A STUDY ON IUCD INSERTION DURING POSTPARTUM PERIOD (PPIUCD)

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ABSTRACT

OBJECTIVES

To evaluate and compare the safety and efficacy of vaginal and intra-caesarean insertion of Post-partum IUCD.

METHODS

This was an interventional prospective study conducted in the Department of Obstetrics and Gynaecology at Silchar Medical College, Silchar where PPIUCD were inserted in 290 mothers in one year study period. Among them first 100 mothers who delivered vaginally and first 100 mothers who underwent caesarean were taken as study group and were followed up for one year.

RESULTS

Both modes of PPIUCD insertion were found as very effective contraceptive and also have very low rate of expulsion, vaginal bleeding, pain abdomen, infection and missing thread.

CONCLUSION

PPIUCD is a safe and efficacious family planning method after vaginal as well as caesarean delivery.

KEYWORDS

PPIUCD - Postpartum Intrauterine Contraceptive Device.

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INTRODUCTION: Approximately, 27% of deliveries in India happen in less than 24 months after the first delivery; another 34% of deliveries between 24 and 35 months. So 61% births in India are at intervals that are shorter than the recommended birth to birth interval of approximately 36 months. As the failure rate of Cu T 380 A is less than 1 per 100 women in the first year of use, it offers an effective and safe method for spacing and limiting births in the immediate postpartum period.(1) The PPIUCD must be placed after the women is counselled and gives informed consent. Counselling should be done in the antenatal period, in early labour or immediate postpartum. PPIUCD can be placed immediately following delivery of placenta, during caesarean section or within 48 hours following childbirth.(2)

Taking advantage of the immediate postpartum period for counselling on family planning and PPIUCD insertion, overcomes multiple barriers to service provision. In the developing countries, delivery is the only opportunity where most of women come in contact with health care providers and they may never return seeking contraceptive advice, so PPIUCD may be the best scope to curtail the fertility rate. There is a common belief that PPIUCD insertion is associated with higher complication than interval IUCD insertion, so the aim of the study was to evaluate the efficacy and safety in terms of complication like accidental pregnancy, expulsion, infection, missing string, pain abdomen, bleeding per vagina, white discharge, uterine perforation and discontinuation and to compare them among the two modes of insertion i.e. vaginal Vs. intra-caesarean insertion.

MATERIAL AND METHODS: An interventional prospective study conducted in the Department of Obstetrics & Gynaecology at Silchar Medical College, Silchar from September 2014 to August 2015. All eligible women fulfilling the inclusion criteria (Postpartum mother of any age and parity within 48 hrs. of delivery) were enrolled for study. Mothers>48 hrs. post-partum, history of chorioamnionitis, prolonged rupture of membrane >48 hrs., unresolved PPH were excluded for PPIUCD insertion. After counselling and taking informed consent, Cu T was placed high up in fundus immediately following vaginal delivery within 10 minutes after expulsion of placenta (called post-placental) or within 48 hrs. post-partum by long Kelley's forceps. The strings were not cut and not visible vaginally and mothers were discharged 48 hrs. after delivery. Those mothers underwent caesarean section, Cu T was placed high up at the fundus by holding the Cu T by sponge holding forceps and passed it through the uterine incision. Strings were placed in lower segment but not pushed in cervical canal to avoid infection by vaginal flora, contamination and displacement of Cu T. Care to be taken to avoid strings to be included during suture. Total 700 mothers were counselled antenatally.

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Among them, 310 accepted this method, of which insertion was done in 270. In 140 mothers who delivered vaginally, Cu T was inserted within 10 minutes of expulsion of placenta. In 130 mothers, Cu T was placed during caesarean section. Another 80 mothers were counselled after vaginal delivery and 30 mothers accepted this. Out of 30 who accepted this, Cu T was inserted in 20 cases. So the total number of mothers where vaginal insertion was made was 160. Depending upon the mode of delivery they were subdivided as vaginal PPIUCD insertion group (Post placental +immediate Post-partum and intra-caesarean insertion PPIUCD group). They were enlisted serially and first 100 women of each group were taken as study population. They were followed at 6 weeks, 6 months and 12 months and analysed according to statistician.

RESULT AND ANALYSIS: From our study, it was found that in both groups (Vaginal insertion and intra-caesarean), acceptance of PPIUCD was best in the age group 21-25 (42% and 45%) followed by 26-30 years (27% and 23%). Primipara mothers accepted PPIUCD more than others (45% and 50% in vaginal and intra-caesarean group respectively). Mothers from urban background were more motivated (60% and 55%) in comparison to rural mother (40% for vaginal group and 455 for caesarean group) (Table 1).

