Management of missing threads of IUCD

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Abstract

Introduction: Intra uterine contraceptive device is an effective, reversible and long term method of contraception. The device is made of poly ethylene which is impregnated with barium sulphate to render it radio opaque so that the presence or absence of the device in the pelvis can be easily detected by radiograph or ultrasound. Each device has nylon thread attached to its lower end and this thread protrudes through the cervical canal into vagina. It does not require replacement for long periods. IUCD s have rare but endangering side effects such as uterine perforation.(1) Missing IUCDs may be asymptomatic or present with symptoms. It could be intrauterine, partially embedded in the cavity or extrauterine. Nowadays due to advent of hystero laparoscopy, many of the cases of missing IUCD s are managed easily.(2)

Objective: To study the management of misplaced intra uterine device.

Materials and Method: It is a Retrospective observational study conducted at a tertiary care hospital from June 2015 to June 2017 for 2 years.

Results: In the review of 37 patients with missing IUCD threads, 12 (32.4%) were removed by simple curettage or using IUCD hook under ultrasound guidance, 21 (56.7%) were removed under hysteroscopic guidance, 1 (2.7%) was removed by laparoscopy and 3 (8.1%) were removed by laparotomy.

Conclusion: Most of post placental insertion of IUCD s were embedded into uterine myometrium or perforated the uterus and required either endoscopy or laparotomy for removal.

Keywords: Intra uterine contraceptive device, Missing threads

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Introduction

The intra uterine contraceptive device is metabolically neutral, highly efficacious, and has minimal risks when patients are properly selected as low risk and an aseptic and proper technique is followed.

It is a one- time procedure, coital independent and does not need regular motivation for continued use. It is a reversible birth control method widely used in developing countries because IUCD s are safe, effective and economical. IUCD's have rare but endangering side effects such as uterine perforation.(1) The first widely used IUCD was introduced in Germany by Ernst Grafenberg in 1920's. Various innovations like introduction of copper containing and hormone releasing devices were introduced. Intra uterine devices can be used during post abortal, post partum, post menstrual periods. IUCD when used during post partum period, it does not interfere with lactation. These developments have greatly improved the acceptance and continuation rates for IUCD.(3)

Even with newer IUCDs, there are high discontinuation rates due to increased bleeding and inter – menstrual bleeding and pain. This accounts for removal in 2- 10 per 100 users.

Missing thread of an IUCD is a common problem. The possibilities with a missing IUCD are that it has been

- Expelled
- Thread coiled up in cervical canal
- Perforation – IUCD embedded in myometrium/ migration into peritoneal cavity, bladder or rectum.(4)

Van Houdenhoven et al., have discussed the role of uterine involution and increased uterine contractility as potential contributing factors to intrauterine perforation occurring in the postpartum period.(5) Perforation is rare, and occurs at the rate of 1.1 per 1000 insertions.(6) Breastfeeding and postpartum state have been associated with an increased perforation risk, but these risk factors have previously not been examined independently of each other. Other risk factors include lack of experience of the healthcare professional (HCP) performing the insertion, and history of cesarean delivery.(7) Most perforation occur at the time of insertion due to faulty technique. Acutely ante flexed, and retroflexed uteri more prone for perforation puerperal uterus is also more prone for perforation. It is more common with push out technique than with withdrawal technique. The occurrence of sharp pain at the time of insertion, post insertion bleeding and disappearance of the tail are signs of perforation.

The mechanism of migration is thought to be the insertion procedure itself or the chronic inflammatory reaction with gradual erosion through the uterine wall. The incidence is influenced by several factors, which

includes the timing of insertion, parity and history of previous abortion, skills and technique of insertion.

Withdrawal of the migrated IUCD is advisable even if it has not given rise to any symptoms, so that the further complication is avoided, as there is risk of formation of adhesions and injury to bowel and urinary bladder.

Materials and Method

Retrospective study conducted at a tertiary care hospital from June 2015 to June 2017 for 2 years. Patients who are reporting to family welfare department with missing IUCD s were subjected to gynecological examination and 2D/3D ultrasound to locate the missing IUCD. Total of 37 patients reported to family welfare OPD, most of them were referred from outside hospitals.

