ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 10 | October - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A STUDY ON EMPHASIS ON PROPER TECHNIQUE OF INSERTION AND REMOVAL OF COPPPER T AT A TERTIARY CARE CENTRE

Obstetrics & Gynaecology

Dr G Thenmozhi* MD OG, Professor and Head of the Department, Department of Obstetrics and Gynaecology, Chengalpattu Medical College Hospital *Corresponding Author

Dr P Anbarasi MS OG, Senior Assistant Professor, Department of Obstetrics and Gynaecology, Chengalpattu Medical College Hospital

Dr S Tamilarasi MBBS, Junior Resident, Department of Obstetrics and Gynaecology, Chengalpattu Medical College Hospital

ABSTRACT

The Intrauterine Contraceptive Device Copper T is used by more than 150 million women around the world, making it the most widely used reversible method of contraception. Copper T a very safe contraceptive method can be used for 10 years. Missing Copper T thread is a common complaint when it may be curled in or the Copper T might have expelled or migrated. **Methods:** It was cross sectional study collecting the data between June 2020 to December 2020. Data was collected from OPD, OT register and Inpatient registers. The objective was to ascertain the symptoms, insertion methods, investigations done and mode of retrieving missed Copper T. **Results:** There were 63 cases of missing Copper T thread, out of which, 33 patients were asymptomatic, Irregular vaginal bleeding in (19 patients) was commonest complaint, followed by abdominal pain in (10 patients). Pregnancy was detected in one patient. Transvaginal ultrasonography (TVS) detected intrauterine location of Copper T in 60 cases. X-ray abdomen erect was needed in 3 cases, out of which 2 cases detected myometrial impingement and piercing of Copper T with broken T limb and in 1 case Copper T was expelled. In 31 patients, Copper T was removed by artery forceps in OPD. In 17 cases, hysteroscopic Copper T removal was needed. Two cases with migrated Copper T underwent laparoscopy for retrieval of Copper T. One patient had to be converted to laparotomy for piercing of myometrium. **Conclusion:** Copper T thread can be missing most commonly with postpartum IUCD. Transvaginal ultrasound is first done in missing Copper T thread. When not visualized we go for an X-ray abdomen and pelvis. Hysteroscopic retrieval was attempted under anaesthesia in patients where Copper T could not be retrieved with artery forceps. Laparoscopy and laparotomy may be required as last attempt in migrated Copper T cases.

KEYWORDS

Hysteroscopic removal, Laparoscopy, Laparotomy, Missing Copper T thread, Transvaginal ultrasonography, Xray Abdomen and pelvis.

INTRODUCTION

Intra-uterine contraceptive device (IUCD) is the most commonly used form of reversible contraceptive with an estimate of 150 million women using it worldwide with rates of failure similar to various forms of sterilization.[1,2] The two types of IUCDs that are presently used are the copper-containing IUD and levonorgestrel-containing IUCD. Copper releasing IUCD are 99.2% effective in preventing pregnancy in one year. The copper IUCD is approved for contraceptive use for up to 10 years. However, there is a documented indication to use this as emergency contraception within 5 days of unprotected intercourse. The failure rate after placement for contraception is approximately 0.1%. IUCDs may be placed immediately post-partum within 10 minutes of delivery of the placenta, postnatally within 48 hrs of delivery, delayed post-partum within 4-6 weeks of delivery, and post abortion, so long as it was not a septic abortion. Women can opt for removing according to her convenience as it is a simple method requiring firm gentle grasping and pulling out of the visible string.[3,4]

There are very few complications associated with the procedure of IUCD insertion. The most common complication is displacement or accidental removal of the IUCD after insertion, usually occurring within the first three months of insertion. There is also an increased risk of expulsion if placed after vaginal delivery or after an abortion. However, there is a benefit to insert IUCDs in patients immediately postpartum, in that patients did not always follow up for a postpartum visit and IUCD placement, putting them at risk of unwanted pregnancy. Additionally, in a small percentage of patients, there is also a risk of possible uterine perforation when inserting the IUCD.

Also there are indications for the removal of the IUCD. The first indication for removal is the patient's preference which includes desire for pregnancy, irregular bleeding pattern, heavy vaginal bleeding, and discomfort or pain, which may represent the displacement of the device. Bleeding changes, especially heavier bleeding, were more likely to occur in the copper-containing IUCDs rather than the levonorgestrel-IUCD, prompting the patient's desire for removal. Another indication for removal is an intrauterine pregnancy. However, the device should only be removed if the strings are visible or easily found within the cervical os with no devices entering the uterine cavity. Leaving the IUCD in place increases the risk of spontaneous abortion. However, there is no risk of teratogenesis with leaving the IUCD in place. Additional indications for removal include the diagnosis of a cervical or uterine malignancy. The last indication for removal is when the device has been retained in for longer period than the approved efficacy period.

