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CASE REPORT

SEARCHING FOR THE SILVER LINING; THE EVOLVING ROLE OF HYSTEROSCOPY IN RETRIEVAL OF MISSING INTRA-UTERINE CONTRACEPTIVE DEVICES

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ABSTRACT

Background: The use of intrauterine device (IUD) is a safe and effective method of achieving long-term reversible contraception, with minimal and tolerable side effects to the client. Occasionally, the strings of the device become no longer visible at the external cervical os, in which case it is said to be missing.

A missing IUCD is often a significant source of worry to the client as well as the care-giver owing to the profound dilemma commonly associated with attempts at location and retrieval. Moreso, unsuccessful retrieval of the device may ultimately place the client at a risk of plethoric complications, thus underscoring the expedience of effective retrieval measures where the diagnosis has been confirmed. More often times than not, attempts at blind retrieval are unsuccessful, thus necessitating a resort to hysteroscopy for location and retrieval of the device.

With increasing awareness and utilization of IUCD as a method of contraception, cases of missing IUCD are becoming relatively frequent with the global prevalence currently staked at 2-4 percent.

Case Presentation: Our index patient was referred from the family planning unit of FMC Umuahia following failed attempts at blind retrieval of a missing IUCD, which had been inserted about 10 years priorly. Following evaluation in the Gynaecology clinic of same hospital, the IUCD was located with the aid of an abdomino-pelvic ultrasound, which revealed the device tucked high up in the uterine cavity. Eventually, the missing IUCD was successfully retrieved with the aid of grasping forceps under hysteroscopic guidance, with no complications to the patient.

Conclusion: Our case report provides a concise over-view of the typical presentation of clients with missing IUCD, challenges with blind location and retrieval of the missing device, and the success at hysteroscopic retrieval following failed attempts at blind retrieval. It also furnishes invaluable insights into existing literature on the use of Hysteroscopy to aid in the retrieval of a missing intra-uterine contraceptive device, with a view to standardizing clinical interventions and practice, especially as attempts at blind retrieval can be traumatizing and frequently unsuccessful.

Keywords: IUCD, hysteroscopy, retrieval, IUCD removal, missing IUCD

Introduction:

The Copper T intra-uterine contraceptive device is an effective and reliable long-lasting reversible contraceptive. It is said to be missing when the strings can no longer be seen at the external cervical os.[1]

A missing IUCD is often a worrisome complaint for the woman. [1] Possible explanations for not visualizing the IUCD strings at the cervix include expulsion through the vagina, damage or breakage of the strings, curling in of the strings or migration of the device.[2]

Findings of missing IUCD are becoming common and one study has reported an incidence of 0.08 percent [3]. A transvaginal Ultra-sound scan is often the initial investigative modality and abdominal x-ray may be necessary to determine if the device has been expelled or has migrated.[3]

Hysteroscopy has been found to be very useful both for location and retrieval of a missing intra-uterine contraceptive device. [2] Furthermore, if the sonogram shows the location of the device, hysteroscopy can be used to confirm the diagnosis and guide retrieval, [3] especially as blind retrieval can be traumatizing and frequently unsuccessful[3]

Our case report highlights the apprehension of the client on presentation; the systematic algorithm employed to evaluate the patient and locate the missing device, as well as the successful utilization of Hysteroscopic guided retrieval procedures following failed attempts at blind retrieval.

Case Presentation

We present a case of a 42-year-old para 3 (with 3 living children) businesswoman who was referred to the Gynaecology clinic of Federal Medical Center Umuahia from the Family Planning unit following repeated unsuccessful attempts at retrieval of an inserted intra-uterine contraceptive device.

The copper T intra-uterine contraceptive device was inserted about 10 years priorly in the Family planning unit of the hospital,

although the strings of the device were last felt through the vagina by the patient over a year prior to presentation.

There were no associated complaints of offensive vaginal discharge, bleeding per vaginam nor menorrhagia. Her last menstrual period was about three weeks prior to presentation and it flowed for the usual 4 days.

