

## Reporting a Rare Case of Complete Migration of Copper T 380a and its Laparoscopic Retrieval

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### ABSTRACT

This was a case of migration of Intrauterine Contraceptive Device (Copper T 380A), into the peritoneal cavity, which was diagnosed following complaints of missing string in University of Abuja Teaching Hospital. An X-Ray confirmed the missing IUCD placement in the pelvis. It was retrieved from the pelvis by laparoscopic approach. The importance of regular follow-up post insertion of IUCD so as to allow for early diagnosis of a missing IUCD and its possible migration was highlighted here. The complications following migration of an IUCD were also discussed.

**Key words:** Laparoscopy, Missing, Intrauterine Contraceptive Device.

### INTRODUCTION

The limited availability of hysteroscopy for diagnosis and operative management of Asherman's syndrome makes the management of Asherman's syndrome even the more challenging in our environment. Asherman's syndrome is defined as an acquired uterine condition that occurs when scar tissue (adhesions) form inside the uterus and/or the cervix.<sup>1</sup> It is characterized by variable scarring inside the uterine cavity, where in many cases the front and back walls of the uterus stick to one another. Asherman's syndrome can be the cause of menstrual disturbances, infertility, and placental abnormalities. Although the first case of intrauterine adhesion was published in 1894 by Heinrich Fritsch, it was only after 54 years that a full description of Asherman syndrome was carried out by Joseph Asherman.<sup>2</sup> The ideal treatment of intrauterine adhesion, does not end with physically removing the adhesion, but also involves the prevention of new ones by the use of other adjunctive measures. Some surgeons still use intrauterine contraceptive device in the prevention of subsequent adhesion formation after uterine adhesiolysis. Intrauterine contraceptive devices help endometrial regeneration by separating the anterior and posterior uterine walls. Many Surgeons support the use of intrauterine devices, especially the Lippes Loop, but its non-availability in our environment makes Surgeons to take to the use of copper bearing device (Copper-T). Subsequent removal of the intrauterine device may also help remove adhesions which may

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have reformed. When an intrauterine contraceptive device perforates the uterus completely, it may migrate to the pelvic and abdominal cavity or adjacent organs like the bladder, and rectum. Uterine perforation following an IUD insertion is reported in about 1.4 to 1.6 cases out of 1000 intrauterine contraceptive device placements. When intrauterine contraceptive devices perforate the uterus following insertion, it may be recognized during or soon following the procedure or as a delayed event. When an intrauterine contraceptive device migrates to the pelvis or intra-abdominal cavity, this may lead to several complications. The longer the distance of the migrated IUD from the uterus, the more the likelihood that the patient will experience severe symptoms. We present here a 34-year-old female, P<sub>1</sub><sup>+3</sup> alive with previous history of blind intrauterine adhesiolysis and insertion of copper T. She was referred to us because of missing Copper T IUCD strings. In this case, the Copper T was successfully removed by the laparoscopic approach

## CASE REPORT

A 34-year-old female, P<sub>1</sub><sup>+3</sup> alive, her last child birth (LCB) was in 2011. She was referred from a private clinic to our Gynaecology Clinic, University of Abuja Teaching Hospital with a diagnosis of a missing intrauterine contraceptive device. She had miscarriage about 5 years prior to presentation at a gestational age of 13 weeks. She had evacuation of retained products of conception at the above private clinic using manual vacuum aspiration. For two years following the Manual Vacuum Aspiration (MVA), she remained amenorrhoeic and went back to the private clinic where a blind uterine adhesiolysis was done and copper T was inserted as an adjunctive treatment. Three months after the insertion of the Copper T, she went back to the private clinic for its removal and the strings of the Copper T could not be seen, thus prompting her referral to our tertiary

hospital. She was experiencing occasional lower abdominal pain, more to the right Iliac fossa.

