



Evaluation of Post-Placental and Intra-Cesarean Insertion of Copper-T 380A as a Method of Contraception

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Abstract

Background: Increasing rates of institutional deliveries create opportunities for providing quality postpartum family planning services. PPIUCD appears an ideal method for limiting and spacing births. The objective of present study was to evaluate the acceptance, safety and efficacy of postplacental and intracesarean Cu- T 380 A IUCD insertion as a method of contraception.

Material and Methods: 360 women admitted for delivery in the department of Obstetrics and Gynaecology, Gajra Raja Medical College, Gwalior (M.P.), fulfilling the inclusion criteria were counseled for PPIUCD insertion. Cu T 380 A was inserted within 10 minutes of delivery of placenta in 164 women who had no contraindications for PPIUCD. The women were followed up at 6 weeks and 6 months after delivery. Acceptability and outcome in terms of side effects, removal and expulsion were noted and analyzed.

Result: Out of 360 women who were counseled, 164 (45.55%) women accepted the PPIUCD insertion. 54.26% women had post-placental and 45.73% women had intra-caesarean PPIUCD insertion. Majority of women who accepted insertion were in age group 20-24 years and were primipara. Expulsion rate was 3.95%. Cu-T was removed in 14 women. Missing strings was the most common complication and was the most common reason for removal. There were no cases of uterine perforation and pregnancy.

Conclusion: Post-placental and intra-caesarean insertion of Cu-T 380 A is an effective, safe, long term and convenient method of contraception for limiting and spacing births.

Keywords: PPIUCD (Postpartum intrauterine contraceptive device), acceptance, expulsion.

Introduction

In India, 65% of women in the first year postpartum have an unmet need for family planning. Only 26% of women are using any method of family planning during the first year postpartum.

Short interval between births is linked with higher maternal and child mortality and morbidity.

Approximately 27% of births in India occur in less than 24 months after a previous birth. Studies have shown that pregnancies taking place within 24 months of a previous birth have a higher risk of adverse outcomes like abortions, premature labor, postpartum hemorrhage, low birth weight babies, fetal loss and maternal death.^[1]

Family planning can avert nearly one-third of maternal deaths and 10% of child mortality when couples space their pregnancies more than two years apart.^[2]

Postpartum family planning is the prevention of unintended and closely spaced pregnancies through the first twelve months following child birth. Postpartum women need a range of effective contraceptive methods to be able to prevent an unplanned pregnancy within a short interval.

The Cu-T 380 A intra uterine contraceptive device is a highly effective, non hormonal method that can be safely used by all women regardless of breast feeding status during postpartum period. According to the World Health Organization Medical Eligibility Criteria, copper intrauterine device can be safely inserted within 48 hours (including insertion immediately after delivery of placenta) or ≥ 4 weeks following a birth.^[3]

In India various government plans like Janani Suraksha Yojna, promoting institutional deliveries all across the country, create opportunities for providing quality postpartum family planning services. Postpartum period is one of the important and crucial times when women and couples are highly motivated and more receptive to family planning methods. Taking advantage of the immediate postpartum period for counseling on family planning and IUCD insertion, overcomes multiple barriers to service provision.

Immediate PPIUCD insertion has distinct advantages for the women as it is convenient, saves time and additional visit. There is reduced perception of initial side effects like bleeding and cramping. There are reduced chances of heavy bleeding, especially among breast feeding women, as they are experiencing amenorrhoea. PPIUCD does not effect on amount or quality of breast milk. Most importantly the woman has an effective method for contraception before discharge from hospital.^[2]

IUCD inserted within 10 min of delivery of placenta has much lower expulsion rates as compared to insertion later in the post partum

period. Thus PPIUCD appears an ideal method for limiting & spacing births.^[3]

In view of high rate of unintended pregnancies and low rate of birth spacing in our country, there is a need for reliable, effective and a long term contraception such as Intrauterine Contraceptive device (IUCD) in postpartum women. The objective of present study was to evaluate the acceptability, safety and efficacy of post-placental and intra-caesarean insertion of Cu-T 380 A IUCD as a method of contraception.

Material and Methods

This prospective study was carried out at Department of Obstetrics and Gynaecology, Kamla Raja Hospital, Gwalior (M.P.), during a period of 18 months from August 2014 to January 2016.

