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Case Report

Laparoscopic removal of transmigrated intrauterine contraceptive device from abdomen in an asymptomatic patient

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ABSTRACT

Uterine perforation followed by transmigration of intrauterine contraceptive device to the abdominal cavity is one of the rarest, but most dangerous complication of Copper T. These displaced Copper containing devices can cause chronic inflammatory reaction leading to adhesions, intestinal obstruction and even bowel perforation. Hence removal of these devices once found outside the uterus is recommended. Traditionally, a laparotomy used to be performed owing to the associated inflammation, adhesions and the risks of bowel injury. Laparoscopic removal of these displaced devices is a minimally invasive surgical approach with good results in skilled hands. Authors reported a rare case of misplaced transmigrated intrauterine contraceptive device in a 43-year-old asymptomatic lady. The Copper T had migrated after silent perforation of the uterus and was impacted in the greater omentum. There was evidence of chronic inflammation and small pockets of pus surrounding it. There were flimsy bowel adhesions. The dislodged device was successfully removed laparoscopically along with partial omentectomy without any complications. Regular follow up of patients who have had Copper T insertions and teaching them to feel the thread and report if not felt is essential to diagnose complications early. A transmigrated intrauterine device can be successfully removed laparoscopically.

Keywords: Copper IUCD, Misplaced, Laparoscopy

INTRODUCTION

Intrauterine contraceptive devices (IUCD) are one of the most widely used reversible and cost-effective method of contraception with a 99% effectiveness to prevent pregnancy.[1] They have the advantage of low systemic side-effects unlike hormonal pills and also have low maintenance once inserted correctly for the prescribed period of time. Nevertheless, their use is not without any complications. One of the most common complications is an unwanted pregnancy that could be either intrauterine or ectopic.[2] Uterine perforation followed by transmigration of the device to the abdominal cavity is one of the rarest and most serious complications.

Uterine perforation occurs most commonly at the time of insertion of the contraceptive device but may not always be detected immediately. Following uterine perforation, the migration of Copper T can be either incomplete or complete. In incomplete variety, the migrated device remains partially attached to the uterine myometrium. In complete migration, the device will not be seen attached to the uterus and may be found anywhere in the abdominal cavity. The device may get dislodged to various structures like small intestines, rectosimoid colon, bladder, subdiaghragmatic area, gall bladder, appendix, iliac veins etc as reported in various case studies and cause complications in the impacted site. The most common site of anchorage reported is the omentum.[3]

Once a displaced Copper T is detected, retrieval is recommended to prevent the psychosomatic symptomatology that are commonly associated with migrated devices as well as to prevent future grave complications like intestinal obstruction.[4] Laparotomy is conventionally done in view of dense adhesions and anticipated bowel involvement. Colpotomy, hysteroscopy, cystoscopy, laparoscopy are the various other surgical options reported depending upon the position of the displaced device, the degree of adhesions, major organ involvement and the availability of surgical expertise.

Authors reported a case of transmigration of Copper IUCD into the peritoneal cavity, which is a very rare, but serious complication of this mode of contraception. It was managed successfully by laparoscopic removal of IUCD with partial omentectomy as it was embedded in the greater omentum.

CASE REPORT

A 43-year-old P3L3 lady of French Nationality presented to the Gynaecology outpatient department for a routine Pap smear screening. Patient had 3 prior normal deliveries and her last child birth was 4 years ago. Patient had a Copper T inserted from her hometown 6 weeks after the delivery and did not have any follow up evaluation after that to confirm its position. She did not have pain abdomen, bladder or bowel symptoms. She had no other medical or surgical co-morbidities.

