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Clinical Scenario with Intrauterine Device: Is long Duration a Challenge?

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Abstract: ***There are various methods of Intrauterine device as contraceptives, including both hormonal and non-hormonal intrauterine devices (IUDs). Although rare, cases have been reported where IUDs fracture during removal, with retained copper fragments left in the uterus. These incidents underscore the importance of careful and attentive removal by healthcare providers. A 49-year-old woman, para 2 live 2, presented for removal of Intra-uterine device inserted on 16th May 2020. She had a multiload IUD inserted 5 years earlier and now wished to have it removed. On Examination IUD strings was identified and attempted removal. However, during the process, a portion of the device broke off and remained in the uterine cavity. Visual inspection revealed that both horizontal arms of multiload IUD was missing and presumed retained within the patient. Subsequent transabdominal confirmed that a fragment of the IUD was embedded in the uterine cavity. The patient was scheduled for surgical removal by hysteroscopy. This case highlights the critical importance of thoroughly inspecting an IUD after removal and reinforces the need for providers to be aware of this uncommon but significant complication. Clear communication about the risk of IUD fracture during removal should be a routine part of patient counselling. Ultimately, this case emphasizes the necessity of comprehensive IUD management—from careful insertion to vigilant removal—and suggests that further research is needed to develop improved removal techniques.***

Keywords: IUD fracture, copper IUD, Hysteroscopic removal, retained cuT, cuT complications

1. Introduction

There are various types of contraception methods, including both hormonal and non-hormonal intrauterine devices (IUDs). The mechanism of action involves preventing fertilization through the spermicidal properties of the copper IUD [(1)]. There have been reported cases of IUD breakage and retention of copper fragments during in-office removal attempts [(2)]. These incidents highlight the need for providers to exercise caution when removing IUDs, particularly those containing copper due to its inflammatory effects. Management of retained IUD fragments typically involves hysteroscopy or laparoscopy performed in an outpatient setting before considering hospital admission for surgical removal. [(3)]

It's not surprising that IUD use is increasing. Data from the 2015–2017 National Survey of Family Growth shows that 64.5% of the 72.2 million U. S. women aged 15–49 had used some form of contraception in the past year. Among them, 10.3% reported using a long-acting reversible contraceptive (LARC), such as an IUD or a hormonal implant. [(4)]

Beyond the convenience and discretion of a long-acting contraceptive that requires administration only once every few years, IUDs offer notable health benefits. Hormonal IUDs are commonly used to manage heavy menstrual bleeding and alleviate pelvic pain related to conditions such as endometriosis and adenomyosis. Emerging evidence also suggests that these devices may aid in the clearance of HPV infections and contribute to the prevention of certain gynaecologic cancers. [(5)]

Intrauterine contraceptive device (IUCD) is one of the most frequently used contraceptive methods. Although it is generally a safe modality for a long-term contraception, still on occasions an IUCD can give rise to complications. Uterine perforation are complication, and such a perforated IUCD may migrate to any adjacent pelvic organ. An injury or obstruction of the pelvic ureter and subsequent hydronephrosis is extremely rare but a dreaded complication of IUCD insertion. Common complications associated with IUCD insertion include spontaneous expulsion, pelvic infections, infertility, an increased risk of both intrauterine and ectopic pregnancies, chronic pelvic pain syndrome, and migration, migration in urinary bladder with stone formation on migrated IUCD. Although rare, cases of IUCD fractured or retained part of IUCD. [(5)]

Treatment for a retained IUD typically involves hysteroscopy or laparoscopy performed in the office setting, prior to considering hospital admission for surgical removal. [(6)]

2. Case Presentation

A 49-year-old female, para 2 live 2, presented to our outpatient department in our institution for IUCD removal with a history of multiload Copper-T insertion on 16th may 2020 which was removed on 28th March 2025 following which patient had no complaint but IUCD removal was incomplete (vertical limb with thread removed but both horizontal limbs remained in situ) (Figure 1). An ultrasound was carried out to verify the intrauterine presence of fractured limb of the multiload IUCD, and it was seen that approx 11 mm long linear echogenic structure noted in the uterine body in endometrial region likely represents part of IUCD (H/O IUCD removal).

