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Follow Up & Outcome Assessment in Patients with Postpartum IUCD Insertion for Birth Control

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ABSTRACT

Introduction: India is world's 2nd largest populated country. It is first to introduce family planning services. IUCD is most effective, safe, long acting and do not interfere with coitus. Postpartum intrauterine contraceptive device (PPIUCD) is a lucrative postpartum family planning method which provides effective reversible contraception to women in the delivery setting. Our aim is to study the clinical outcomes of PPIUCD insertions and compare them as a factor of route of insertion (vaginal versus caesarean).

Method: This is a prospective analytical study done in a tertiary care teaching institute. A total of 180 vaginal and caesarean deliveries with PPIUCD insertions, over 8 months period, was studied and compared for follow-up results. Outcome measures were safety (perforation, irregular bleeding, unusual vaginal discharge, and infection), efficacy (pregnancy, expulsions, and discontinuations), and incidence of undescended IUCD strings.

Results: Overall complication rates were low. No case of perforation or pregnancy was reported. Spontaneous expulsions were present in 4.4% cases and were significantly higher in vaginal insertions. The incidence of undescended strings was high (30%), with highly significant difference between both groups.

Conclusion: PPIUCD is a strong weapon in the family planning armory and should be encouraged in both vaginal and caesarean deliveries. Early follow-up should be encouraged to detect expulsions and tackle common problems.

Key words: contraception, IUCD, postpartum.

INTRODUCTION

Intrauterine contraceptive devices (IUCDs) have been used by women in India for long time for family planing. In many of the health facilities, it is being provided to women in the immediate postpartum period. Taking advantage of the immediate postpartum period for counselling on family planning and IUCD insertion, overcomes multiple barriers to service provision. The increased number of deliveries in institution provides opportunity to offer women easy access to immediate PPIUCD services.

In a study of postpartum unintended pregnancies, about 86% resulted because of no use of any method of contraception and 88% ended in induced abortions[1]. Continuation of these pregnancies can also cause greater maternal complications and adverse perinatal outcomes. In India, 65% of women within first year after delivery have an unmet need for family planning[2]. Hence, providing contraception in this sensitive period is vital.

Studies were found that conceiving within two years leads to adverse events like abortion, premature labour, postpartum haemorrhage, low birth

weight babies, fetal loss sometimes maternal deaths[3].

In developing countries like India, many of the women do not return for even a routine check-up postpartum mostly due to lack of education and awareness. So, it is vital to counsel them for immediate postpartum contraception, of which PPIUCD insertion remains one of the main and safest forms of immediate postpartum contraception.

It contributes to 'PPIUCD programme' and 'National population stabilization programme', helps to reduce maternal and child morbidity and mortality by avoiding complications of short birth to birth interval specially following a caesarean section. Another point to note is that due to stress, pain and exhaustion of labour, women are more likely to get convinced for IUCD in immediate postpartum period rather than later. Thus, proper councelling at the immediate postpartum period regarding contraception is necessary.

PPIUCD offers certain well evident advantages. It is readily available for women who deliver at health care facilities and with to either space or limit subsequent pregnancies. Secondly, IUCD has no effect on quantity or quality of breastmilk and it is as effective as tubal ligation in providing contraceptive protection. It is effective for 5 years (Cu375) or 10 years (Cu380A), but if the woman desires, she can get it removed anytime.

Insertion after delivery avoids the discomfort related to interval insertion, and some of the post-insertion side effects are masked by normal postpartum events (e.g. postpartum bleeding and cramps).

Cochrane reviews provide evidence of safety and feasibility of postpartum IUCD (PPIUCD) insertions in various settings[3,4]. However, many studies have reported high expulsion rates of PPIUCD (10.4–16.4%)[5-8]. Most of the studies published were carried out more than a decade ago. Since then various measures have been tried to decrease expulsion rates and improve PPIUCD acceptance. PPIUCD insertions through different routes (vaginal or caesarean) have different outcomes at follow-up. This helped us to analyze the PPIUCD insertions at our institute.

MATERIAL AND METHODS

Postpartum IUCD (PPIUCD) insertions (within 10 mins to 48 hours after delivery) at L.G. Hospital, Ahmedabad were studied. Follow-up clinic visits of women who reported for examination after 6 weeks of PPIUCD insertion at our institute were analyzed. All patients of PPIUCD insertions were given proper antibiotic coverage.

