



POSTPARTUM IUCD- COMPLICATIONS AND THEIR MANAGEMENT- A CASE SERIES

Obstetrics & Gynaecology

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ABSTRACT

Intrauterine contraception devices, mostly in the form of copper IUD or hormone-releasing IUCDs, is a widely used method with a high efficacy. Despite high contraceptive efficiency, some complications are known to occur. Complications following postpartum intrauterine contraceptive device insertion (especially immediate postpartum period) are common as the uterus keeps involuting and gravid uterus is roomy and thin. In this case series, we report 4 different cases who had presented to our tertiary care centre with different complications like uterine perforation, displacement and transmigration of IUCD, synchronous intrauterine pregnancy, ectopic pregnancy and their management.

KEYWORDS

CuT insitu, IUCD, pregnancy with IUCD, ectopic pregnancy

INTRODUCTION

Intrauterine contraception, usually in the form of copper IUD (CuT) or LNG-IUS, is a widely used method with high contraceptive security¹. The copper intrauterine contraceptive device (IUCD) is considered to be safe in breastfeeding mothers, long acting, no hormonal side effects, cost effective- all these make IUCD as ideal postpartum contraceptive. According to the WHO Eligibility criteria, post-placental and immediate Postpartum IUCD insertion is done immediately after delivery of the placenta, within ten minutes to 48 hours respectively². Though it provides effective contraception, it is associated with some of the complications like ascending genital infection, bleeding disorders, expulsion, the occurrence of extrauterine pregnancy, as well as perforations and dislocations¹. Few cases presenting some of the above complications are presented here.

Case Series-

This case series includes 4 cases, who were admitted at our tertiary care centre over a period of 3 years. These cases represent different complications of IUCDs like displacement, contraception failure, perforation, ectopic pregnancy and their management.

Case 1- Full Term Pregnancy With Iucd Insitu

A 24-year-old G2P1L1 with 9 months of ANC came with ultrasonography report suggestive of oligohydramnios with CuT insitu with nil complaints. She had full term normal vaginal delivery 1 and half years ago following which CuT insertion was done. She had history of irregular menses and with history of Cu T insertion, she did not seek medical advice even after 4 and half months of amenorrhea after which her first ultrasound examination revealed Single live intrauterine pregnancy with 17 weeks parameters, with posterior low-lying placenta partially covering os with CuT in the cervix. As IUCD was in cervical canal and placental was low lying and as thread was not visible on examination, removal of CuT was not tried. She was booked with 7 visits, she had 5 ultrasound examination, anomaly scan revealed moderate to severe club foot. Subsequent ultrasound examination showed receding of placenta and it was no more low lying. On examination- Abdomen uniformly distended longitudinally, height of uterus 32 weeks, longitudinal lie, cephalic presentation, clinically reduced liquor, Foetal heart sounds- 160bpm, regular, no contractions felt. Per vaginum examination- Os posteriorly placed, closed, uneffaced, pelvis adequate, IUCD thread was neither visible nor felt.



Fig no.1 – Obstetric ultrasonography, A hyperechoic T shaped foreign body suggestive of copper T in the cervical canal below the foetal head.

Induction was done with PGE2 gel in view of oligohydramnios at term. When patient went into active labour, vaginal examination done, CuT was felt which was found to be stuck in the cervical canal which was gently removed with grasping forceps. It was CuT 375. There was no active bleeding.

Patient had full term normal vaginal delivery uneventfully. Delivered to a male baby of 2kg, cried well immediately, admitted in NICU for observation in view of IUGR, club feet were conservatively managed. Mother was monitored for signs of infection (sepsis and chorioamnionitis). Patient was discharged on day 3 of delivery, followed up on day 15 and day 30 of delivery, there were no untoward complications.

Case 2- Pregnancy With Displaced Iucd

A 27-year-old G4P2L2A1 came with 2 months of amenorrhea and urine pregnancy test positive with copper t insitu. At present she had nil complaints. She had all full-term vaginal deliveries prior and had history of IUCD insertion immediately following delivery. She had no menstrual disturbances. On examination she was vitally stable and uterus was 8 weeks size with no forniceal tenderness, IUCD thread was visible.

On ultrasound examination, single live intrauterine pregnancy with 7.1 weeks with CRL 10.6mm and IUCD was found in the cervical canal (displaced IUCD). Risk of removal was explained and under ultrasound guidance IUCD was removed gently. There was no bleeding. Routine ANC care was provided, anomaly scan was normal. Patient was followed up until term. She had full term normal vaginal delivery uneventfully, both mother and baby were healthy.

