MIGRATION OF A TCU380A INTRAUTERINE DEVICE INTO THE ABDOMINAL CAVITY AFTER INSERTION: A RARE ENTITY

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ABSTRACT

Intrauterine device (IUD) is most frequently used long acting reversible contraception.

Uterine perforation is a serious problem which can happen after intrauterine device (IUD) insertion. Migration of the IUD to the pelvic and abdominal cavity or adjacent organs may be seen following perforation of the uterus. Migration of an IUD to a far intra-abdominal site is extremely rare.

Severe or unrelenting pelvic pain, active vaginal bleeding and unusually short string during or after IUD insertion suggest uterine perforation with migrating IUD into abdominal cavity. Ultrasound and X-ray can be used to locate the migrating IUD.

The patient reported here had undergone IUD placement seven months back at local Health center three months after delivery. Since the time of insertion she has lower abdominal pain. Because of its rarity, this case report may help in suspecting, diagnosing, approaching and management of patients' with migrating IUD after uterine perforation.

KEY WORDS: Missed/migrating IUD, uterine perforation

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INTRODUCTION

Intrauterine device (IUD) is most frequently used as long acting reversible contraception. Copper IUDs primarily work by disrupting sperm motility and damaging sperm so that they are prevented from joining with an egg. Copper acts as a spermicide within the uterus, increasing levels of copper ions, prostaglandins, and white blood cells within the uterine and tubal fluids. The increased copper ions in the cervical mucus inhibit the sperm's motility and viability, preventing sperm from traveling through the cervical mucus, or destroying it as it passes through[1,2,3]

Uterine perforation due to an IUD is seen in 1 case out of 1,000 IUD placements. Uterine perforation following IUD insertion may be observed during or soon after the procedure or as a delayed event. Delayed perforation can happen due to uterine spasms. Although significant illness or injury related to intraabdominal IUD location is rare serious complications have been reported. Insertion of IUD by less experienced gynecologic care providers, lactation, and postpartum insertion are associated with perforation[4].

Severe or unrelenting pelvic pain, active vaginal bleeding and unusually short string during or after IUD insertion suggest uterine perforation with migrating IUD into abdominal cavity. Following the uterine perforation, an IUD may potentially migrate to the pelvic or intra-abdominal cavity causing several complications. There are not many reports on the far-migration of an IUD[4,5].

Minimally invasive techniques, such as hysteroscopy and laparoscopy, are ideally suited to the diagnosis and surgical management of the perforated IUD. Ultrasounds and X-ray can be used to locate where IUD is located. Immediate laparotomy is required if laparoscopic or hysteroscopy removal is difficult, if perforation of intraabdominal organs is suspected or with ongoing intraperitoneal hemorrhage[6,7].

To the best of our knowledge there were rare reported cases of uterine perforation with migrating or missed IUD. Therefore this case report will help care providers and researchers to be familiar with patient's clinical presentation, investigation and management of migrating IUD after uterine perforation.

CASE PRESENTATION

A 23-yearold Para-III (all alive) mother gave birth vaginally seven months back at a health center, presented with right lower abdominal pain of four months duration following IUCD insertion three months after delivery by a nurse. Following insertion she was having persistent lower abdominal pain for which she repeatedly visited the health center. She felt the IUCD string only for one week after which she could not feel it nor has she seen it being expelled. The patient was not having vaginal bleeding following insertion. Finally she was referred to Jimma University Medical Center, south west Ethiopia, with a diagnosis of lost IUCD. She is exclusively breast feeding and still amenorrhic and has no symptoms of pregnancy.

On examination, her vital signs were within normal ranges and conjunctiva was pink. On pelvic examination the cervix is closed and the string is not visible on speculum examination but there was right adnexal tenderness on bimanual examination with normal sized uterus.

Ultrasound was done showing an empty uterus and IUCD on the right adnexa just over uterus (Fig.1). Abdominopelvic X-ray was also taken by radiologist suggestion with uterine sound insitu showing a T-shaped Cu-IUCD on the right side of the pelvis and uterine sound in the uterine cavity.The sound was used to delinate the uterine cavity to identify whether the IUD is found in close proximity or far away from the sound (Fig.2). With the impression of migrating IUCD into pelvic cavity the patient was prepared for laparotomy. After abdomen was entered through pfannensteil incision there was Cu-IUCD attached to cornu and with stem partially in uterus and no bleeding (Fig.3). The IUCD was removed after serosa was dissected and hemostasis secured without any complication. The size of uterine perforation, at right uterine cornu between tube and round ligament, was a small one and there was no need of repair except approximation of overlying

serosa. The patient was counseled on contraception options and chose DEPOT Provera to take at the local health center and discharged improved on the 3rd post op day.

Figure 1: Abdominal ultrasound showing Cu-IUCD seen outside uterine cavity with cross section view (an arrow) at Jimma University Medical Center (JUMC), Southwest Ethiopia, 2018

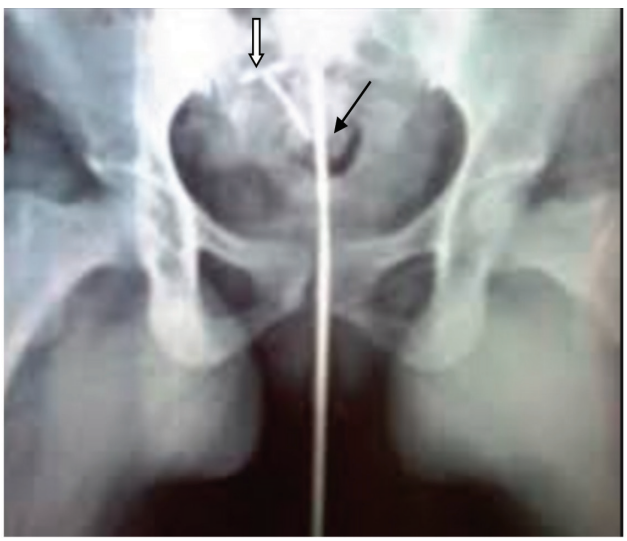

Figure 2: Showing Cu-IUCD on the right side (a white arrow) with Uterine Sound insitu (a black arrow) at Jimma University Medical Center (JUMC), Southwest Ethiopia, 2018

