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# AN EXPERIENCE OF POSTPARTUM INTRAUTERINE CONTRACEPTIVE DEVICE BY WOMEN – A PROSPECTIVE FOLLOW UP STUDY


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**ABSTRACT**

**Background:** Study was done to assess the safety, efficacy, complications and acceptance of PPIUCD. Methods: 673 enrolled women were divided into two groups. Cu-T 380 A was inserted in both the groups. Postplacental group included 271 cases and Intracaesarean group 402 cases. There were three follow up visits - at 6 weeks, after 3 months and at 6 months postpartum.

**Results:** The continuation rate was 82.28% in postplacental group and 89.8% in intracaesarean group. Most common complication was expulsion in both the group. Intracaesarean insertion group was having missing thread as second most common complication while bleeding p/v was in postplacental group. Cause of removal was mainly bleeding 9(64.26%) in Intracaesarean group and pain in lower abdomen 8(32%) in Postplacental group.

**Conclusions:** Insertion of Cu T immediately following delivery is an effective, safe, convenient, low cost and long term method of postpartum contraception irrespective of the mode of delivery.


**KEYWORDS** : Cu-T, Intruterine Contraceptive Device, Postpartum Intruterine Contraceptive Device, Postplacental, Intracaesaresn

## INTRODUCTION:

India being the second most populous country in the world represents almost 17.31% of the world's population. Postpartum period is a sensitive time of woman's life when she is in contact with health care facility. Traditionally, copper T insertion was limited to interval period. Studies on postpartum contraceptive methods have suggested the use of copper T in postpartum period which can provide long term and effective contraception with failure rate of <1% and does not require constant supervision. The Ministry of Health and Family Welfare, Govt. of India introduced PPIUCD service in 19 states of India in 2010, in collaboration with Jhpiego, India [1]. The majority of IUCD users, world wide- 60% or almost 92 million-live in China. Among developed countries, the IUCD is the most popular method in Eastern Europe, Central Asia and, Finland and Norway. In India 65% of women in the first year postpartum have an unmet need for family planning, out of which only 26% of woman are using any method of contraception. 21% of all pregnancies that resulted in live births nationally are unplanned (mistimed or unwanted). The increasing number of institutional deliveries in India (41%) can provide a unique opportunity for postpartum copper T insertion. Increasing use of copper T 380A can gradually replace female sterilization which carries operative and anaesthetic risks. Hence immediate postpartum IUCD insertion can be considered a safe and an effective method of birth control and spacing.However, there is a continuing debate about the safety and efficacy of post placental IUCD insertion as there is theoretically higher risk of perforation of softened walls of postpartum uterus9, higher risk of expulsion associated with involution of uterus and higher risk of infection due to lochia.

Postpartum IUCD (PPIUCD) insertion can be done postplacental that is within 10 mins of placental expulsion, intra caesarean at the time of caesarean section or within 48 h of delivery after proper consent. It does not interfere with lactation and chances of perforation are almost nil due to thick walled uterus. Common menstrual abnormalities do not occur as many women as such have amenorrhoea or oligomenorrhoea during lactation period. The expulsion rates would be minimal if it was inserted by a trained provider and placed at the fundus. It is not only advantageous to the women and couples even the service providers benefit from PPIUCD, time is saved as it is performed on the same delivery table. Additional evaluation and separate clinical procedure is not required. A special instrument (Kelly's forceps) may be required for its insertion.

Acceptance and continuation of IUCD can be increased by education and counselling. In the developing countries, delivery may be the only time when a healthy woman comes into contact with health care providers and the chances of returning for contraceptive advice are uncertain.(Eroglu et al)[2].

The objective of the study was to know the safety, efficacy, complications and acceptance of PPIUCD.

**METHODS:** The prospective observational study was done in 800 women attending OPD and IPD, in department of Obstetrics and Gynecology, Swaroop Rani Hospital M.L.N Medical College, KNM Hospital and Dufferin Hospital, Allahabad, over a period of 18 months (2015- 2017). After counselling of 800 women for postpartum contraception 673 women accepted the PPIUCD method of contraception. Subjects were divided into two groups. Postplacental or within 10 minutes after delivery group included 271 cases and Intracaesarean group 402 cases. Contraindications for PPIUCD were:- between 48hours and 6 weeks post-partum, chorioaminionitis, prolonged rupture of membranes > 18 hours, unresolved PPH and puerperal sepsis.There were three follow up visits - 1st at 6 weeks postpartum, 2nd after 3 months and 3rd at 6 months.