360 women admitted for delivery in our hospital, fulfilling the inclusion criteria were counseled for postpartum IUCD insertion. Counseling was done in latent phase of labor or immediately after delivery of the baby. Out of 360 women, 164 women accepted Cu -T 380 A insertion immediately after delivery.

Inclusion Criteria

1. Age 18-45 years.
2. Gestational age ≥ 37 weeks.
3. No infection.
4. Ready for follow up.

Exclusion Criteria

1. Hemoglobin < 8 gm/dl.
2. Premature rupture of membranes > 18 hours.
3. Obstructed labor.
4. Features of chorioamnionitis.
5. Manual removal of placenta.
6. Unresolved post partum hemorrhage.
7. Distorted uterine cavity by fibroid or congenital malformation of uterus.
8. HIV/ AIDS.
9. High individual likelihood of exposure to Gonorrhoea or Chlamydia.
10. Women having extensive genital trauma.

Detailed history was taken and a systematic general, systemic and pelvic examination was

done. PPIUCD insertion done within 10 minutes of expulsion of placenta was considered postplacental, within 48 hours of delivery was considered immediate postpartum and insertion during caesarean section after delivery of placenta was considered intra-caesarean.^[2]

In cases of vaginal delivery, Cu -T 380 A was inserted within 10 minutes of expulsion of placenta in all cases, taking all aseptic precautions. Posterior vaginal wall was depressed by Sim's speculum, and anterior lip of cervix was held by ring forceps, Cu-T 380A was placed using sponge holding forceps by standard technique and fundal placement was ensured.

In caesarean section, after delivery of placenta, Cu-T 380A was placed at uterine fundus by using sponge holding forceps or manually. Strings were guided towards the lower uterine segment without disturbing fundal position of IUCD. Enough care was taken not to include IUCD strings during uterine closure.

After insertion women were informed about the IUCD side effects and normal postpartum symptoms. They were advised to report health facility, if noticed foul smelling vaginal discharge, lower abdominal pain, fever, suspicion of expulsion of IUCD or symptoms of pregnancy.

Each patient had a follow up visit at 6 weeks and again at 6 months following delivery, which include general examination, per abdomen and per speculum examination. Women who were not able to report back were followed on phone. Safety was assessed on the basis of patient's complaints. Complications such as expulsion of IUCD, pelvic infection, displacement and perforation if any were noticed.

Analysis was done with the excel computer software and results were reported as percentage.

Results

Out of 360 women fulfilling eligibility criteria for PPIUCD insertion, 164 women were ready for PPIUCD insertion. Thus acceptability rate for PPIUCD insertion was 45.55%.

Out of 164 women, 89(54.26%) women had postplacental and 75(45.73%) women had intracaesarean PPIUCD insertion.

All these women were asked to come for follow up at 6 weeks and again at 6months. Out of 164 women, 12 were lost to follow up at 6 weeks and 8 women were lost to follow up at 6 months. So, total 20 (12.19%) women were lost to follow up.

Table No 1: Demographic characteristics (n=164)

S.No.	Characteristic	Number	Percentage
1	Maternal age in years		
	<19	1	0.60
	20-24	91	55.48
	25-29	59	35.97
	30-35	9	5.48
	>35	4	2.43
2	Parity		
	1	74	45.12
	2	54	32.92
	3	28	17.07
	≥4	8	4.87
3	Education		
	No formal education	65	39.63
	Primary education	70	42.68
	Secondary education	22	13.41
	Higher secondary	7	4.26

Table 1 demonstrates the demographic characteristics of the women who accepted PPIUCD insertion. Majority of the women (55.48%) who accepted Cu-T insertion were in age group 20-25 years. Maximum acceptance was observed among para-1 and in women who had primary education.

