



Research Article

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Displaced intrauterine device: A retrospective study

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Abstract

Intrauterine contraceptive devices (IUCD) are used worldwide since 1965. The intrauterine device (copper-T) is most common method used for contraception as it is an economical and effective method. It is associated with complications like bleeding, perforation and migration to neighboring organs or omentum. Perforation of the urinary bladder by an IUD is extremely rare. A retrospective study was carried out in a medical college to find out the incidence of displacement of copper-T over a period of one year (Jan 2013 to Dec 2013). Total 240 copper-T were inserted as IUD. There were only two cases of displaced copper-T. In one case, copper-T migrated into adjacent broad ligament while in another case it migrated into urinary bladder.

Keywords: Intrauterine contraceptive device (IUCD), Copper-T, Migration, Urinary bladder.

INTRODUCTION

Intrauterine contraceptive devices (IUCD) are used worldwide since 1965. It is an effective and economical method of contraception with low-complication rates. Rarely it can migrate to adjacent organs such as intestine (like sigmoid colon, appendix), urinary bladder or omentum. Incidence of migration is about 0.5 to 1/1000 only^[1]. Early diagnosis of this rare entity is tricky because of its imprecise symptoms and very low index of suspicion^[2]. Patients with lost intrauterine contraceptive device (IUCD) may present with lost strings, pregnancy or may remain asymptomatic for years^[3]. Perforation of the uterus by an IUD with migration into the bladder is unusual and there is no consensus in its management^[4,5]. A retrospective study was carried out in a medical college to find out the incidence of displacement of copper-T over a period of one year (Jan 2013 to Dec 2013). Total 240 copper-T were inserted as IUD. There were only two cases of displaced copper-T. In one case, copper-T migrated into adjacent broad ligament while in another case it migrated into urinary bladder.

MATERIALS AND METHODS

A retrospective study was carried out in a medical college to find out the incidence of displacement of copper-T over a period of one year (Jan 2013 to Dec 2013). Total 240 copper-T were inserted. There were only two cases of displaced copper-T. In one case, copper-T migrated into broad ligament (Fig-1) whereas in another case it migrated into urinary bladder (Fig-2, Fig-3). All copper-T were inserted by qualified doctors. The patient with displaced copper-T in broad ligament was asymptomatic where as the patient with copper-t displaced to urinary bladder presented with persistent lower urinary symptoms such as dysuria, frequency and suprapubic pain. Cases were diagnosed with the help of plain X-Ray abdomen and ultrasonography and computerized tomography. Copper-T in urinary bladder was removed endoscopically. Postoperatively patient was alright.

RESULTS

In our department, over the last one year, there have been two female patients with the diagnosis of displaced copper-T. Only one case was with copper-T migration in urinary bladder where as in another case it migrated to broad ligament. There was no stone formation around the copper-T. Cases were diagnosed with the help of plain X-Ray abdomen and ultrasonography. Copper-T in urinary bladder was removed endoscopically. Postoperatively, patient was symptoms free.

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Figure 1: Plain X-Ray Abdomen showing Cooper-T in broad ligament



Figure 2: Ultrasonography showing copper-T in urinary bladder

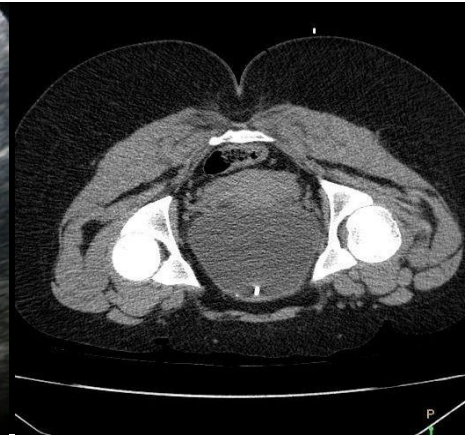


Figure 3: Computerized Tomography showing copper-T in urinary bladder

DISCUSSION

For the last three decades, IUD is the most accepted method of reversible contraception due to its high efficiency for fertility regulation, due to low risk and due to low-cost. The pelvic inflammatory disease, dysmenorrhea, hypermenorrhea, pain, pelvic infections, ectopic pregnancy, migration into bowel with adjacent organs, vesicouterine fistula and rarely endometrial adenocarcinoma are the reported complications [6]. These complications are rare and are the common indications of IUCD removal.

Any foreign body placed in the proximity of the urinary bladder can migrate into bladder like copper T, vaginal diaphragm, surgical clips used in hernia repair, prosthetic slings and even bullet [7].