Results

In the review of 37 patients with missing IUCD threads, 12 (32.4%) were removed by simple curettage or using IUCD hook under ultrasound guidance, 21 (56.7%) were removed under hysteroscopic guidance, 1 (2.7%) was removed by laparoscopy and 3 (8.1%) were removed by laparotomy.

Discussion

IUCD is the commonest method of contraception in developing countries. The immediate post partum insertion of intra uterine device offers an effective method for spacing and limiting births. The most serious complication of intrauterine device is perforation and migration in to peritoneal cavity and can cause inflammatory reaction, strangulation, large bowel perforation, infarctions. Once misplaced IUCD diagnosed in outpatient department as threads not visible in speculum examination, it should be evaluated to locate the place of IUCD with either x ray pelvis, or 3 D ultrasound. In our study, all the patients with misplaced IUCD on gynecological examination, either ultrasound evaluation, or X-ray AP view abdomen and pelvis was done to locate the IUCD.

We have 37 patients reported to family welfare department. Out of which 26 patients (72%) are referred from outside hospitals for copper T removal. 62% of patients fall in the age group 20 - 30 years. One post menopusal lady had Lipple s loop. Rest of the patients had copper T 380 A or multiload CU 375.(Table 1)

Table 1: Age of the patients using IUCD

Age (yrs)	Number of patients(37)	%
20 – 30	23	62
31 – 40	11	30
41 – 50	2	5.3
50	1	2.7

With reference to Table 2, 43% were primipara and 57% were multiparous ladies.

Table 2: Parity of patients

Parity	Number of patients(37)	%
P 1	16	43
P 2	18	49
P 3	2	5.3
P 4	1	2.7

With reference to Table 3, 54% of IUCDs were inserted at the interval period and 46% postpartum. 30.5% of IUCD users were delivered vaginally, 64.5% had delivered by lower segment cesarean section, where as 5.5% had IUCD's inserted after medical termination of pregnancy. Out of 37 women with displaced IUCD the insertion timing was post placental in 17 patients. Of these 17 patients, IUCD was inserted after 1 LSCS in 10 women and in 4 women after 2 LSCS, 1 woman after vaginal delivery and in 2 women after medical termination of pregnancy.

Table 3: Timing of insertion of IUCD

Timing of insertion	AVD	A1CS	A2CS	AMTP	Total
Post placental	1	10	4	2	17 (46 %)
Interval	10	5	5	-	20 (54 %)
Total	11 (30.5 %)	14 (39 %)	9 (25%)	2 (5.5 %)	37

AVD – After Vaginal Delivery A1CS – After 1 LSCS A2CS – After 2 LSCS
AMTP – After MTP

Of these 17 patients who had post placental insertion, in 11 women IUCD was partially embedded of these11 partially embedded IUCD patients 10 women delivered by LSCS and 1 woman delivered vaginally.

With reference to Table 4, 65% of patients have reported to us between 2 to 5 years time period. Only 5.5% of patients have reported less than 1 year. 2 patients came for removal after 5 years, in that one post menopausal lady reported to us at 54 years with neglected Lippe s loop.

Table 4: Interval between insertion and removal

Interval between insertion & Removal	Number of Patients(37)	%
< 1 year	2	5.4
1 – 2 years	9	24.2
2 – 5 years	24	65
5 years	2	5.4

As per Table 5, IUCD s were intrauterine in 56.7% of cases, partially embedded in 29.7% of cases, intra cervical in 5.4% of caes and extrauterine in pelvic cavity surrounded by omental adhesion in 8.1% of cases.

Table 5: Location of IUCD

Location of IUCD	Number of patients(37)	%
Intrauterine	21	56.7
Partially embedded	11	29.7
Intra cervical	2	5.4
Extrauterine	3	8.1

In our study, most of partially embedded IUCD (11), in 10 women IUCD s were inserted intra partum and post placental. Of the 37 misplaced IUCD, in 3 women IUCD was extra uterine of these, in 1 women IUCD was identified in peritoneal cavity, one women it was located partly perforated the uterus in to broad ligament. One IUCD was perforated at fundus and surrounded by omentum and taenia of intestine. All these 3 extra uterine, perforated IUCD were inserted post placental after LSCS.