Intracaesarean Insertion Technique: With Aseptic precautions IUCD was held in between the middle and index fingers of the hand or in ring forceps and was passed through the uterine incision. After placing at fundus the hand was slowly withdrawn, noting whether the IUCD remains properly placed. The strings was pointed towards the cervix was NOT pushed through the cervical canal.

Post-Placental Insertion: The patient was placed in a lithotomy position with buttocks at the edge of the table. With aseptic techniques perineum was cleaned with povidone iodine. The perineum, labia, and vaginal walls were inspected for lacerations. Sim's speculum was gently inserted into the vagina and cervix was cleaned twice with cotton swabs soaked in povidone iodine solution. The anterior lip of the cervix was then gently grasped with the ring forceps. The IUCD was removed from the insertion sleeve and grasped with the modified Kelley forceps using no-touch technique. Once it is inserted into lower uterine segment. Other hand was moved to abdomen; and placed over the fundus and uterus was pushed gently upward to reduce the angle and curvature between the uterus and vagina. IUCD with forceps was moved upward until it can be felt at the fundus. Then the forceps were opened to release the IUCD and swept to side wall. The cervical os was then gently inspected for the strings. Sims speculum was removed. Women were asked to report if any of the following sign: foul smelling lochia, excessive bleeding, lower abdominal pain, fever, myalgia, body ache and in case of expulsion. Primary outcome was recorded in follow up that is acceptability rate, visibility of strings and expulsion.

**Methods for statistical analysis:** Chi square test, percentages and test of proportion

**Table 1:- Demographic Variables**

| Variable | Postplacental Group (N=271) | Intracaesarean Group (N=402) |
|---|---|---|
| Age (Years) | 27.6 ± 2.8 | 26.9 ± 3.1 |
| Literate | 70.7% | 80% |
| Housewives | 52.78% | 51.51% |
| Urban Dwellers | 77.41% | 78.78% |

**Table 2: Reasons for acceptance of PPIUCD amongs the parturients**

| Reason For Acceptance | No. of patients (N=673) | Percentage |
|---|---|---|
| Long term | 86 | 12.72 |
| safe | 126 | 18.18 |
| Fewer clinical visits | 22 | 3.2 |
| No influence in breast feeding | 190 | 28.18 |
| Non-hormonal | 24 | 3.6 |
| One time procedure | 562 | 83.63 |
| Belief in doctor | 526 | 78.18 |
| reversible | 452 | 67.27 |

**Table 3: Continuation rate of PPIUCD at 6 months**

| At 6 Months | Women Followed Up | Total Women With Expulsion | | women who got Cu-T removed | | Women Who Continued | |
|---|---|---|---|---|---|---|---|
| | | No. | % | No. | % | No. | % |
| Postplacental group (N=271) | 271 | 23 | 8.41 | 25 | 9.22 | 223 | 82.28 |
| Intracaesarean group (N=402) | 402 | 27 | 6.71 | 14 | 3.48 | 361 | 89.8 |

**Table 4: Complications after IUCD Insertion**

| Clinical Presentation at follow up | postplacental Group (n=271) | | Intracaesarean Group(n=402) | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Bleeding P/V | 21 | 7.9 | 11 | 2.7 |
| Discharge P/V | 16 | 5.8 | 11 | 2.7 |
| Pain in Lower Abdomen | 8 | 2.9 | 5 | 1.3 |
| PID | 0 | 0 | 0 | 0 |
| Missing Thread | 6 | 2.2 | 21 | 5.3 |
| Expulsion | 23 | 8.5 | 27 | 6.96 |
| total | 74 | 27.30 | 75 | 18.65 |

**Table 5: Causes of removal of IUCD over a period of 6 months**

| Cause of Removal | postplacental Group (N=25) | | intracaesarean Group (N=14) | |
|---|---|---|---|---|
| | No. | % | No. | % |
| Bleeding P/V | 5 | 20 | 9 | 64.26 |
| Discharge P/V | 4 | 16 | 0 | 0 |
| Pain in lower abdomen | 8 | 32 | 2 | 14.28 |
| For Conception | 3 | 12 | 2 | 14.28 |
| Other Contraceptive Method | 2 | 8 | 0 | |
| Social Factor | 3 | 24 | 1 | 7.14 |

## RESULTS

The cases were divided into 2 groups postplacental and intracaesarean. The differences between both the groups, regarding age distribution , habitat , parity , education was found to be stastically insignificant. Mean age of postplacental group was 27.6±2.8 yrs and 26.9±3.1 yrs in intracaesarean group (Table 1). Table 2 showing different reasons for acceptance of ppiucd amongst parturients. Most common reason was one time procedure (83.63%) while faith in doctor (78.18.) was second one. Othe reasons were for acceptance were as ppiucd is reversible (67.27%), safe (18.18%) and long term (12.72) effective.