Copper T may migrate to broad ligament as in our one case. Rarely IUD migrates to urinary bladder. The incidence ranges from 0.5 to 1 / 1000 insertions though exact incidence is not clear due to the asymptomatic nature of perforation [1]. Some time IUD may be misplaced instead of migration and malposition may be due to distorted uterine cavity, adenomyosis, obesity or inexperienced clinician. Ultrasound guidance may reduce the risk of malposition.

The exact mechanism that causes uterine perforation and migration of the IUD is not clear [8]. Uterine perforation can occur at the time of the insertion or at any other time after the insertion. Uterine size, position, timing of the insertion, congenital uterine anomalies and former operations are various causes which decide the uterine perforation. Spontaneous migration of the IUD can result due to physiological mechanisms like spontaneous uterine contractions, bowel peristalsis and bladder contractions. IUD when perforates uterus, it can migrate or become lost in the abdominal cavity and can migrate into the bladder, intestine or bowel. Breast feeding women are at higher risk for uterine perforation due to soft consistency of uterus. Women who have had abortion, caesarean-section or other surgeries of the cervix also have an increased risk for uterine perforation [6]. In the postpartum period the risk of perforation increase due to the uterine atrophy and thinning of the uterine walls due to hypoestrogenism, involution of uterus, strong uterine contractions and soft consistency of the uterus [9,10]. So, ideally IUD should be inserted 3 months after delivery [9]. Secondary perforation can occur by slow migration through the muscular wall of the uterus which can be augmented by

spontaneous uterine contractions, urinary bladder contractions. Intravesical migration of copper-T can take months to years [11]. In our study, the bladder perforations presented long time after IUD insertion, suggesting slow migration. In the present case, the patients had history of cesarean section prior to the IUD insertion.

Lower urinary tract symptoms as urinary frequency, tenesmus, suprapubic pain, dysuria, hematuria are common with copper-T migration in urinary bladder. Recurrent urinary tract infections after appropriate antibiotic therapy should also arouse suspicion of a foreign body in the urinary tract. Absence of copper T threads in cervical canal with the presence of these symptoms may indicate that the device has been dislocated. In the present case, the patient complained of dysuria and mild suprapubic pain for last 6 months. Presence of intravesical stones should raise suspicion of the presence of a foreign body as primary bladder stone is uncommon in females [11].

From a review of the literature, it is evident that not only the plain cooper-T is more prone to perforate even hormone releasing IUDs can also cause uterine perforation [12]. Use of new improved devices may reduce the chances of migration.

Intravesical migration of IUD is often associated with calculus formation, so it can be diagnosed with plain X-ray easily [13-15]. The presence of calculus in the plain X-ray of the urinary system with the absence of IUD strings in pelvic examination increases the suspicion of IUD migration into the bladder. It should be remembered that calculus formation does not occur in all intravesical IUDs, so the absence of calculus formation around IUD does not eliminate the suspicion of intravesical IUD.

Ultrasound (US) of pelvis is a commonly used diagnostic tool in suspected ectopic IUD but partial perforation may not be detected with US. The extent of myometrial and bladder wall perforation can be accurately diagnosed with transvaginal US. Non contrast Computed Tomography (CT) is mandatory in diagnosis of associated complications such as fistula [16]. Ultrasound and Computed Tomography Scan are used to detect exact position of displaced copper-T.

The treatment of the misplaced IUCD is surgical, either laparoscopy or laparotomy. Withdrawal of the migrated IUCD is advisable even if its migration has not given rise to any clinical symptoms so that further complications like a bowel and bladder perforation or a fistula

formation may be averted ^[1]. IUD migrated to omentum can be removed with laparoscopy which helps in the localization and recovery of misplaced IUCDs.

Cystoscopy is both diagnostic as well therapeutic as IUD can be removed endoscopically ^[17]. The adherence of the IUD to the bladder wall, as well as the degree of intravesical protrusion, can be recognized ^[14]. It can also be removed by suprapubic cystotomy if associated with big stone around IUD.

Although the management of the migrating IUD in asymptomatic patients remains controversial, no controversy exists about the removal of the IUD that migrates into the bladder. Even if the IUD migration is asymptomatic, it should be removed for the prevention of complications such as cystitis, intravesical stone formation, pelvic abscess and adhesions.

A regular follow up of IUCD for visible thread would help in earlier detection of misplaced IUCD. Proper training of paramedical staff is mandatory in developing countries to provide safe and better family planning services ^[18].

CONCLUSION

Every case of a missing IUD must be investigated carefully for uterine perforation. If a woman develops unexplained, persistent urinary tract symptoms then it can be a case of displaced IUD in urinary bladder. Any displaced IUD should be removed due to possibility of complications in future.

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