

MISSING INTRAUTERINE DEVICE IN THE DESCENDING MESOCOLON: RETRIEVAL UNDER FLUOROSCOPY GUIDANCE IN A REFERENCE HOSPITAL IN SOUTHERN NIGERIA

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ABSTRACT

INTRODUCTION: *Displaced/missing intrauterine device (IUD) is one of the known complications associated with the uses of IUD. Missing IUD, even when asymptomatic, is always of concern to patients and relatives, and could result in serious morbidity. Retrieval of missing IUD depends on location, facility/equipment, surgeon's skill and experience, and patient's factor.*

Case report: A 36 year old multipara with missing IUD (Lydia™CU 375 sleek) following treatment for intrauterine adhesions. With imaging studies, the IUD was localized at different anatomical positions with time giving an impressing of "mobile" missing IUD. It was subsequently retrieved in a purulent mass in the descending mesocolon via a laparotomy aided with a C-arm fluoroscopy imaging peri/intraoperatively.

Conclusion: Missing IUD could be lodged in unusual anatomical locations presenting diagnostic and treatment challenges. Imaging aids with requisite skills and experience may be required for good management. We believe this case is one of such, and sharing our experience will add to the body of knowledge

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INTRODUCTION

Intrauterine device (IUD) is one of the earliest contraceptive methods known for centuries.^[1,2] It is a very common form of long-term contraceptive method especially in developing countries due to its effectiveness, affordability, ease of insertion, reversibility and follow up^[2,3]. Apart from the contraceptive use of IUD, its use in treatment of intrauterine adhesions (IUA) is a common practice among surgeons.^[4,5,6] Several studies including meta-analysis have found the use of IUD of various types

(with other ancillary measures) safe and effective in ensuring the return of normal menstruation and later pregnancies with minimal complications.^[7-10]

However, for whatever purpose of use, displaced/'missing' IUD is one of the known complications of IUD. The prevalence of missing IUD varies from center to center with an incidence of 0.5%–2.0^[11,12]. It could be dramatic and of serious concern to the patient and relatives. Depending on position, missing IUD could be asymptomatic or symptomatic. Displaced/missing IUD could be in the form of expulsion, retraction of the tail into the uterine cavity, penetration into the uterine wall, migration to the cervical canal, or transmigration into the peritoneal cavity. There are also reported cases of migration to the rectum/anus, ileum, or bladder.^[13-16]

Retrieval and management of displaced/missing IUD will depend on location, surgeon's skill and available facility. We report a case of missing IUD in the descending mesocolon and retrieved by laparotomy aided by digital C-arm fluoroscopy imaging in Nigerian Navy Reference Hospital, Calabar Nigeria.

CASE REPORT

Patient was a 36 year old para 2 with 2 living children. All deliveries were by caesarean section. She had not menstruated following her last C-section 2 years earlier, which was complicated by wound infection. She was not on any form of hormonal contraceptive. Patient had been trying to conceive for a year without success. Hormonal profile results were within normal range. An impression of infertility secondary to uterine factor (intrauterine adhesions) was made, and patient underwent blind adhesiolysis with insertion of intrauterine device (IUD (Lydia™CU 375 sleek)). She was placed on interval combined oral contraceptive pills for 2 months, but she had no menstruation.

She presented for IUD removal, and the thread could not be found on vaginal speculum examination. Pelvic ultrasound could not locate the device, however, a plain abdominal radiograph showed the device projected obliquely across L3/L4 intervertebral disc space. There was doubt in clinical correlation and reporting the film by the radiologist. A repeat plain abdominal radiograph done 24 hours later located the device projected anterior to iliac crest at level of L5 vertebra. A 'mobile' missing IUD in the peritoneal cavity was therefore suspected and

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patient was booked for exploratory laparotomy under digital C-Arm fluoroscopy imaging guidance.

PROCEDURE/INTRAOPERATIVE FINDINGS

A subarachnoid block was given and patient was routinely cleaned and draped. Theater team wore protective lead shield under the sterile scrub. A preliminary radiograph to localize the IUD in time was taken. Access was gained into the peritoneal cavity via about 8cm midline sub-umbilical incision. The peritoneum was clean and grossly normal. The uterus was located in the pelvis. It was grossly hypoplastic with minimal scar on the fundus. The ovaries and tubes were bilaterally grossly normal. On digital exploration, the thread of the IUD was felt on the colon which was exteriorized.

The IUD thread was observed extruding from a mass in the descending mesocolon suspected to be enclosing the IUD. This was confirmed by a digital fluoroscopy spot film. The mass was explored by blunt dissection to retrieve the missing device. The purulent exudates from the mass was expressed, the cavity was opened and copiously lavaged with normal saline and dabbed with povidone iodine solution.

The abdomen was closed in layers with appropriate sutures, sterile dressing applied and patient placed on antibiotics and analgesics. She did well postoperatively, and was discharged on day 3 post surgery.