On examination, her general condition was good, and her vital signs were within normal ranges. Cusco's speculum examination revealed that the Copper T string could not be seen. The uterus was normal sized on digital vaginal examination. An ultrasound scan was done which did not show the Copper inside the uterine cavity, neither was it seen within the myometrium. X-ray of the pelvis was done (figure 1) and it revealed that the copper T was in the right Iliac fossa. All her pre-operative investigations were normal except that she was a known Human Immunodeficiency Virus (HIV) positive patient who has been on Highly Active Anti-Retroviral (HAART) drugs for the past 11 years. She was counselled on laparoscopic removal of the Copper T and if the need arises for laparotomy. Written consent was obtained.

## PROCEDURE

During the laparoscopic procedure, using a 0° laparoscope the tip of one horizontal arm of the Copper T was seen while the other horizontal arm, the vertical arm and the threads were buried in omental adhesions and the right side of the broad ligament (figure 2). Using an atraumatic grasper, the horizontal arm that was visible was held, gentle traction was applied to it, and the other horizontal arm, the vertical arm and the threads were visualized and the IUCD completely removed (figure 3). The site of removal was carefully examined for bleeding but there was none. The bowels and the bladder were examined for injury but there was none. The IUCD (Copper T) just after retrieval and removal from the pelvic cavity, still being held by atraumatic grasper through the Cannula as shown in (figure 4), which was later placed on the hand of the surgeon (figure 5). She was commenced on oral intake 6 hours after the surgery. She was discharged home after 24 hours in a stable state.

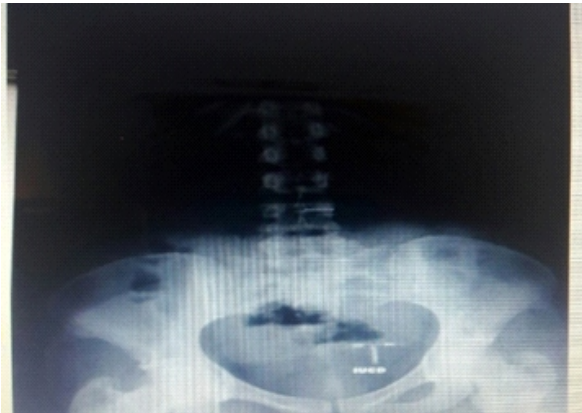


Figure 1A plain abdominal X-ray with the migrated copper T in the right adnexum.



Figure 4: The IUCD (Copper T) just after retrieval, still being held by atraumatic grasper through the Cannula.



Figure 2: Horizontal arm of the Copper T embedded on the right side of the broad ligament and covered by omentum. Note the subserous fibroid on the posterior uterine wall.



Figure 5: The retrieved Copper T on the Surgeon's gloved palm.



Figure 3: The migrated Copper T placed on the posterior uterine wall and bowel after it was gently pulled out from its insertion into the right side of the broad ligament and omentum.

## DISCUSSION

Uterine perforation following intrauterine contraceptive device insertion is uncommon, estimates from larger studies are from 0.4 to 1.6 per 1000 insertions. Zakin *et al*, classified uterine perforations by intrauterine devices into complete or partial.<sup>3</sup> In complete perforation, the device passes through all the layers of the uterus viz endometrium, myometrium and serosa in which case the IUD lies freely in the peritoneal cavity or covered by Omentum or may migrate into rarer locations.<sup>4</sup> In few of the cases, the IUD penetrates only into the

myometrium in which case it is termed partial.<sup>5</sup> In our case it was a complete perforation.

The risk factors to uterine perforation following IUD insertion include, breast feeding,<sup>6, 7</sup> time from delivery (36 weeks),<sup>6,8,9</sup> increase number of abortions, immediate post-partum period,<sup>10</sup> extremes of uterine posture,<sup>10</sup> inexperience of the medical personnel inserting,<sup>10</sup> inadequate insertion technique,<sup>10</sup> inappropriate timing of insertion, a uterine wall that is soft and inaccurate estimation of the uterocervical length.<sup>11</sup> Primary insertion perforation of Intrauterine Devices (IUD) occurs at time of insertion.<sup>12</sup> When uterine perforation of an IUD occurs after the primary insertion time it is known as secondary uterine perforation. Secondary Uterine perforation by an IUD is usually silent and it occurs because of slow migration of the copper T through the uterus with synchronous peristalsis of the bowel, spontaneous uterine contractions and bladder contractions.<sup>13</sup> The uterine perforation by IUD can also occur during its removal. In our case it was difficult to establish if this uterine perforation by the Copper T was primary or secondary, because it was only discovered after 3 months when she went for its removal. The insertion was in a private hospital, which raises the suspicion that the possible reasons why this occurred may have been multifactorial. Some of the possible factors here may include, increasing number of abortions, (3 in number) faulty technique of insertion and inaccurate estimation of the utero-cervical length.