Inclusion criteria: PPIUCD insertion in Postplacental, Intra-caesarean and Within 48 hours after delivery were included in the study. In Postplacental, insertion was within 10 minutes after expulsion of the placenta following a vaginal delivery on the same delivery table. In Intra-caesarean, insertion took place during a caesarean delivery, after removal of the placenta and before closure of the uterine incision. In Within 48 hours after delivery cases insertion was within 48 hours of delivery and prior to discharge from the postpartum ward.

Exclusion criteria: Women in whom IUCD inserted from 48 hours to 6 weeks postpartum as there is increased risk of infection and expulsion were excluded. Women suffering from anemia and coagulation disorders were also excluded. Women suffering from any active complications postpartum such as postpartum haemorrhage or infection or septicaemia were also excluded.

Women were counselled during antenatal visits or during early labor and a written informed consent was taken prior to insertions. Counselling of women was done during their visits in antenatal opd or during labour. A written informed consent was taken prior to insertions in all patients.

The IUCD used was CuT-380 A, which is available at free of cost in the Government Program. This was placed in uterine fundus with the help of sterile ring forceps or sponge holding forceps for vaginal insertions, within 10 minutes of removal of placenta.

During caesarean section ring forceps were used to place the IUCD in fundus of uterus through the lower segment incision which was closed subsequently as routine.

The IUCD strings were not trimmed in both types of insertions and left in uterine cavity. Active management of third stage of labour was performed as necessary. All PPIUCD insertions were done by trained doctors. After insertion, proper counselling was done and women were advised to follow-up for examination at our centre after 15 days and after 6 weeks.

At the follow-up visit, the women were asked and examined for any symptoms such as Irregular bleeding per vaginum, Any expulsion or descent of IUCD, Unusual vaginal discharge or any other signs of infection or bleeding.

If IUCD strings were not visible on per speculum examination, an ultrasonography was performed to check for expulsions and confirm presence of intrauterine IUCD. If the women requested removal of IUCD for any medical or personal reason, she was counselled and intrauterine device was removed if necessary. Women were offered reinser-

tion of IUCD or alternative methods of contraception in case of expulsions/removals.

Government of India approved the program of Immediate Postpartum IUCD insertion in 2010. Since then PPIUCD insertions have become a part of routine curriculum at our institute.

RESULTS

A total of 180 immediate postpartum IUCD insertions were studied. Out of these 148 (82.2%) insertions were intra-caesarean and 32 (17.8%) IUCDs were placed after vaginal delivery.

Tables 1 to 4 summarize the outcomes at follow-up visits of all PPIUCD insertions. There was no case of uterine perforation or unplanned pregnancy.

27 women experienced some unusual vaginal discharge on follow up visits, however only 5 of them had some sort of infection, rest of the patients had normal leucorrhoea. 15 patients had some complain of irregular bleeding accounting for 8.3% of total patients. There was not a single case of uterine perforation.

Most common problem seen in PPIUCD patients were undescended IUCD strings (30%), which was seen mostly with intra-caesarean IUCD insertion. 8 patients (4.4%) experienced expulsion of IUCD, 10 patients wanted discontinuation of IUCD. There was no case of pregnancy due to IUCD failure.

Around 10 patients of vaginal PPIUCD had some unusual vaginal discharge, out of which only one had infection. Irregular bleeding was experienced by 11 patients of intra-caesarean IUCD insertion and 4 of vaginal PPIUCD insertion. No cases of uterine perforation were noted.

There were 8 cases of spontaneous expulsion of IUCD, one expulsion was partial expulsion, removal was done on patient's request. Women with IUCD inserted after vaginal delivery had significantly higher expulsion rate as compared to intra-caesarean IUCDs.

IUCD removal was done on request of the women for medical/personal reasons leading to discontinuation in 10 cases (5.6%).

IUCD strings had not descended into vagina in 30% cases at clinical examination done at follow-up visits (the cases of spontaneous expulsions were excluded). All women with undescended strings underwent ultrasonographic confirmation of intrauterine placement of the device. 33.8% of the intra-caesarean insertions presented with undescended strings at follow-up as compared to 12.5% insertions after vaginal delivery. This difference was highly significant statistically.