Table No 2: Reasons for acceptance among the women included in the study

Reason for acceptance	Number of cases	Percentage
Non hormonal	15	9.14
Safe	8	4.87
Long term contraceptive effect	65	39.63
No remembrance once inserted	15	9.14
Reversible	25	15.24
No interference with breast feeding	12	7.31
No cost	24	14.63

The most common reason for acceptance of PPIUCD insertion was its long term effectiveness in 39.63% cases. 14.63% women accepted as it as PPIUCD service provision was free of cost. (Table 2)

Table No 3: Reasons for refusal among counseled

Reason for refusal	Number of cases	Percentage
Fear of complications	56	28.57
Refusal from husband/relatives	74	37.75
Need for follow up	13	6.63
Religious basis	2	1.02
Preference for another contraceptive method	21	10.71
Fear of delayed pregnancy	5	2.55
No reason	11	5.61
Lack of knowledge about PPIUCD	14	7.14

196 women did not give consent for Cu T insertion following delivery. The most common reason for decline was refusal from partner/relatives for PPIUCD insertion in 37.75% cases. 28.57% women refused because of fear of complications such as pain, bleeding, perforation of uterus etc. 7.14% women were not aware about PPIUCD. (Table 3)

Table No 4: Complications after PPIUCD insertion on follow up

Complication	At 6 weeks (n=152)		At 6 months (132)	
	Number	%	Number	%
Irregular bleeding	6	3.94	6	4.54
Menorrhagia	1	0.65	8	6.06
Pain in lower abdomen	6	3.94	8	6.06
Long strings	8	5.2	0	0.00
Strings not visible	15	9.8	1	0.75
Abnormal vaginal discharge	2	1.31	2	1.51
Expulsion	6	3.94	0	0
Uterine perforation	0	0.00	0	0
Pregnancy	0	0.00	0	0
Removal	6	3.94	8	6.06

There were 6 cases of spontaneous Cu-T expulsion. All spontaneous expulsions were found following post-placental IUCD insertion. Abnormal vaginal discharge was found in 4 cases. IUCD was removed in 14 cases. The most common reason of Cu-T removal was missing strings in 6 women. 4 women got Cu T removal due to domestic pressure. In 4 women Cu T was removed due to menorrhagia which did not respond to trenexamic acid. (Table 4)

Finally, at the end of 2nd follow up at 6 months, 124 women were continuing with Cu T in situ with no complaints. In present study continuation rate was 81.57%.

Discussion

Unintended pregnancy is a major concern in India. Postpartum period is highly vulnerable period to unintended pregnancy as there are limited contraceptive options available in the breast feeding women. Thus postpartum period is an ideal time to begin contraception.

In present study, out of 360 women fulfilling eligibility criteria for PPIUCD insertion, 164 women consented for PPIUCD insertion. Thus acceptability rate for PPIUCD insertion was 45.55%, higher than that reported by Katheit G et al (18.8%).^[4]

In present study, women who underwent Caesarean Section accepted PPIUCD more frequently than those who delivered vaginally, possibly due to fear of early conception following caesarean section which might adversely affect pregnancy outcome in their next pregnancy.

In present study, out of 164 women, 12 and 8 women were lost to follow up at 6 weeks and at 6 months, respectively. So total 20 (12.19%) women were lost to follow up, comparable to the study by Katheit G et al, where 16.12% of cases were lost to follow up.^[4] In contrast to our study, in study by Hooda et al, only 28.8% women came for follow up.^[5]

In present study, number of women who followed up after intra-caesarean PPIUCD insertion was higher than post-placental insertions. This could be because of fear of complications in intra-caesarean group, more women reported back for follow up. About 24% women were reached by phone to inquire about PPIUCD status as they were not able to reach hospital due to transportation problems or family pressure.

In present study, majority of the women (55.48%) who accepted Cu-T insertion were in age group 20-25 years. Halder et al also reported similar finding.

In present study, acceptance of PPIUCD was highest among parity 1, which was comparable with studies by Halder et al, and Neelima et al.^[6,7]

In our study, less number of women having ≥ 3

children were willing for PPIUCD insertion, as they wanted permanent methods of sterilization.

In present study, 39.63% women were illiterate, while in study by Katheit G et al, 65% clients were illiterate. This could explain the reason of higher acceptability rate in our study as compared to study by Katheit G et al.^[4]

In present study, the most common reason for acceptance of PPIUCD insertion as told by parturients in 39.63% cases was its long acting contraceptive effect. 14.63% women accepted it as PPIUCD service provision was free of cost.

In present study, 196 women did not give consent for Cu T insertion following delivery. Our study reveals that refusal from partner/relatives for PPIUCD insertion was most common (37.75%) reason for refusal. This reveals the importance of partner involvement during counseling and decision making. Unfortunately in our set up women who came for delivery were usually not accompanied by their partners. And couple counseling was not possible in short post partum period. Therefore it is important to include proper counseling of couple for PPIUCD insertion, during antenatal visits which will in turn increase the acceptance rate.