Patient's obstetric history indicated that she has had a total of four pregnancies, the first of which ended as a miscarriage while the subsequent ones were carried to term and delivered vaginally. She currently has three living children and the last child birth was about 12 years ago.

Patient also had an abdominal myomectomy procedure performed in a private hospital for uterine fibroids four years prior to presentation.

Other aspects of the patient's past medical and surgical history were not contributory

Assessment of the patient at presentation revealed a middle-aged woman who was in good general condition but very anxious and apprehensive. Abdominal examination showed no areas of tenderness neither were masses felt over the abdomen. A speculum examination of the vagina revealed a healthy-looking cervix with no visible strings of the intra-uterine contraceptive device at the external cervical os.

Patient was reassured and requested to do some laboratory investigations including abdomino-pelvic ultra-sound scan, which revealed evidence of an intra-uterine device in situ as well as features of mild hepatomegaly. Also, a serum Pregnancy test done was negative while serological screenings for HIV, HBsAg, and HCV were all non-reactive. Further investigations included a packed cell volume (the result of which was 34 percent), full blood count, liver function tests, as well as serum electrolytes, urea and creatinine with results all within normal limits.

Following counselling on the option of Hysteroscopic retrieval of the IUCD, patient gave an informed consent and was booked accordingly for the procedure. The hysteroscopic procedure was scheduled to be performed on outpatient basis, under conscious sedation. Normal saline was used as the distention medium, utilizing a distention pressure of 150mmHg. Strict monitoring of fluid input and output was ensured to exclude fluid deficits.

With distention fluid running, the hysteroscope was advanced carefully through the external cervical os into the uterine cavity, which was inspected to exclude any defects, adhesions, or uterine wall perforations. The IUCD was visualized to be tucked high up within the uterine cavity close to the fundus.

Although there was initial considerable difficulty with grasping and pulling out the device, the IUCD was eventually retrieved using grasping forceps under direct vision and examined carefully to confirm no part was missing. The procedure was well tolerated with no evidence of fluid deficits nor notable procedure-related complications to the patient.

Thereafter, all used instruments were removed through the vagina and the patient was cleaned up and transferred to the recovery room. The procedure was then documented and the outcome explained to the patient following full recovery from anaesthesia. She was also shown the retrieved IUCD, and then discharged home on oral analgesics and antibiotics. A follow-up ultrasound scan showed no evidence of the device nor any pathology.

Discussion

Hysteroscopy is an endoscopic procedure that allows for the visualization of the endometrial cavity with the aid of a hysteroscope. Its advent has significantly relegated blind procedures in the diagnosis and management of endometrial pathologies. [4] This was clearly evident in our index patient where the availability of personnel and facility for hysteroscopy made it the preferred option for retrieval of the missing IUCD, as against a blind attempt at retrieval.

The Copper-T intra-uterine contraceptive device is an effective and reliable long-acting reversible method of contraception and has been found to be more effective than oral contraceptives, barrier methods, and natural family planning. [4] Our client had achieved effective contraception for over 10 years since insertion of this device. The IUCD is said to be missing when the strings can no longer be seen at the external cervical os [5] . Our index patient became concerned because she could no longer feel the strings of her inserted IUCD through her vagina like she used to, thus necessitating her presentation to the health facility for intervention.

Common possible causes would include expulsion from the uterine cavity, retraction of the strings following damage or breakage, rotation of the device with enlargement of the uterus as may be seen in cases where pregnancy occurs with the device in situ. Occasionally, the device may also become embedded within the myometrium or may translocate through the myometrium into the abdominal cavity. In the case of our client, the strings had retracted and was no longer at the cervical os on vaginal examination. This may have been as a result of traction on the device during surgery as the patient had undergone an abdominal myomectomy

procedure four years priorly, while the IUCD was still in situ.