On speculum examination, the thread of Copper IUCD was not visualised. A transvaginal ultrasound scan was done which failed to show IUCD inside the uterine cavity. A detailed ultrasound of abdomen and pelvis revealed a linear echogenic foreign body in the left iliac fossa at the level of pelvic brim with a well-defined fluid collection seen around it. An X-ray anteroposterior view of abdomen and pelvis with uterine sound in-situ showed the Copper T lying outside the uterine cavity in the abdomen close to left pelvic brim (Figure 1). An X-ray lateral view was also taken (Figure 2) to confirm the location of misplaced Copper T. The need for surgical removal of the migrated IUCD by laparoscopy, chances of injury to bowel, bladder and great vessels in case of IUCD invasion of the above organs, the possibility of conversion to laparotomy in the event of dense adhesions were explained to the patient.

Patient underwent an elective 3 port laparoscopy under general anaesthesia with a 10mm port 3cm above the umbilicus and 2 other 5mm working ports in each iliac fossa. The tail of the Copper T was seen protruding from the greater omentum. The IUCD was buried in the omentum with abscess formation around the stem of the Copper T. There was omental caking at that site and flimsy adhesions to the bowel. Uterus, both ovaries and fallopian tubes appeared normal. The uterine perforation would have probably healed by then and was not visible.

Figure 1: X-ray abdomen and pelvis ap view with uterine sound insitu showing Copper T near left pelvic brim.

Figure 2: X-ray lateral view.

Figure 3: Copper T with omental granuloma.

The omental granuloma along with the embedded Copper T was excised after releasing the adhesions and the specimen (Figure 3) was retrieved through the 10mm port. The postoperative period was uneventful and she was discharged in a stable condition after 24hours. The histopathology was reported as omentum with fibrosis and chronic inflammation due to impacted Copper T with no evidence of actinomyosis, tuberculosis or malignancy.

DISCUSSION

Intra-uterine contraceptive device was first introduced by Richter in 1909.[5] Since then, it has undergone various modifications in design to improve its safety and efficacy. The inert devices are no longer being used. The most commonly used non-hormonal medicated intrauterine device is Copper-T which was developed by Jaime Zipper and Howard Tatum in 1969.[6] The various copper devices available are Cu T 200, Multiload Cu 250 and 375, Nova T, Cu T 380A etc of which the most widely used one currently is Cu T 380A. Hormonal IUCD like Mirena is used for both contraceptive and non-contraceptive benefits, but they are more expensive than Copper T.

Though the complications following IUCD insertion are uncommon, they may include abnormal uterine bleeding, pelvic infection, ectopic pregnancy, expulsion, retraction of thread into the cervix or the uterus making removal difficult, perforation of uterus and migration into the abdominal cavity or nearby organs. The reported incidence of IUCD migrations from the uterus is 0.5-1 per 1000 insertions.[7] The method of insertion, copper content, design and timing of placement determine the side effect profile. Perforation and migration is more common in nullipara, immediate postpartum or post-abortal insertion, insertions within 6 weeks of delivery, faulty technique of insertion and irregular follow up.[8]

There are various reports of transmigration of IUCD to rectosigmoid, small intestines, bladder, peritoneum, iliac vessels, omentum, gall bladder, appendix and even to abdominal wall.[9] These ectopic IUCDs can cause chronic inflammation, adhesions, intestinal obstruction and even induce stone formation. Hence removal as early as possible is advised even though 48% of reported cases were asymptomatic at presentation.[10] Laparoscopic retrieval of misplaced IUCD is more preferred to laparotomy in view of minimal postoperative morbidity and hospital stay.[11] Among those attempted laparoscopically, about 23% required conversion to open surgery to complete the procedure in view of dense bowel adhesions.[10]

CONCLUSION

It is imperative that a competent healthcare personal with adequate training conduct IUCD insersions in properly selected patients. It is important to teach the lady how to feel the thread and report if missing. A regular follow up for early diagnosis of misplaced IUCD is recommended. If the thread of the IUCD is found missing, a detailed evaluation of abdomen and pelvis by X-ray (after ruling out pregnancy) and ultrasound scan should be done to find the displaced device before presuming that it has been expelled. In selected cases, a CT scan of abdomen and pelvis can be done to assess the adhesions and major organ involvement. Authors have found laparoscopy to be a very effective and patient friendly option for removal of displaced intrauterine devices.

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