



EVALUATION OF SAFETY, EFFICACY AND COMPLICATIONS OF POSTPARTUM IUCD IN A TERTIARY INSTITUTE

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ABSTRACT **Background:** For most women, including women who want to have children, contraception is not an option; it is a basic health care necessity.

Aims and objectives: To assess the efficacy and feasibility of IUD (CuT 380-A) insertion immediately after delivery of placenta and to assess the post-insertion side-effects, complications & expulsion rate.

Materials and methods: A study was conducted over a period of 2 years in a tertiary care institute in Mumbai. Open label, prospective, and longitudinal study. Postpartum IUCD was inserted as per the inclusion and exclusion criteria. Out of 451 women inserted with PPIUCD, 142 were intracerebral insertions. These patients were followed up at 6 weeks.

Results: New advances and new understanding about PPIUCD led it to be safe and effective and with good retention rates; serves as useful method for family planning. There was no incidence of failure, perforation or PID. There was absolutely no complaints in 44.8%. expulsion rate was 2.4%. It necessitated removal only in 13.1%.

Conclusion: PPIUCD is a right choice, when inserted with right technique, right instrument, right time. Expulsion rate minimal if correct insertion technique and with trained hands.

KEYWORDS : PPIUCD, postpartum, contraception, complications

INTRODUCTION

Population issues are vital component of policy discussion on social and economic development. They encompass a broad sense of concern that range from questions of design of appropriate intervention to lessen fertility, improve the health of mother and children, encourage better birth spacing, and reduce population growth (Sanderson, 1993).

Family planning is important not only for population stabilization, but it has been increasingly realized that family planning is central to improve maternal and newborn survival and health. Even though, India has made considerable progress in reducing maternal mortality ratio, it still contributes 20% of maternal deaths worldwide, according to a 2012 report of World Bank, UNFPA, WHO. Family planning can avert more than 30% of maternal deaths and 10% of child mortality if couples spaced their pregnancies more than 2 years apart (Cleland J et al, 2006. Lancet).

Another shift is the renewed emphasis on spacing methods of family planning. 61 % of births in India occur at intervals that are shorter than the recommended birth to birth interval of 36 months (27 % of births occur within 24 months after a previous birth, and 34 % of births occur between 24 and 35 months). Only 26 % of women are using any method of family planning during the first year post-partum.¹ Hence, the issue of spacing may be addressed during post-partum period by intrauterine contraceptive device.

Significantly increased institutional deliveries in India provides an opportune time for offering family planning services to the women, who have just delivered at health facilities and want to prevent unintended pregnancies or delay having more children. Moreover, unmet need for family planning is very high in the postpartum period.

The intrauterine contraceptive device (IUCD) is considered one of the most reliable, inexpensive, non- hormonal and reversible contraceptive methods suitable for a lactating mother because it has no negative effects on lactation and may in fact increase its duration in some women and does not affect the quality of the breast milk.² Nowadays, postpartum IUCD (PPIUCD) has been established as an effective and reliable method of contraception as it offers numerous advantages: ease of insertion, minimal adverse impacts on breast-

feeding, cost-effectiveness, relief of overcrowded outpatient facilities and protection against unwanted pregnancy and consequent abortion.³ In addition, insertion complaints and cramping are masked with the involution of uterus in puerperium.

A 2010 Cochrane review concluded that PPIUCDs were a safe and effective contraceptive method. The public health benefits from PPIUCDs stemmed from the women's increased accessibility to PPIUCDs following facility births, as PPIUCDs could be offered at health facilities after childbirth. This, in turn, decreased opportunity and other costs incurred by clients who may otherwise have to return to facilities to access contraceptive services.⁴

AIMS AND OBJECTIVES

To assess the efficacy and feasibility of IUD (CuT 380-A) insertion immediately after delivery of placenta and to assess the post-insertion side-effects, complications & expulsion rate.

MATERIALS AND METHODS

A study was conducted over a period of 2 years from April 2015 to March 2017 in Lokamanya Tilak Municipal Medical College and General Hospital, a tertiary care hospital in Mumbai. This was an open label, prospective, and longitudinal study.