Table 1: Assessment of Safety of PPIUCD

Complications	Cases (%) (n = 180)
Perforation	0 (0)
Unusual vaginal discharge	27 (15)
Infection	5 (2.8)
Irregular bleeding	15 (8.3)

Table 2: Assessment of Efficacy of PPIUCD

Complication	Cases (%) (n = 180)
Pregnancy	0 (0)
Expulsion	8 (4.4)
Discontinuation	10 (5.6)
Undescended IUCD strings	54 (30)

Table 3: Comparison of safety:

Variables	Vaginal	Caesarean	Total (%)
Perforation	0	0	0 (0)
Unusual vaginal discharge	10	17	27 (15)
Infection	1	4	5 (2.7)
Irregular bleeding per vaginum	4	11	15 (8.3)

Table 4: Comparison of Efficacy

Variables	Vaginal	Caesarean	Total
Pregnancy	0	0	0 (0)
Expulsion	6	2	8 (4.4)
Discontinuation	3	7	10(5.5)
Undescended IUCD strings	4	50	54 (30)

DISCUSSION

Govt of India and Ministry of Health and Family Welfare, in 2010 revived postpartum IUCD insertion leading to conscious efforts to provide the benefits of this long-term and reversible method of postpartum contraception[9].

The number of women accepting PPIUCD insertion were higher in cases of caesarean section and following up after intra-caesarean insertions was also higher than postpartum vaginal insertions, although this difference was not statistically significant. It appears that women undergoing caesarean delivery are more compliant with complications of unwanted pregnancies and follow-up visits probably for fear of any postpartum complications.

Amongst the women studied at follow-up, no case of uterine perforation was observed.

Women with intra-caesarean IUCD insertion seem to be more apprehensive regarding symptoms of discharge, having undergone a surgical procedure. A multicentric study of follow up from India reported an overall infection rate of 4.5% among PPIUCD insertions[9]. In women reporting symptoms of unusual vaginal discharge, actual infection was present in only 2.8% cases on clinical examina-

tion. It is common that some women report increased vaginal discharge with the IUCD, which is usually normal leucorrhoea and not a sign of infection[11]. Welkovic et al. compared infection rates among women with postpartum IUCD and women without IUCD and found no difference[12]. Many studies have found no incidence of infection after PPIUCD insertion[5,13,14].

The route of insertion did not influence the symptom of irregular bleeding per vaginum. The main complains of women were of excessive bleeding and were treated accordingly with Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) and haematinics. Other studies using CuT-380 A have reported IUCD removal due to bleeding/pain as 6% to 8%[10,13]. Gupta et al. observed bleeding in 4.3% PPIUCD cases which used CuT-380-A[14]. Possible explanation for different rates of bleeding problems is because of the difference in types of IUCD used for PPIUCD insertion.

In the present study, a lesser number of spontaneous IUCD expulsions were observed as compared to other studies. Çelen et al. reported expulsion rates of 12.6% and 17.6% in two different studies of PPIUCD insertions[6,13]. In a recent study by Kittur and Kabadi, using similar technique and timing (within 10 minutes of placental delivery) of PPIUCD (CuT-380 A), as in our study, and also trained providers resulted in similar expulsions (4.4%) as in the present study[10]. Timing of IUCD insertion is an important determinant of expulsions. UN-POPIN report stated that 6-month cumulative expulsion rate was 9% for immediate postpartum insertions (within 10 minutes) compared with 37% for insertions between 24 and 48 hours after delivery[15].

The expulsions were significantly higher in postpartum IUCD insertions after vaginal deliveries as compared to caesarean insertions. Our study shows lower expulsion rates (4.4%) as compared to study by Çelen et al. (5.3%) for intra-caesarean IUCD insertions at 6 weeks of follow-up[13]. Gupta et al. also reported lower expulsions after intra-caesarean insertions[14]. This difference was also observed in a recent systematic review of PPIUCD insertions[16]. Letti Müller et al. studied expulsion rates of immediate postpartum CuT-380 A insertion by transvaginal sonography and found statistically significant higher expulsions in vaginal insertions than caesarean insertions[17].

In the present study, we have IUCD continuation rate of 90%. In the absence of PPIUCD insertions, these women would have left the hospital premises without effective postpartum contraception.

One of the main observations at follow-up was that of undescended IUCD strings, around 30% of women had undescended strings on follow up in our study, this might be due to higher number of cases of intra-caesarean IUCD insertion. Confirmation of IUCD by ultrasound at follow up after 6 weeks is important to reassure the woman the encourage them to continue with the device.

CONCLUSION

Postpartum IUCD insertion is a very safe and effective measure of contraception in both caesarean and vaginal deliveries. Effective implementation of PPIUCD program requires intensive counselling. Hiring and training of dedicated counsellors is an important strategy for reducing both maternal and early childhood complication rates.

At facility level, proper counselling should be done during ANC, during labor and before discharge from the postpartum ward. Early and regular follow-up examinations are important to identify spontaneous expulsions and provide alternative contraceptives or IUCD reinsertions.

Thus, proper counselling and implementation of this method of contraception can be a useful tool for the purpose of family planning and reducing maternal and neonatal morbidity and mortality.

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