With both insertion and removal of IUCDs, there is a risk of vasovagal symptoms with associated bradycardia that may occur when engaging with the cervix. These patients should be managed symptomatically. These symptoms are more likely to occur in nulliparous women or women who perceive greater pain at the time of insertion or removal.

As many as 4.5-18.1% users have missing threads either on string checks or at the time of removal.[3,5,6] Majority of IUCDs with missing threads can be dealt with in the office as a minor procedure with the use of appropriate tools. From this study we come to know about the type of insertion of missing IUCD like PPIUCD, Post LSCS, interval IUCD, presenting Symptoms, investigations needed to identify the location of missing IUCD and to study the retrieving the missing IUCD.

METHODS

We conducted cross sectional study in the department of Family Planning, Obstetrics and Gynaecology, Chengalpattu government medical College hospital from June 2020 to December 2020 for a period of 6 months .

Inclusion Criteria

1. All patients who came to OPD wanting Copper T removal
2. All patients who came to OPD with complaints of missing thread.
3. Patient for routine COPPER T check up

Exclusion Criteria:

1. STD
2. PID
3. Suspected pregnancy
4. Ectopic pregnancy
5. Vaginal bleeding of unknown etiology
6. Patient with pelvic mass

We collected all records from the OPD register for the above 6 months. The type of insertion of IUCD was noted. Presenting symptoms were noted down and the various types of investigations suggested for the patients who presented with missing threads were analysed. Those patients who needed retrieval underwent various procedures and they

were analysed in detail from the records.

RESULTS

No Of Patients Who Availed Service Insertion Or Removal Of Copper T At Family Welfare Clinic:

Total	1595
COPPER T REMOVAL	120(7.52%)
COPPER T INSERTION	33 (2.06%)

There were about 1595 cases who visited Family welfare Department out patients clinic from June 2020 to December 2020 at our Chengalpattu Government Medical College and Hospital. Out of them nearly 33 (2.06%) patients needed copper T insertion and 120 (7.52%) patients needed copper T removal.

Fig 1

Classification Of Persons Who Came For Iucd Removal Based On Obstetric Code:

COPPER T REMOVAL	PRIMI	MULTI
	75(62.5%)	45 (37%)

Most of the patients among 120 who needed copper T removal were Primiparous 75 (62.5%) and the remaining were multiparous. Among 33 patients who needed copper T insertion, there were 8 (24%) postabortal copper T insertions.

Fig 2

Among patients who came to OPD it was found that maximum cases complained of missing Copper T thread. Few patients had vaginal bleeding and abdominal pain. One patient who presented with abdominal pain was found to have partial piercing of myometrium and underwent laparotomy with uterus incision for removal whom had broken COPPER T and 2 other patients had broken COPPER T limb.

Patients who complained of missing thread were subjected to either transabdominal or transvaginal ultrasonogram. When it is found to be copper T in situ, removal by artery forceps was attempted in OPD as an office procedure. When copper T was not found on ultrasonogram patients were subjected to X ray abdomen and pelvis to find the exact site of misplaced copper T.

Out of 120 patients who wanted removal of copper T, threads were visible in about 55 (45.83%) patients and it was easily removed holding the strings. Remaining 65 (54.16%) patients were having missing threads and among them 45 (69.23%) patients had successful removal of copper T using artery forceps in OPD.

Classification Based On The Visibility Of Iucd Thread:

COPPER T THREAD VISIBLE	55 (45.83%)
MISSING THREAD	65 (54.16%)

Fig 3

Classification On Managenent Of Missing Threads:

MISSING THREAD	65(54.16%)
REMOVED USING ARTERY FORCEPS	45(69.23%)
REMOVED HYSTEROSCOPICALLY	19(29.22%)
LAPARATOMY	1(1.53%)

Remaining 20 patients were evaluated further and put under group of difficult retrieval of IUCD. 2 patients among them (3.07%) were found to have broken T limb of COPPER T in Xray abdomen and pelvis. Another 17 patients among them (26.15%) had misplaced copper T impinging in the endometrium and deep into the myometrium, near the cornua. All these patients had successful retrieval using hysteroscopy with much difficulty in few cases. One patient underwent laparotomy and copper T was found to be piercing through the anterior myometrium of uterus into the peritoneal cavity with omentum embracing it. The same was successfully removed and the patient had a normal postoperative period.