Figure 1. Plain abdominal radiograph of IUD across L3/L4 vertebrae



Figure 2 Plain abdominal radiograph showing IUD at the iliac crest



Figure 3. Pre-operative digital fluoroscopy spot film

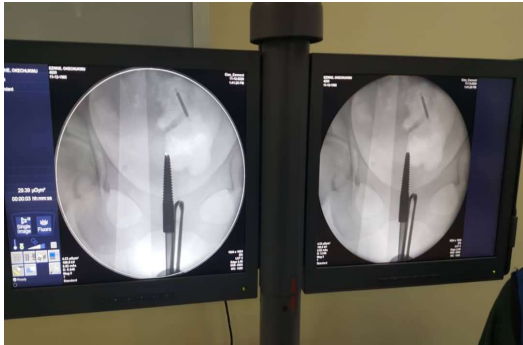


Figure 4. Enhanced pre-operative spot film



Figure 5 IUD thread projecting from the purulent mass on descending mesocolon

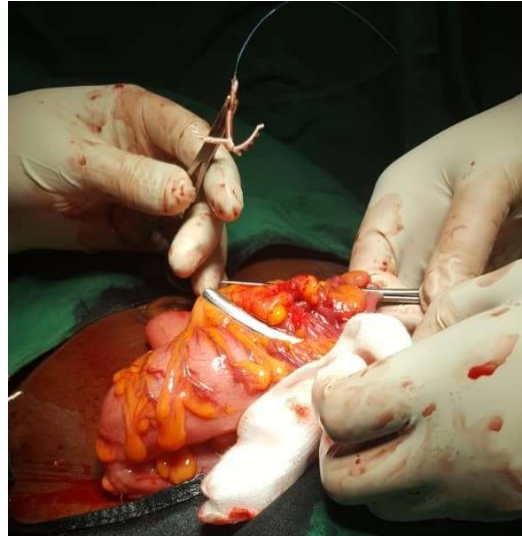


Figure 6. Retrieved missing IUD

DISCUSSION

Missing IUD, for whatever purpose of use, could be a source of worry to patient and relatives, even when asymptomatic. Depending on location, risk factor for displacement, duration and patient factor, symptoms of missing IUD may include inability to feel the thread (almost invariable), pain, irregular/abnormal vaginal bleeding, dysuria, intermittent diarrhea, fever and pregnancy after IUD insertion^[11,13,14] An unusual presentation of presence of thread in the anal canal, while straining at stool has also been reported.^[17] But for inability to feel the thread in the vagina, our patient was asymptomatic. However, absence of symptoms does not rule out serious possible complication that may result from 'asymptomatic' displaced IUD as we found intraoperative, a copiously purulent mass enclosing the missing IUD in descending mesocolon. The patient may have presented with ruptured colon with associated secondary complications which may be misleading with possible ominous outcome if not well managed.

The risk factors for missing IUD are varied, ranging from the time of insertion, experience of the provider to type and size of the IUD used, and also patient factor.^[18] Our case had grossly hypoplastic uterus as intraoperative finding. This may have possibly contributed to the displacement of the IUD within two months of insertion. In our case, Lydia™CU 375 sleek IUD was used, and inserted by a trained personnel.

Simple speculum vaginal examination revealing absent IUD thread gives away the diagnosis. However, confirmation of diagnosis and location may require: ultrasonography, plain abdominopelvic X-

ray, hysterosalpingograph (HSG), hysteroscopy, laparoscopy or even laparotomy, as the case and facility may be. Plain abdominal X-ray confirmed and located the missing IUD, in our case. However precise location by plain abdominal X-ray only was difficult as the anatomical position of the IUD changed with time and position of the patient, giving an impression of a free floating 'mobile' IUD in the peritoneal cavity. This indicated the use of C-arm radio imaging guidance peri-/intra-operative.

Various methods could be applied in retrieval of missing IUD depending on location, surgeon's skill, available facility and patient factor. This may range from use of retrieval hook, Spencer well's forceps, uterine sound, and sponge holding forceps (with or without cervical dilatation), hysteroscopy, laparoscopy, mini-laparotomy, and laparotomy.^[19,20] We made use of laparotomy with fluoroscopy imaging guidance in our case due to the location of the IUD and available facility. Where the facility and expertise are available, laparoscopic retrieval could be a method of choice as it leaves a minimal scar and reduces hospital stay. However, the intraoperative finding of complicated purulent mass formed around the missing IUD in the colon would be better and more effectively explored by our choice of surgery, and presented some challenges for laparoscopy. Without the aid of the C- arm fluoroscopy imaging available in our theatre, retrieval of the missing IUD by 'blind' laparotomy alone would have been more challenging, requiring more extensive laparotomy and exploration. This would prolong surgery time and more tissue handling with associated morbidity.

CONCLUSION

Missing IUD could be lodged in unusual anatomical locations presenting diagnostic and treatment challenges. Imaging aids with requisite skills and experience may be required for good management. We believe this case is one of such, and sharing our experience will add to the body of knowledge

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