In present study, 28.57% women refused for PPIUCD insertion because of fear of complications such as pain, bleeding, perforation of uterus etc. Lack of adequate knowledge or wrong information and beliefs are common hurdles in acceptance of contraception. Fear of side effects and misconceptions are wide spread and have been the most important explanation for non acceptance of PPIUCD as contraception.

In present study, at 6 weeks follow up the most common complication was non visibility of strings in 9.8 % of cases, higher than that reported by Nayak (4.83%).^[8]

In present study, in 7 cases strings were found at cervical canal. Rest 8 cases needed ultrasonography which confirmed that the IUCD was in situ. In 7 cases, Cu T was removed as women insisted for removal. In present study, the higher cases of missing strings could be because

of the use of Cu T 380 A that has shorter strings compared to Cu 375 (multiload). The strings are not initially visible after postpartum insertion because of the short length of the strings compared to the length of the postpartum uterus. Usually the strings descend into vagina by the time of first follow up visit at 4-6 weeks. This occurrence however may be delayed and this may require additional follow up and investigation to reassure the women that it has not fallen out.

In present study, on follow up about 6% women reported with menorrhagia. In comparison to our study, in study by Hooda more women (10.5%) reported with menorrhagia, while in study by Neelima less (4.35%) women had this complain.^[5,7]

In present study, abnormal vaginal discharge was noted in 2.6% women, while in study by Neelima et al, the excessive discharge was the most common symptom in 26.09% women.^[7] The risk of upper genital tract infection among IUCD users is less than 1%. The risk is related to either insertion technique (due to lack of proper infection prevention practices) or pre-existing infection rather than to IUCD itself.^[2]

In comparison to our study, in study by Sangeetha, main complications were pain in abdomen and bleeding. [9] A major advantage of post partum IUCD insertion is that these women perceive less IUCD related irregular bleeding and cramping pain immediately after insertion. Pain is generally masked by the usual cramping associated with uterine involution postpartum ("after pains")

In present study, there were 6 cases of spontaneous Cu-T expulsion. All spontaneous expulsions were seen in post-placental PPIUCD insertion group and occurred within 6 weeks after birth. In present study expulsion rate of 3.95% was lower than that reported by Sangeetha et al (6.8%), Neelima et al (17.85%) and Katheit et al (10.5%)^[4,7,9], but was higher than that reported by Nayak^[8]. In study by Halder et al, expulsion rate was 4% in the vaginal group and 2% in intra-caesarean group, while in our study there was no

case of spontaneous expulsion in intra-cesarean group.^[6] The skilled clinicians with right technique of insertion are associated with lower expulsion rates.^[2]

In present study, most common reason for PPIUCD removal was missing threads in 7(4.6%) women. 6 women got Cu-T removal due to domestic pressure. In 4 women Cu-T was removed due to menorrhagia which did not respond to tranexamic acid. In study by Sangeetha et al, most common reason for Cu-T removal was inclination to other methods.^[9] In study by Nayak, the most common reason for Cu-T removal was bleeding problems in 39.33% cases.^[8]

In present study, no case of uterine perforation was found. Perforation of the uterus while placing a PPIUCD immediately after delivery of placenta or during cesarean section or during the first 48 hours postpartum is unlikely because of thickness of the uterine wall in postpartum period.^[2] None of the studies, as per literature search, have reported uterine perforation after PPIUCD insertion.

In present study, there were no cases of unintended pregnancy. Other studies also reported similar finding.^[4,5,6,]

Finally at the end of 2nd follow up at 6 months, 124 women were continuing with Cu-T in situ with no complaints. In present study continuation rate was 81.57%. We assumed that women who were lost to follow up must have visited nearby health facility or they did not develop any significant complaint following PPIUCD insertion.

Conclusion

Post-partum Cu-T 380A intrauterine contraceptive device (IUCD) insertion is an effective, safe and convenient method of contraception with very few side effects and no major complications.

PPIUCD meet the reproductive needs of women who want to space future pregnancies as well as those who have completed their family size and wish to limit future pregnancies. It can reduce the proportion of unintended pregnancies and

abortions. There is a need to increase in level of awareness in the community by means of health education and antenatal counseling which will increase its acceptance.

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