanced modalities are unavailable.

CONCLUSION

Extrauterine migration of an IUD should be considered whenever a previously inserted device is not visualised within the uterine cavity, and there is no convincing history of expulsion. A plain abdominal radiograph remains a simple and valuable investigation for localisation of a missing IUD, particularly in low-resource settings. The absence of an identifiable uterine perforation and the finding of the IUD close to the fimbrial end of an oedematous right fallopian tube in this patient raised the unusual possibility of transtubal migration, although a healed uterine perforation could not be excluded. Prompt recognition and surgical retrieval resulted in a favourable outcome. This case emphasises the importance of proper history taking, thorough evaluation and timely definitive care for women with suspected IUD migration, while adapting management to the resources available.

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