The euras intra uterine device study from 6 countries found that breast feeding at the time of insertion was associated with six fold increase in uterine perforation.[6]

This rare yet serious complication must be attended with absolute care. The incidence depends upon 1. Time of insertion, 2. Design of IUCD, 3. Technique of insertion, 4. Selection of candidate and 5. Operator expertise.

Although the loop can be inserted at any time during reproductive year (except during pregnancy), there is greater risk of perforation immediately following delivery (immediate postpartum insertion / post placental insertion).

The removal of misplaced copper T is controversial, most of the literature suggests that all the displaced IUCDs should be removed as complications like adhesions and bowel perforation have been reported and removal should be done as soon as diagnosis is done.

Adoni and Benchetti found no adhesions in 3and 11 of misplaced IUCDs respectively. They suggested that surgery should be done in symptomatic patients while asymptamatic patients may benefit from conservative management.[8,9]

WHO recommends the removal of IUCD with missing threads because of higher incidence of adhesions to adjacent organ damage and inview of medico legal problems.[10] The recommended treatment of uterine perforation is surgical removal by either by laparoscopy or laparotomy.

In a study done by Jyoti S. Pandey *et al.,* Total 25 patients were included in the study. Of these 25 women, in 12 patients IUCD was inserted following vaginal delivery, in 6 patients it was inserted following 1st LSCS, in 5 patients it was inserted in 2nd LSCS and only 2 patients had interval CuT insertion. In 3 patients IUCD was present in the cervical canal which was removed with artery forceps. A patient in whom IUCD was partially embedded was removed with the help of hysteroscope. In 2 patients whom it was found to be in the peritoneal cavity it was removed with the help of laparoscopy. In one patient it was found to be translocated outside the uterine cavity embedded in the omentum, and in 2nd patient it was found on the surface of the bladder. In both the cases no IUCD was seen in uterine cavity on an ultrasound but the X- ray abdomen erect view showed IUCD in peritoneal cavity. None of the patients required laparotomy.[9]

In the series of 22 cases, device was found in uterine cavity in 12 (54.54%) patients and removed by curett age or retrieval hook 10 (45.45%) patients, while in 2 (09.09%) patients, it was stuck to uterine wall and removal was accomplished with the help of hysteroscope. In one (4.54%) patient, IUCD completely migrated to urinary bladder and removed by cystoscopy. For the rest of the cases, laparotomy was performed. In 09 (40.90%) patients, there was complete uterine perforation and transmigration to peritoneal cavity. As laparoscopy was not available at the time of study, these patients were proceeded to laparotomy. At laparotomy, in 5 patients device was adherent to omentum and/ or gut. It was removed followed by gut repair in one patient. In 2 patients, it was embedded in tubo-ovarian mass; in one patient it was in pouch of Douglas and in 1 patient, device was found in uterovesicle pouch, where it had partially perforated the urinary bladder wall.[8]

In a study done by Krishna Dahiya et al among 30 patients with misplaced IUCD, in 21 women the device was found intra uterine and removed by hysteroscopy, in 9 patients device was extra uterine and removed lapro scopically in 77.7% cases while 22.2% patients required laparotomy.[11]

In our study (Table 6, the removal technique) in 32.4% of cases, IUCD s were removed by simple IUCD

hook or long artery forceps under ultrasound guidance, and in 56.7% of cases the device was found intra uterine, and required hysteroscopy for removal. 1 case (2.7%) which was found extra uterine surrounded by omental adhesions was removed by laparoscopy. However, 3 cases the device was found extra uterine (8.1%) required laparotomy, because one patient had copper T found partially embedded into the right broad ligament and another patient the uterus was found twisted to 180 degrees and fundus was found stuck with the anterior abdominal wall. In one patient IUCD was in peritoneal cavity near intestines and surrounded by adhesions.

Table 6: Removal technique

Removal Technique	Number of patients(37)	%
Easy removal	12	32.4
Hysteroscopy	21	56.7
Laparoscopy	1	2.7
Laparotomy	3	8.1

Conclusion

Most of post placental insertion of IUCD s were embedded into uterine myometrium or perforated the uterus and required either endoscopy or laparotomy for removal.

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