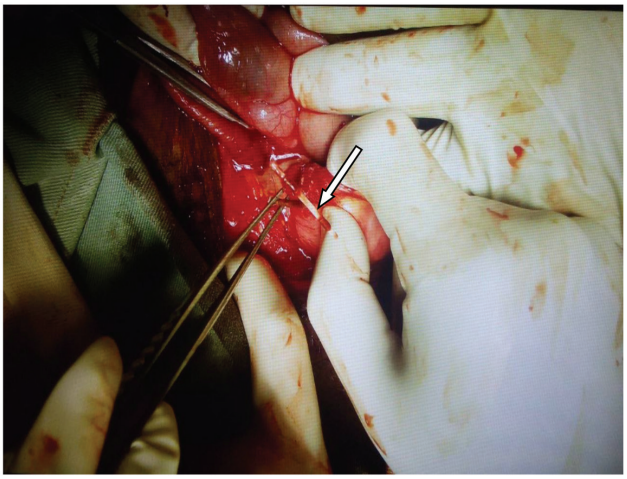

Figure 3: Showing Cu-IUCD after laparotomy (an arrow), on the right side of the uterus near the cornu, at JUMC, Southwest Ethiopia, 2018

DISCUSSION

The IUD is a long-term, reversible, effective and safe method of contraception. Used by about 100 million women, it is now the most widespread reversible contraceptive method in the world[1].

Uterine perforation after IUD insertion is a rare accident; its incidence varies in the literature, 1 to 3/1000. The perforation can occur in two ways: immediately during insertion, following a technical failure of IUCD insertion. It may be secondary to a partial myometrial perforation during insertion. Intramyometrial migration begins with embedment of the IUD into the myometrium; inflammatory phenomena and uterine contractions will allow the IUD to continue its migration. This inflammatory reaction leads to a significant accumulation of enzymes and of lytic/liposomal substances causing endometrial destruction and secondary migration of the IUD under the action of uterine contractions[8].

Certain factors predispose to uterine perforation and IUD migration: weakening of the myometrium by multiple pregnancies and cesarean scars; abnormal position, or size of the uterus; breastfeeding probably due to excessive uterine involution and endometrial atrophy as the consequence of lactation-induced

hypoestrogenism. Topographically, IUDs generally migrate into the peritoneal cavity (omentum, broad ligament, retropubic space), more rarely within an organ (ovary, rectum, sigmoid colon, appendix, bladder), or exceptionally intravascular (stenosis of the iliac vein), sometimes in the subcutaneous fat[9,10].

In case of ectopic IUD, pelvic examination is often not very successful in diagnosing IUD migration and in about 90% of cases, perforation is not recognized at the time of IUD insertion. The symptoms can be reduced to the immediate pain caused by improper insertion of the device revealing iatrogenic perforation. Very often, uterine perforation by the IUD remains asymptomatic; the diagnosis is suspected in the absence of visualization of the retrieval strings at vagina level and can be diagnosed with ultrasound or x-ray[11].

Sometimes the puncturing is only detected at the stage of complications such as pelvic abscess, organ perforation like the bladder or digestive segment. Death as the result of digestive complication has been reported in the literature. The clinical diagnosis is not always easy, additional explorations are required to locate the intrauterine device. Pelvic ultrasound by transabdominal and transvaginal route is the first line examination in the event of doubt[11,12].

Up to 15% of uterine perforations caused by IUDs affect adjacent pelvic and abdominal viscera, with the intestines most often involved. Intestinal complications arising from an ectopically placed IUD include perforation and obstruction of the large and small bowel, mesenteric penetration, bowel infarction, rectal strictures, and rectouterine fistula. There was a report on a case of ileal penetration 4 weeks after uterine perforation with a copper containing IUD[12,13].

CONCLUSION

Uterine perforation is a serious problem which can happen after intrauterine device (IUD) insertion leading to a rare event, migration of the IUD to the pelvic and abdominal cavity or adjacent organs may be seen following perforation of the uterus. The health care providers have to obtain adequate level of knowledge and skill in counseling and insertion of IUCD.Post insertion the client should be appointed to come at one month to see if thread is in place. However, in our case, the client was not advised to come back and even her problem was not detected and not referred timely despite she visited the health center for her complaint. Severe or unrelenting pelvic pain, active vaginal bleeding and unusually short string during or after IUD insertion suggest uterine perforation with migrating IUD into abdominal cavity. Following the uterine perforation, an IUD may potentially migrate to the pelvic or intra-abdominal cavity causing several complications. Hysteroscopy and advanced laparoscopy are ideally suited to the diagnosis and surgical management of the perforated IUD.Ultrasounds or X-ray can be used to locate where IUD is located. Exploratory laparatomy is required if difficult with laparoscopy or if perforation of intraabdominal organs is suspected. For our patient laparotomy was done and IUCD was removed after its migration was confirmed by ultrasound as laparoscopy is not yet the practice in our set up.

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