The patient was advised of the need for hysteroscopic retained IUCD removal and consented to the procedure. Her menstrual

cycle was normal. Baseline investigation was done and was within normal limit. The patient was taken to the operating room and was induced with spinal anaesthesia. An operative hysteroscope was gently placed in the uterine cavity where the interior of the uterus can then be observed. Horizontal arms of multiload IUCD visualised in uterine cavity. (figure 2) One horizontal arm seen in the lower uterine cavity and the other horizontal arm seen in right cornual region. Both horizontal arm of multiload IUD was gently grasped hysteroscopically using grasper and pulled out from the uterus subsequently as illustrated in (figure 3, 4). The entire procedure took about 30 minutes.

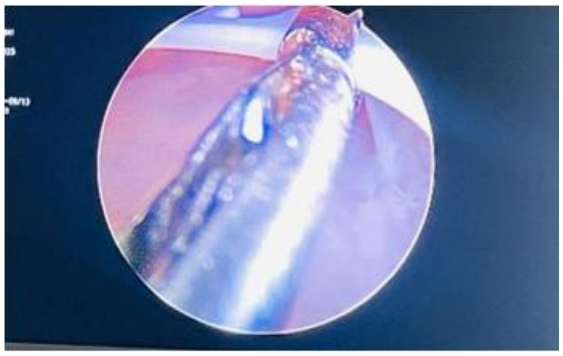

Figure 1: Vertical Arm with Thread of Multiload CU-T

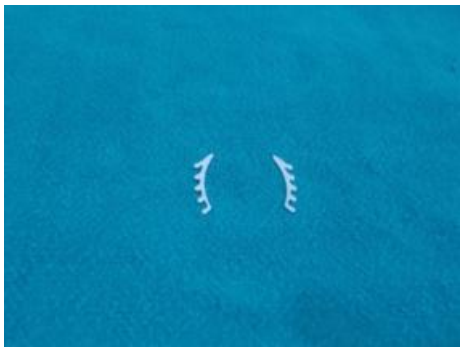

Figure 2: Intra-Operative View of Multiload In-Utero

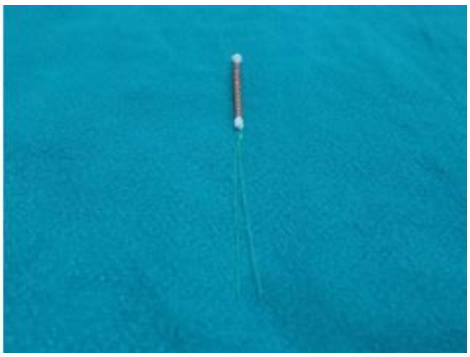

Figure 3: Hysteroscopic View: Grasper Holding Arm of Multiload: CU-T

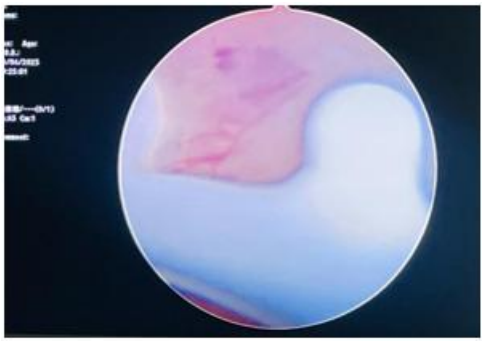

Figure 4: Horizontal Arms of Multiload CU-T Post Removal

Uterine cavity assessment was unremarkable and revealed no other pathology during surgery and the operation was successfully done. After this, the patient was observed in the postoperative recovery room for four hours for signs of early complication, including bleeding and or excessive pain. She was then discharged next day in good condition. She withstood the procedure well.

3. Conclusion

Removal of IUD must be a carefully executed procedure by trained personnel with only controlled traction and meticulous inspection of the IUD.

Removal of IUD may be withheld if excessive traction is required. Removal can then be considered with office hysteroscopy as a stand by procedure after proper counselling, shared decision and informed consent. Complications associated with use of longer life span devices which are appealing to patients as they offer convenience and low cost.

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