DISCUSSION

IUCD was the commonest type of contraceptive where missing string was the complaint. Medical professionals should be taught to follow strict aseptic techniques during the insertion procedure ,to maintain the blue collar in the insertion line with the T limb of COPPER T during the whole procedure of vaginal insertion, to place the limb of COPPER T in line with uterus fundus ,for easy removal by pulling out gently the visible thread on the vertical limb of COPPER T, to avoid rotating the COPPER T vertical limb while removing to prevent breakage of horizontal limb of COPPER T. Mishra S et al, has stated that missing strings after PPIUCD insertion is a pertinent problem encountered during PPIUCD follow-ups.[7]

Technique of IUCD Insertion:

After deciding that an IUCD placement is the best choice for the patient, the following procedure is followed:

1. Confirm a negative pregnancy test. Obtain informed consent.
2. Perform a pelvic exam
3. Insert a speculum to identify the cervix
4. Grasp the cervix and straighten the uterine cavity
5. Have the patient move into a dorsal lithotomy position.
6. Determine the depth of the uterine cavity
7. Insert the IUCD through the cervix into the uterus
8. Cut the strings to a length of 3 to 4 cm
9. Remove the speculum and tenaculum

Technique of IUCD Removal:

An IUCD should be removed at the expiration date, when the patient develops a contraindication, when adverse effects do not resolve, or on patient request. Treatment for cervical dysplasia may be different with the IUCD present. Colposcopy may be performed, but the IUCD should be removed if an excisional procedure is performed.

For IUD removal, the steps are as follows:

1. Obtain informed consent.
2. Have the patient move into a dorsal lithotomy position.
3. Under aseptic precautions insert the speculum, and identify the cervix and IUD strings. If IUCD strings are not immediately identified, twirl cytobrush in os to help identify strings.
4. Grasp IUCD strings with ring forceps.
5. Place gentle traction on the IUCD strings and remove the device from the uterine cavity.
6. Ensure that the IUCD is intact and no portions are missing.
7. If resistance is met, the removal should be abandoned until it is determined why the IUCD is not moving. A deeply embedded IUD may have to be removed hysteroscopic method.

Ultrasound remains the primary choice of investigation as it is cost effective, and has no radiation.

If intrauterine placement is doubtful, further X ray abdomen and pelvis to confirm the position. In complicated case, where location is still doubtful CT abdomen and pelvis is preferred. A study conducted by Mishra S, et al, who studied about missing PPIUCD (post-partum intrauterine contraceptive device) threads, also used artery forceps for the removal of Cooper T. Hysteroscopic Copper T removal was done in patients where office procedure was a failure. It gives us the advantage of removing Cooper T under vision. Hysteroscopic removal is required in cases of embedded Copper T.

When intraperitoneal migration was suspected, proceeded with laparotomy. Intraperitoneal migration can lead to pain, fibrosis, and adhesion formation and in some situations may result in penetration into adjacent organs including the urinary bladder, sigmoid colon, appendix, and small bowel.

In a nutshell, patients with missing Copper T were removed as office procedure, if not possible then use investigation modalities to locate the correct position of the Copper T ,and they were removed either mostly by Hysteroscopy or laparotomy.

CONCLUSION

By following the protocol of insertion and removal of COPPER T, we can prevent the occurrence of complications. This improves the overall usage of world population while reducing the unmet need for contraception.

Missing Copper T thread is a common complication. Most of the cases are managed as office procedure. Use of transabdominal and transvaginal ultrasonogram and Xray abdomen and pelvis plays a major role in missing copper T thread. Few cases need hysteroscopy and rare cases of migrated COPPER T need laparotomy.

Acknowledgments

Authors would like to thank all faculty members of department of obstetrics and gynaecology, Chengalpattu government medical college and hospital for their support.

Funding: No funding sources

Conflict of Interest: None declared
Ethical Approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Kaneshiro B, Aeby T. Long-term safety, efficacy, and patient acceptability of the intrauterine Cooper T-380A contraceptive device. Int J Women's Health. 2010;2:211-20.
2. Sivin I, Batár I. State-of-the-art of non-hormonal methods of contraception: III. Intrauterine devices. Eur J Contracept. 2010;15(2):96-112.
3. Roke CM. A comparative study of the ease of removal of intrauterine contraceptive devices. Contracept. 1988;37:555-63.
4. Waldron K. Intrauterine devices: insertion and removal: practical procedures. Aust Fam Phys. 1982;11:40-4.
5. Bounds W, Hutt S, Kubba A, Cooper K, Guillebaud J, Newman GB. Randomized comparative study in 217 women of three disposable plastic IUCD thread retrievers. Br J Obstet Gynaecol. 1992;99:915-9.
6. Tugrul S, Yavuzer B, Yildirim G, Kayahan A. The duration of use causes of discontinuation, and problems during removal in women admitted for removal of IUD. Contracept. 2005;71:149-52.
7. Mishra S. Tale of the tails, the Missing Postpartum IUCD Strings. The J Obstet Gynecol India. 2017;67(3):202-7.
8. Nowitzi KM, Hoimes ML, Chen B, Zheng LZ, Kim YH. Ultrasonography. Korean Society Ultrasound Medi. 2015;34(3):183-94.