Case 3- Uterine Perforation With Iucd In The Mesentery

A 26-year-old P4L3D1 with postnatal day 22 came with pain in abdomen and missing IUCD threads since 1 week. She had full term vaginal delivery uneventfully 22 days back and gives history of copper t insertion immediately after delivery at a nearby health care. She had no complaints following IUCD insertion.

She had all full-term vaginal deliveries prior and no other major medical or surgical illness known. On examination, she was vitally stable. Per abdomen examination- tenderness in the right lumbar, iliac regions and also in the suprapubic area, uterus involuting, vaginal examination- IUCD threads not visible. Ultrasound abdomen and pelvis revealed hyperechoic linear structure suggestive of IUCD found outside the uterus at the level of pelvic inlet, exact location could not be made. On x ray, CuT was found away from the midline (fig no.2)

Diagnostic laparoscopy done, there was evidence of perforation in the posterior wall of fundus which was sealed, no active bleed from the site. However, CuT could not be found in the pelvic cavity. So exploratory laparotomy done with the suspicion of IUCD perforating the bowel.



Fig no.2 – Erect Xray abdomen showing misplaced IUCD away from the midline

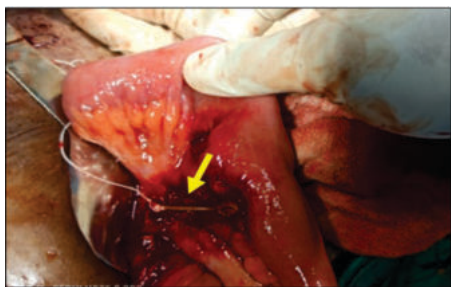


Fig no.3– intraoperative picture showing IUCD embedded in the mesentery of ileum.

Intraoperative surgeons' assistance taken and bowels examined systematically. There was evidence of adhesions at terminal ileum, IUCD embedded in the mesentery of ileum at around 15 cm away from the ileocecal junction (Figure no.3), pus pockets seen between the bowel loops, the horizontal limb of IUCD was found embedded and vertical limb with threads were free. There was no evidence of injury to bowel or solid organ. Cu T removed gently, there was no bleeding at the site, pus pockets were drained, adhesions were removed, abdominal wash was given. Patient withstood procedure well and postoperative stay was uneventful.

Case 4- Ectopic Pregnancy With Iucd Insitu

A 29-year-old G3P2L2 with 4 months of amenorrhea brought by relatives to casualty with acute pain in abdomen. 2 years ago, she had full term vaginal delivery at home and gives history of IUCD insertion on postnatal day 2 at nearby hospital. She had LMP 4 months ago and did not know the pregnancy status. She had no other major surgical and medical illness. On examination she was pale, with cold and clammy extremities with PR-156bpm, low volume, blood pressure-90/60mmhg. She was started on inotropic supports and resuscitated with fluids and blood. Massive blood transfusion protocol activated. On per abdomen examination, there was tenderness, guarding, rigidity, distension and on vaginal examination- uterus size of 14 weeks, with fornical tenderness, IUCD threads could not be visualized. Foley's catheterization done and urine pregnancy test was done which was positive. On exploratory laparotomy, there was evidence of hemoperitoneum of around 1.5 to 2litres litres, ruptured left rudimentary horn pregnancy with unicornuate uterus (figure no.4) and foetus of CRL around 7cm with placenta was in the abdominal cavity. The rudimentary horn along with ipsilateral tube was removed. Hysteroscopically IUCD was removed. Patient went home healthy after 6 days.



Fig no.4 – Intraoperative picture showing rupture of left rudimentary horn pregnancy