The incidence of missing IUCD has been on the increase owing to its increased popularity and utilization as a reliable method of contraception. [5] According to a prospective interventional study done by Jain et al on about 50 women who had been offered IUCD over a period of 6 months, the incidence of IUCD with missing strings was about 19.4%[5]

Another study done by Verma et al reviewing about 324 IUCD users showed that missing IUCD threads were found in 69 women. While about half of them were asymptomatic, abnormal uterine bleeding was found to be the commonest symptom in those who had complaints. 82.6% of the women had IUCD in situ on USS, displacement was seen in 10.14% of them, embedment in 4.35% while expulsion was seen in 4.35% of these women.[6] Our index patient however presented with no symptom asides the apprehension over the possible ominous consequences of the missing device. However, with the demonstration of the IUCD in situ using ultrasound scan, her anxieties were allayed and she was reassured that hysteroscopic retrieval was possible. This absence of overt symptoms in our index patient therefore represents a unique pattern of presentation following missing IUCD.

A retrospective observational study done by Mishra et al on 726 women following insertion of IUCD revealed that 209 of these women reported missing strings at 3 months and more than 50 % of the cases of missing IUCD strings were asymptomatic.[4] Our index patient reported that she could no longer feel the strings of the inserted device about 9 years following insertion.

Hysteroscopic retrieval of a missing IUCD is one of the options of management of a missing IUCD and it has the relative advantage of not just aiding location of the device, but also the retrieval of the located device under direct visualization.[2]

Valle et al reported 33 patients using intrauterine contraceptive devices with non-visible strings on examination who subsequently underwent hysteroscopy for diagnosis and retrieval of the devices. All cases were performed under local anesthesia, with the exception of 1 for whom additional surgery was planned. Hysteroscopic retrieval procedure for our patient was performed under conscious sedation; procedure was well tolerated and there were no short-term nor long-term post-operative complications in the patient. In 29 patients, the device was observed in situ and removed under hysteroscopic control; these findings were in tandem with those of our index patient where Hysteroscopic guidance was also utilized

to achieve retrieval of the missing IUCD, priorly detected in situ within the uterine cavity. In the remaining 4, no intrauterine device was observable, and translocation was ruled out by x-ray examination; abdominal x-ray was not necessary for our index patient as the initially performed USS had detected the device in situ. In 1 patient, an IUCD was embedded in the posterior uterine wall and removed by laparotomy. In the authors' opinion, hysteroscopy can be a useful and effective method in the management of patients with Intrauterine contraceptive devices and "missing strings". [2]

Hysteroscopic retrieval of IUCD was also successfully carried out in 45% of a total 66 women who presented with missing IUCD strings, according to a study that was done by Setu et al in 2020.[7]

The hysteroscope, a thin tube with a camera, usually is inserted into the uterus, which is gently distended with fluid. The fluid used for distension in our index case was 1.5% glycine. The IUCD is then located and grasped with a special instrument for removal under direct vision, often with ultrasound guidance. This retrieval under direct visualization increased the chances of a successful procedure in our index case. This method is considered effective and safer than major surgery, especially when ultrasound-guided removal has failed or when a pregnancy is desired. Often times, no cervical dilation is routinely needed prior to insertion of the hysteroscope.[8]

A sterile fluid (like saline) is infused to gently distend the uterine cavity, enhancing visualization of the uterine cavity. A non-electrolyte containing fluid (glycine) was used as a distension medium in our index case. A grasper is then inserted through the hysteroscope's working channel and the intra-uterine device is then grasped and pulled out under direct vision.

A follow-up ultrasound is usually scheduled to confirm the IUCD is gone and check on the patient's health, especially if there was a pregnancy. [9] This accordingly was done for our index patient and it confirmed that the uterine cavity was empty with no evidence of uterine pathology.

Conclusion

This case report highlights the appreciable role of Hysteroscopy as one of the retrieval options for missing IUCD, re-iterating its invaluable benefit in effective resolution of cases where attempts at blind retrieval are unsuccessful. This does not only significantly mitigate the morbid concerns that may follow a retained IUCD, but also profoundly allays the apprehension and psycho-social perturbations that may be evoked by missing IUCD strings.

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