Diagnosis of a missing intrauterine device is made, in this case when the string (thread) of the Copper-T was not seen at the cervix at routine gynaecological examination and its location may be seen on radiological examination of the uterine cavity (and its wall) and abdomen. In a majority of patients they are asymptomatic; when patients who have had IUD inserted presents with symptoms such as abdominal pain, diarrhea and fever with further history of inability to feel the string, the possibility of a missing IUD should be entertained.<sup>14</sup> In our case even though

she was experiencing mild lower abdominal pains, she never went back to hospital to complain until she presented back in the hospital on the appointed day of the removal of the IUD, when it was discovered. The most common sites that IUD migrate to are the Omentum, rectosigmoid colon, peritoneum and bladder. The other sites include, the appendix, small intestine, adnexae, Iliac veins, caecum, perirectal fat, retroperitoneal space, pouch of Douglas, and ovaries in rare instances.<sup>15,16</sup> When IUD migrates into the peritoneal cavity, further symptoms will depend on the organ affected. In our case the Copper T migrated to the right adnexum (broad ligaments) and was further walled off by omentum. Abdomino-pelvic ultrasound scan remains the diagnostic method of choice, but when this fails to locate the IUD, abdominal X-Ray should be done before concluding that the IUD was expelled out.<sup>14</sup> In our case, abdomino -pelvic ultrasound scan revealed that the Copper T was not within the uterus, it could also not locate it in the intra-peritoneal cavity, however, abdominal X ray clearly revealed it was in the peritoneal cavity, in the right adnexum (Fig 1). When IUD has migrated into or past the myometrium, it's removal should be strongly considered, even if the patient is asymptomatic because of the risk of adhesion formation, infertility and perforation into bowel, bladder or any other intra-peritoneal structure.<sup>4,17</sup> In our case it was retrieved because of the danger the migrated IUD posed. There are different approaches for the retrieval of a missing IUD depending on its location. Some of these are laparoscopy, hysteroscopy and colonoscopy.<sup>18</sup> The gold standard for the management of an IUD that has perforated through the uterus is laparoscopy. Sometimes if the migrated IUD involves the bowel or the urinary tract, the assistance of the general surgeons or Urologist may be needed.<sup>18</sup> When intra-peritoneal adhesions are so dense or the location of the IUD makes it difficult for laparoscopic retrieval, an exploratory laparotomy is done.<sup>18</sup>

Laparoscopic retrieval of a migrated IUD offers the advantage of a quicker post-operative recovery.<sup>18</sup> Our patient had laparoscopic retrieval of the migrated Copper-T and her recovery was fast, as she was discharged home the next day. Laparoscopy however has the disadvantage of being unable to visualize IUD if it is in the lumen of bowel or bladder.<sup>18</sup>

## CONCLUSION

When intrauterine contraceptive devices migrate, they must be removed because they can perforate the bowel and bladder and this can also lead to fistula formation. Ancillary investigations such as abdomino-pelvic ultrasound scan, pelvic/abdominal x ray, Computed Tomographic scan (CT scan) are used to locate the IUD, before retrieval. In the case of our patient pelvic/abdominal xray helped to detect the migrated Copper T. Depending on the location of a migrated IUD, any of the endoscopic procedures of Laparoscopy, hysteroscopy or Colonoscopy can be used to retrieve it. Prevention of a migrated IUD by proper insertion technique, regular follow-up and if does occur early detection and appropriate management modality is the best.

