Unusual Complication of Intrauterine Contraceptive Device

ABSTRACT

Intrauterine foreign bodies have been used in animals as a contraceptive since times immemorial. The use of pebbles in camels as a contraceptive has been reported in Arabs.

Intrauterine contraceptive devices (IUCDs) have been used since 1962 when the first International Conference of Population Council, New York reported encouraging data on Margulies coil and Lippes loop as IUCDs. According to the World Health Organization, IUCDs are the second most widely used reversible contraceptive method after voluntary female sterilization.

Intrauterine contraceptive devices have undergone extensive evolution from Grafenberg ring to Ota ring, Margulies coil, Lippes loop, Bimberg bows, SaT-coil followed by Cu T 200, Cu 7, Multi-load Cu 250/375, Cu T 380 Ag, Cu T 380 S [slimline]. Hormone-releasing IUCDs were developed in 1973. Ombrelle 250/380 and FlexiGard are the latest in this series.

The common complications encountered with IUCD insertion are pelvic infections, infertility, the risk of both intrauterine and extrauterine pregnancy, pain, altered bleeding pattern, expulsion of the device, and its migration. Migration of IUCD into the bladder has been rarely reported in the literature. The authors report an unusual case of a secondary vesical calculus formed around a migrated IUCD.

Keywords: Intrauterine contraceptive device, Migrated, Missed, Stone, Urinary bladder.

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CASE REPORT

A 36-year-old female, para 3-live and 3 births, presented to our outpatient department in our institution with a history of mild to moderate pain in the lower abdomen for the last one year. This pain was continuous, pricking in nature, not radiating anywhere, and was associated with pain and burning during urination. There was a history of blood in urine off and on. She had taken some local treatment, but there was no response. She also had a history of copper-T insertion in 2009. She conceived in 2013, so she consulted a lady doctor with the complaint of “not feeling” of her copper-T threads. She was told that her first copper-T must have come out by itself. Lady doctor had done dilation and curettage and another copper-T was inserted in 2013. She continued to consult the doctors; with the same complaint, some other doctor performed a vaginal hysterectomy. Even after the operation, her previous complaints persisted and she was told to consult a urologist and she consulted us in November 2014.

Urine analysis revealed 30 to 40 pus cells and microscopic hematuria. Urine culture was positive for E. coli, sensitive to levofloxacin and gentamicin. Her blood tests were normal except for some leukocytosis (total leukocyte count 12,500/cmm). She was given appropriate antibiotics, and ultrasonography and plain X-ray were advised. Plain X-ray showed a copper-T lying in the pelvis and a radiopaque shadow over it (Fig. 1). Ultrasonography was normal except for an echogenic mass near the bladder wall. On repeatedly enquiring about previous reports, the patient brought a plain X-ray that was taken before her hysterectomy, which showed two copper-T shadows, and one copper-T also had radiopaque shadow attached to it (Fig. 2).
Cystoscopy was done. We could see a partially embedded copper-T in the right superolateral wall of the urinary bladder and stone over it. We removed the whole assembly as such with the help of stone-removing forceps (Fig. 3). The patient had an uneventful postoperative course and was discharged after 48 hours. She is doing well even after last follow-up 1 year after surgery.

DISCUSSION

Intrauterine contraceptive device (IUCD) is a popular contraceptive method worldwide. Complications due to IUCD are pelvic inflammatory disease, infections, infertility, pregnancy, bleeding disorders, abortion, pain, spontaneous expulsion, and migration.

Migration of the IUCD into the adjacent organs or the abdominal cavity is a rare complication. The incidence of uterine perforation due to migration into the pelvic or abdominal cavity or migration into adjacent organs ranges from 1 to 3% per 1,000 insertions. This migration was mistaken as spontaneous expulsion of IUCD in our case.

Intravesical migration of IUCD is a rare complication. Secondary stone formation on the migrated IUCD is an extremely rare complication of IUCD insertion. The exact mechanism or when exactly it occurs is not clear, and it may take several years before the onset of symptoms related to the displacement. The longest interval reported is 16 years. In our case, it was only 3 years. In several reports, pregnancy was reported as a complication of IUCD migration. In our case, the patient also consulted a doctor for pregnancy even after IUCD use.

The copper in copper-T acts as a foreign body and sets up an inflammatory process in the urinary bladder added by infection, giving rise to secondary stone formation on IUCD.

Factors predisposing to uterine perforation following IUCD include insertion of the device by an inexperienced person, the inappropriate position of IUCD, susceptible uterine wall due to multiparity, recent abortion, or pregnancy. Infection and tissue damage caused by a speculum used during IUCD insertion can cause adhesions and can also facilitate perforation of the uterus. Uterine contractions and urinary bladder contraction and relaxation help in IUCD perforation and migration. In our case, the time duration between copper-T insertion and presentation was too short, so faulty insertion might be a cause.

In this case, hysterectomy was done for lower abdominal pain without investigating for lost IUCD. In plain X-ray abdomen done before hysterectomy, either two IUCDs were missed or the patient did not show the X-ray to the doctor as it was done elsewhere.

As the majority of bladder calculi are radiopaque, they can be diagnosed on plain X-ray alone. In our case also, the stone was radiopaque. In few cases where the stone is radiolucent, sonography can prove helpful. Treatment is by cystoscopic removal of copper-T with stone. A laparotomy is required in very few cases only.

In conclusion, the present case highlights the importance of a plain X-ray of the pelvis or sonography in a case of missed IUCD. Any lady with complaints of lower urinary tract symptoms in case of missed IUCD should raise the suspicion of migrated IUCD. There should always be proper gynecological indication for hysterectomy and it should be avoided for nonspecific complaints. If a patient fails to be relieved of the complaints for which a hysterectomy was done, he/she should be investigated again with X-ray abdomen, ultrasonography, or magnetic resonance imaging. Regular follow-up is a must in every case of IUCD, and any missed IUCD should be investigated thoroughly before predicting spontaneous expulsion.

REFERENCES