INCLUSION CRITERIA:

1. Any normal, full-term vaginal delivery eligible for PPIUCD.
2. Any FTLSCS with no other medical contraindications.

EXCLUSION CRITERIA:

- Assessment during ANC period -
- Distorted uterine cavity (uterine septum, fibroid uterus, etc.)
 - Acute purulent discharge.
 - Malignant or benign trophoblastic disease
 - Suffering from AIDS and neither clinically well nor on antiretroviral therapy

During Labour

- Chorioamnionitis
- PROM > 18 Hrs
- Unresolved postpartum hemorrhage

The mothers were counselled about the benefits and complications of IUCD and other available methods of contraception during ANC visits. Women were again motivated and counselled during the perinatal period. An informed consent was taken and CuT380A was placed high up in the fundus immediately after vaginal delivery by long Kelly's forceps in the lithotomy position (post placental insertion). In those undergoing LSCS, IUCD were placed high up at the fundus manually holding the IUCD in hand between middle and index fingers of the hand and passed through the uterine incision followed by slow withdrawal of hand. Strings were pointed towards the cervical canal but not pushed into the canal to avoid infection by vaginal flora and displacement of IUCD. Patients were explained about the warning symptoms and frequency of follow up visits. The patients with postpartum intrauterine contraceptive device insertion were followed up at 6 weeks.

RESULTS

In our study period women were counselled for PPIUCD insertion during ANC visits and during perinatal period. A total of 23,276 women delivered during the study, out of which 451 opted for postpartum IUCD insertion, the acceptance rate was 1.9%. The low acceptability rate is because of factors like familial pressure, fear of complications and the availability of other simpler, noninvasive, easily available contraceptives like oral pills and injectable contraceptives. 305 cases (67.6%) underwent post placental insertion, 5 cases (0.9%) had immediate postpartum insertion and 142 cases (31.5%) had intra cesarean insertion.

Table 1: Types of PPIUCD insertion

Type of insertion	No of women N=451	% of women
Post-placental	305	67.6
Immediate post-partum	4	0.9
Intra cesarean	142	31.5

Table (2) displays the profile of women accepting PPIUCD. Majority of women were in the age group of 20-25 yrs (42.1%) as the requirement of spacing was high in this age group followed by those in the age group of 25-30yrs. PPIUCD was preferred more by those women who had two living children (54.3%) followed by those with more than two living children (26.6%). Literates preferred more (60.3%) than illiterates (39.7%).

TABLE 2: Profile of women accepting PPIUCD insertion

VARIABLE	NO. OF PPIUCD INSERTED N = 451	% OF INSERTION
AGE (YRS)		
<20 yrs	23	5.1%
20-25 yrs	190	42.1%
25-30 yrs	148	32.8%
>30 yrs	90	19.9%
NO OF LIVING CHILDREN		
1	86	19.1%
2	245	54.3%
>2	120	26.6%
RELIGION		
Hindu	249	55.2%
Muslim	196	43.4%
Christian	6	1.3%
LITERACY		
Literate	272	60.3%
Illiterate	179	39.7%

Table (3) shows the follow up details of women, 51.8% women followed up on stipulated date while 32.3% required reminders and telephonic intimation. 8.6% of women followed earlier than advised due to side effects or complications arised out of the device while 7.1% were lost to follow up.

TABLE 3: FOLLOW UPDETAILS

F0llow up	NO. OF WOMEN (N=451)	% OF WOMEN
Scheduled follow up	234	51.8%

Follow up after reminders and calls	146	32.3%
Early follow up	39	8.6%
No follow up	32	7.1%

Table (4) shows position of Cu T during follow up visits. In 78.7% women Cu T threads were seen while 10.5% women required USG to confirm intra uterine placement as there were missing of threads. 8.3% were partially expelled which required removal while in 2.3% women, the device was already expelled.

TABLE 4: POSITION OF Cu T

Position of Cu T	No of pts(n=419)	% of pts
In situ	328	78.7
Confirmed on USG	35	10.5
Partial expulsion	35	8.3
Complete expulsion	10	2.3

Table (5) shows complications of women with IUCD insertion. 44.8% women had no complaints while major complaint was abdominal pain in 15.9% followed by bleeding in 12.8% and 13.1% got their IUCD removed. Infection occurred only in 1 case which required removal and treatment with antibiotics. There was no case of perforation or reported pregnancy in our study.

TABLE 5: COMPLICATIONS WITH IUCD

COMPLICATIONS	NO. OF WOMEN N=419	% OF WOMEN
Expulsion	10	2.4%
Infection	1	0.2%
Missing strings	44	10.5%
Bleeding	54	12.8%
Abdominal pain	67	15.9%
Removal	55	13.1%
Perforation	0	0
NO COMPLAINTS	188	44.8%

Table (6) shows the reason for removal in 55 cases (13.1%) in the study. Most common cause being partial expulsion in 35 cases (63.5%) as IUCD removal in the management in this case. 14 cases (25.4%) required removal for abdominal pain though 67 cases in the study came up with this complaint. 5 cases (9.1%) required removal for problems related to menstruation which was not effectively controlled with medical management or because the patient was not willing to continue medical management. 1 case (1.8%) had infection which required removal and treatment with antibiotics.