## Conflict of interest

None

## REFERENCES

1. Smikle C, Yarrarapu SC, Khetarpal S (2018). "Asherman Syndrome". StatPearls. Treasure Island (FL): StatPearls Publishing. PMID 28846336.
2. Conforti A, Alviggi C, Mollo A, De Placido G, Magos A. "The management of Asherman syndrome: a review of literature". *Reproductive Biology and Endocrinology* 2013; **11**: 118.
3. Harrison-Woolrych M, Ashton J, Cowter D. Uterine Perforation on intrauterine device insertion: Is the incidence higher than previously reported? *Contraception* 2003; 67:53-56. WHO Scientific Group. Mechanism of Action, Safety and Efficacy of Intrauterine Devices. Technical Report Series 753. Geneva, Switzerland: World Health Organization 1987; 48-63.
4. Zakin D, Stern WZ, Roseblatt R. Complete and partial perforation and embedding following insertion of intrauterine devices: classification, complications, mechanisms, incidence and missing string. *Obstet Gynecol Surv* 1981; 36:335-353
5. Barnett C, Moehner S, Do Minh T, Heinemann K. perforation risk and Intrauterine Devices: results of the EURAS-IUD- 5-year extension study. *Eur J contracept Reprod Health Care* 2017; 22(6): 424-428.
6. Rowland S, Oloto E, Horwell D. Intrauterine Devices and Risk of Uterine Perforation: Current Perspectives. *Open Access Journal of contraception* 2016; 7:19 32.
7. Caliskan E, Ozturk N, Diibaz BO, Dilbaz S. Analysis of risk factors associated with uterine perforation by intrauterine devices. *The European Journal of Contraception and Reproductive Health Care* 2003; 8(3):150-155.
8. Heinemann K, Reed S, Moehner S, Minh TD. Risk of uterine perforation with levonorgestrel releasing and Copper Intrauterine devices in the European Active Surveillance Study on Intrauterine Devices. *Contraception* 2015; 91 (4): 274 279.
9. Kaislasuo J, Suhonen S, Gisstter M, Lahteenmaki P, Heikinheimo O. Intrauterine contraception: incidence and factors associated with uterine perforation a population based study. *Human Reproduction* 2012; 27(9): 2658-2663.

10. Toivonen J, Lukkainen T, Allonen H. Protective effect of intrauterine release of levonorgestrel on Pelvic infection: Three years' Comparative experience of levonorgestrel and Copper releasing intrauterine devices. *J Obstet Gynaecol* 1990; 77:261-41.
11. Aoun J, Dines VA, Stovall DW, Mete M, Nelson CB, Gomez-Lobo V. Effects of age, parity and device type on complications and discontinuation of intrauterine devices. *Obstet Gynecol* 2014; 23:585-92.
12. Singh I. Intravesical CU-T emigration: An atypical and infrequent cause of vesical calculus. *Int Urol Nephro* 2007; 39: 457-9.
13. Tosun M, Celik H, Yavuz E, Cetinkaya MB. Intravesical migration of an intrauterine device detected in a pregnant woman. *Can Urol Asso* 2010; 4: 141-143.
14. Demir SC, Cetin MT, Ucunsaç IF, Atay Y, Toksoz L, Kadayifci O. On removal of Intra-abdominal intrauterine device by laparoscopy. *Eur J. Contracept Reprod Health Care* 2007; 7: 20-23.
15. Ozdemir H, Mahmutyazicioglu K, Tanriverdi HA, Gundogdu S, Savranlar A, Ozer T. Migration of an Intrauterine Contraceptive Device to the Ovary. *J Clin Ultrasound* 2004; 32:91-94.
16. Balci O, Copar M, Mahmoud AS, Colakoglu MC. Removal of Intra-abdominal mislocated intrauterine Devices by Laparoscopy. *J Obstet Gynaecol* 2011; 31:650-652.
17. Subramanian V, Athanasias P, Datta S, Anjum A, Croucher C. Surgical options for the retrieval of a migrated intrauterine contraceptive device. *Journal of Surgical Case Reports* 2013; 2013(9)
18. Dahiya K, Duhan N, Nanda S, Lakrap P. Misplaced Intrauterine Device (IUD): the endoscopic management. *South Asian Fed Obstet Gynecol*. 2010; 2: 137-9.