DISCUSSION

IUCD and intrauterine pregnancy (case 1 and case 2) -

Despite high contraceptive efficiency, unexpected pregnancy can still occur following insertion of copper t as contraceptive method. One of the reasons for contraception failure is displacement of IUCD, like we see in the above case 1, the copper t was displaced and found to be in the cervical canal. Some studies have shown the associations between adverse perinatal outcomes and pregnancy with a copper IUD. Brahmi D. et al³ demonstrated that pregnancies with an IUD in situ were at risks for adverse pregnancy outcomes, including miscarriage, septic abortion, chorioamnionitis, and preterm delivery³. The adverse outcome is mainly due to infectious aetiologies. Not only virulent bacteria, but also harmless pathogens such as *Candida albicans*, can cause chorioamnionitis, ascending foetal infections or maternal septicemia⁴. Management in patients with an IUD and a synchronous intrauterine pregnancy depends on gestational age and IUD location. During the first trimester, removal of the IUD under US guidance using an IUD hook or alligator forceps is recommended⁵ like in case-2, both gestational age and location of IUCD were favorable for removal. However, if the location makes removal difficult or will disrupt the pregnancy, the risks of IUD removal outweigh the benefits⁶. Removal during the second trimester is riskier, potentially leading to rupture of membranes, bleeding, or fetal loss. US localization is critical, and removal is again based on location and lack of incorporation into the placenta or gestational sac. Beyond the late second trimester, the risks of removal outweigh the benefits⁵. As in case-1, the patient reached health care during second trimester and had low lying placenta with displaced Cu T in the cervical canal, threads not visible, these factors increased the chance of adverse outcomes like abortion, bleeding, infection upon removal of IUCD.

IUCD can be removed under vision if threads are visible like in case 2, or by ultrasound guided or hysteroscopic guided, depending on the location of IUCD. Sanders et al⁷ concluded that saline infusion hysteroscopy is a safe and effective method of removing IUD in early pregnancy and another study recommended ultrasound guided extraction of lost IUDs in all cases as a minimally invasive, well tolerated and easily practicable method with a high degree of safety for the ongoing pregnancy⁴. Retained IUCDs neither teratogenic nor have other detrimental effects on embryological and foetal development have been detected⁴. In case-1, the baby developed moderate to severe club feet with oligohydramnios otherwise normal, which was conservatively managed postnatally and case-2 baby had no anomaly.

Perforation and transmigration of IUCD (case-3)

Perforation is uncommon with postpartum IUCD insertion. The general incidence of uterine perforation for all types of IUCD has been estimated at 0.87/1000⁸. Although there are not many documented risk factors, perforation occurs more frequently in patients who are lactating or who gave birth within the past 6 months. Perforation is thought to be related to low estrogen levels leading to uterine shrinkage. Uterine abnormalities and clinician inexperience also contribute to an increased likelihood of perforation⁶. Case-3 had risk factors like immediate postpartum IUCD insertion, multigravida, lactation. Presentation may be asymptomatic, abdominal pain, vaginal bleeding⁹. Uterine perforation is thought to occur frequently at the time of insertion^{10,11,12} and suspected in patients with acute pain and a missing IUCD threads. Most frequently, the IUCD is freely floating in the abdomen or pelvis, encased in adhesions, or adherent to bowel or omentum⁶. Plain radiography can just detect the displacement but CT detects severity of perforation and also its complications. However, surgery can be done directly without CT. The World Health Organization recommends that, regardless of its type and location, a perforated IUD be removed as soon as possible after the diagnosis has been established, due to the potential for adhesion formation¹³. Laparoscopic surgery is preferred but may be converted to laparotomy in the presence of adhesions that preclude safe laparoscopic removal¹⁴.

IUCD and ectopic pregnancy (case-4)

When pregnancy occurs with an IUCD insitu, implantation is unlikely to occur in the endometrial cavity. Therefore, patients with an IUCD and positive pregnancy test results should be assumed to have an ectopic pregnancy until proved otherwise¹⁰. Diagnosis is challenging as menstrual irregularities and pain in abdomen are common in IUCD users. Because of inconsistent findings among case-control studies on the relationship between IUD use and the risk of ectopic pregnancy, a meta-analysis of published literature was conducted which showed current IUD use does not increase the risk of ectopic pregnancy. However, a pregnancy with an IUD in situ is more often an ectopic one

than a pregnancy with no IUD. Past IUD use could mildly elevate the risk of ectopic pregnancy¹⁵. Case-4, had another risk for ectopic pregnancy that is uterine anomaly with IUCD insitu. The treatment is similar to that of any ectopic pregnancy.

CONCLUSION

Though copper IUCDs are very effective, long acting, cost effective with few side effects some complications are known to occur. Training and workshops to be conducted regarding the insertion techniques, steps to avoid complications, detection and management of complications. At the same time the provider should emphasise on counselling regarding the chance of pregnancy even after insertion of copper IUCD and to seek health care as soon as she misses her period or when she notices missing IUCD threads and also regarding other known complications. Follow up visits plays very crucial role in early detection of complications.

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