The continuation rate in our study was 82.28% in postplacental group and 89.8% in intracaesarean group (Table 3). Complications occurred in 18.65% (75) cases after intracaesarean, while after Postplacental insertion complications occurred in 27.3% (74) cases. Most common complication was expulsion in both the group. Intracaesarean insertion group was having missing thread as second most common complication while bleeding p/v was in postplacental group. Expulsion rate was significantly higher in postplacental as compared to intracaesarean insertions (6.96% v/s 2.2%; p value< 0.05). PID as a complication was not present in any group (Table 4). Cause of removal was mainly bleeding 9 (64.26%) in intracaesarean group which was higher as compared to postplacental group 5(20%). IUCDs were removed because of pain in lower abdomen in most of women 8(32 %) with Postplacental group (Table 5).

## DISCUSSION

Healthy timing and spacing of pregnancies have a positive effect on maternal health and new born outcomes [3]. This finding in the study indicates towards a positive maternal health in future. It is free from systemic side effects and does not affect breast feeding as seen with hormonal methods. It is a reversible method. PPIUCD does not require regular user compliance. It is also not coital dependent and there is no pain on insertion when used post-placentally.

In present study, the mean age of women in intracaesarean group was 26.69± 3.1yrs and postplacental group was 27.6± 2.8 yrs, thus both groups are matched to age and constitute a younger age group. Women of younger age group are more easily counselled as even they are looking for an effective method of contraception after child birth . Other studies also showed similar results like the mean age of women in post placental copper T insertion group was 24.5 years in the study done by Xu et al [4] and 23.4 years in the study conducted by Morrison et al [5], 24.7 years in the study conducted by Celen et al [6] and 23.12 ± 2.42 years in the study by Singal S et al [7] in, all of them being a young age group.

In present study, no case of perforation occurred. The possible reason for low perforation rate in post placental insertion is due to thick uterine wall and inserter's expertise. No perforations were reported in post placental IUCD insertion in the studies done by Kapp et al [8] and Gupta G et al [9] which matches our study.

In our study, expulsion rate after postplacental insertion was 8.5% which is in accordance with study of Eroglu et al [2]. In study by Shukla et al [10], the cumulative expulsion rate at the end of 6 months was 10.68 per cent. According to Multicentric International study done in Belgium, Chile and Phillipines which showed the rate

of expulsion at one month ranging from 4.6-16%[11].

Non visibility of strings (5.3% in intra caesarean gp) at follow-up at 2-6wks and is most commonly due to coiling of the string at the cervical canal which was demonstrated to them on outpatient basis. Few patients needed Ultrasound for the confirmation of IUCD in uterine cavity and they were found to be in situ. The patients were reassured and sent back for a follow up at a later date. At follow-up at 6wks to 6 months the incidence was 7.5%. Bhutta et al., reported string visibility of 92% at six months after intracaesarean insertion,[12]. String visibility rate of 3.3% and 7.8% at six months and 12 months after postpartum IUCD insertion, respectively was reported by Ergoglu et al2.

No case of PID was reported in present study. However, Eroglu et al [2] reported genital infection in 1.3% women in post placental copperT 380A insertion group.

The removal rate was 9.2% and continuation rate with or without complications was 82.28% in postplacentalgroup compared to 3.48% and 89.8% in intracaesarean group. The results of studies carried out by Thiery et al [13], Tatum et al [14] and Celen et al 6 are similar to the result of present study. Most common medical reason for PPIUCD removal in our study was bleeding which account for removal in 20% postplacental and 64.26% in intracaesarean group. All the complications and side effects are comparable to all national and international studies.

**Conclusion:** Thus it was concluded from the present study that insertion of Cu T immediately following delivery is an effective, safe, convenient, low cost and long term method of postpartum contraception irrespective of the mode of delivery. Increased institutional deliveries in India provides an opportunity 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. Although, the rate of expulsion of copper T is high in postpartum period but it can be reduced by ensuring correct technique of insertion and correct timing of insertion i.e. within 10 minutes of expulsion of placenta.. But, its benefits outweigh the risks. So this method should be popularised across the country as an option to all women, undergoing institutional deliveries, in tertiary health centers irrespective of the mode of delivery.

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