TABLE 6: REASON FOR REMOVAL

Cause	No of pts(n=55)	% of pts
Bleeding	5	9.1
Pain	14	25.4
Partial expulsion	35	63.6
Infection	1	1.8

DISCUSSION

The acceptance of PPIUCD was high among those with two living children, that is 54.3% and it was 26.6% in those with more than two living children which is because those with more than two living children opted permanent sterilization than those with two children who still had the desire for another child. Acceptance rate among primipara was less, that is 19.1% which is because of inhibition and discouragement by the family members as our major study population was those from low socioeconomic strata.

In our study 234 cases (51.8%) reported for follow up. 146 cases (32.3%) required reminder calls. 39 cases (8.6%) followed up early due to some complications arising out of it. 32 cases (7.1%) never followed up.

Lost to follow up rate in our study was low (7.1%) compared to other studies. In a multicentric study in India of 2,733 women, Kumar *et al* reported a follow-up rate of 63.3% though they did not mentioned the type of health-care facilities included in their study.5 In the study done in district hospital of Bolangir, Odisha, Mishra reported 23% women being lost to follow-up.6 Similarly, a lost to follow-up of 21.4% was reported by Shukla *et al* in their study done in a medical college in Uttar

Pradesh.⁷ Thus, our follow-up rate was higher since the study being conducted in a tertiary care institute which has frequent follow up OPD's and medical personnel to address the issues.

In all studied women, 45 had expulsion of IUD and the cumulative expulsion rate at the end of 6 months was 10.6 percent. Timing of insertion, counseling and provider training are important factors for IUD insertion in post-partum period as quoted in United Nations Population Information Network (UN-POPIN) report. Of these, the timing of insertion is important as it influences the risk of expulsion. Ideally post-partum insertion should take place within 10 min of placental delivery (post-placental application) or later till 48 h of delivery. The risk of expulsion is higher if inserted after 48 h of delivery.¹ In the present study, IUD was inserted post-placentally in women delivering by caesarean section or vaginally (within 10 min of delivery of placenta) and immediate postpartum (with in 48hrs). Four multisite studies in UN-POPIN report found that after six months, the cumulative expulsion rate was 9 per cent for immediate post-placental insertion compared with 37 per cent for insertions done between 24 to 48 h after delivery.³ A study conducted in India on 115 women undergoing IUD insertion within first 10 days post-partum reported high rate of expulsion; 67 per cent of cases retained IUD, 4.3 per cent of cases had IUD slid in cervical canal and 6.1 per cent women had complete expulsion of IUD. Another Indian study conducted on 168 women reported 16.4 per cent as IUD expulsion rate in women undergoing post-puerperal IUD insertion. As the insertion was done in post-puerperal period, the expulsion rate was higher in this study as compared to the present study. Another study by Celen et al in 2003 had 11.3 per cent cumulative expulsion rate for CuT 300B.⁹

There were 10.5% of cases with missing strings which is low compared to studies by Kittur S. et al - 24.76%, Gunjan Goswami et al-20% missing strings.⁸ USG was done for all the cases of missing IUCD strings and IUCD was found to be in situ in all of them. At 6 months follow up, in most these patients with missing strings, strings were visible. Strings were found to be coiled up in the cervix 44.8% of women had no complaints post insertion. Pain abdomen and bleeding were the most common complications reported. Abdominal pain was reported by 15.9% women and bleeding by 12.8% which settled after treatment with NSAIDS. Only one case reported infection which required removal and treatment with antibiotics.

Out of 419 patients who followed up, 55 cases (13.1%) required removal, most common cause being partial expulsion in 35 cases (63.6%) followed by pain abdomen in 14 cases (25.4%) and bleeding in 5 cases (9.1%). Infection required removal in 1 case (1.8%).

There were no cases of perforation or misplaced IUD in the present study. Global health technical briefs on immediate post-partum insertion safety and efficacy said that there are a few reports addressing the relative safety of immediate post-partum insertion. A multisite trial found no instances of perforation or infection due to post-partum IUD. As the present study had small number of patients; it does not accurately reflect the incidence of the rare event of perforation or misplaced IUD.

CONCLUSION:

Immediate post-partum insertion of IUDs appeared safe and effective, method of contraception. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. The method may be particularly beneficial in the setting where women do not come for postnatal contraception counselling and usage. Though the expulsion rates appear to be higher than with interval insertion, it addresses the unmet need of family planning. Expulsion rate is reduced if correct insertion technique with trained hands is followed. PPIUCD is a right choice, when inserted with right technique, right instrument, right time.

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