	Vaginal Insertion	**Intra-Caesarean Insertion**
Age Group (Years)		
<20	20	15
21-25	42	45
26-30	27	23
31-35	7	15
>35	4	2
Parity		
Para 1	45	50
Para 2	39	40
Para 3	16	10
Educational Status		
Illiterate	20	10
Literate	80	90
Residence		
Rural	40	45
Urban	60	55

Table 1: Distribution of Study Population

Expulsion rate was 4% in vaginal insertion group and 2% among intra-caesarean group which is not statistically significant.

Significant statistical difference was found when expulsion rate was compared between post-placental PPIUCD (3.33%) and immediate Post-partum PPIUCD (10%) in vaginal group (p=.0447) (Table-2). Vaginal bleeding was complained by 12% of mothers of vaginal group and 6% of mothers in intra-caesarean group. Pain abdomen was reported by 8% of mothers of vaginal and 5% of mothers of intra-caesarean group. IUCD had to be taken out in 3% of mothers for vaginal bleeding in vaginal group and 2% of mothers in intra-caesarean group. Pain abdomen compelled to remove in 1% in vaginal group and 2% in caesarean group. (Table 3). No pregnancy was recorded in any group within one year of followup. 2% of mothers presented with infection in each vaginal and intra-caesarean group. 7.7% of mothers among post-placental insertion were found to have long string, 10% of mothers in immediate post-partum insertion found to have long string and 5% of intra-caesarean had long string on speculum examination. Missing strings were complained by 16% of mothers in vaginal group and 30% of mothers in intra-caesarean group which is statistically significant (p=>028). In the vaginal group, no strings were missing among immediate Post-partum insertion.

	Vaginal Group			
Complications	Post-Placental (90)	Immediate Postpartum (10)	Total	Intra-caesarean group (100)
Expulsion	3(3.33%)	1(10%)	4%	2%
Bleeding p/v	10(11.1%)	2(20%)	12%	6%
Pain abdomen	7(7.7%)	1(10%)	8%	5%
Pregnancy	0	0	0	0
Infection	1(1.1%)	1(10%)	2%	2%
Long strings	7(7.7%)	1(10%)	8%	5%
Missing strings	16(17.7%)	0	16%	30%

Table 2: Complications of PPIUCD among Vaginal and Intra-Caesarean Group

Total removal of PPIUCD were 7% in vaginal group and 6% in caesarean group which is not statistically significant. 3% cause of removal was partial spontaneous expulsion in vaginal group and 2% partial spontaneous expulsion was found in caesarean group. Excessive vaginal bleeding caused 3% of removal of Cu T in vaginal group and 2% in intra-caesarean group. 2% removal done due to severe pain abdomen in intra-caesarean group and 1% in vaginal group.

Causes for Removal	**Type of Insertion**	**Removal at 6 Weeks**	**Removal at 6 Months**	**Removal at 12 Months**	**Total Removal**
Excessive Vaginal Bleeding	Vaginal Intra-caesarean	1 0	1 1	1 1	3 2
Severe pain Abdomen	Vaginal Intra-caesarean	0 0	0 1	1 1	1 2
Partial Expulsion	Vaginal Intra-caesarean	3 2	0 0	0 0	3 2
Total Removal	Vaginal Intra-caesarean	4 2	1 2	2 2	7 6

Table 3: Causes for Discontinuation of PPIUCD

DISCUSSION: In our study, acceptance of PPIUCD was higher among parity 1 and parity 2 contradicted by the study done by Safwat et al in Egypt where 16% of primipara accepted the use of PPIUCD compared to one third of grand multipara.[3] There is higher acceptance in urban population compared to rural which may be due to higher educational status of urban population compared to rural. This is supported by the study of Safwat et al where women with no formal education had an acceptance of 9.4%, while those with formal education were 19.4%. Expulsion rate in our study was 4% in vaginal group and 2% in intra-caesarean group which were much lower than study done by Celen S et al in 2004 where expulsion rate was 12.3% in early post-placental insertion of IUCD.[4] Another study in 2011 found 17.6% expulsion rate in intra-caesarean IUCD.[5] Lower expulsion rates were found in post-placental than immediate post-partum delivery in vaginal group which correlate by the study done by Kapp N et al.[6]

In our study, statistically no significant difference was found regarding bleeding and infection among vaginal and intra-caesarean group as also noticed by Welkovic et al.[7] In our study, pelvic infection was found in 1% of mothers which correlate with study done by Kenya and Mali where the rate of infection was less than 2%. White discharge reported by 5% and 7% of mothers of vaginal and intra-caesarean insertion group which is not statistically significant. Pain abdomen complained by 8% and 5% of mothers of vaginal and intra-caesarean insertion group. Significant difference between two groups was found regarding missing thread, (p=.028) but no threads were missed in immediate post-partum group. Although Nelson A et al found the string in all intra-caesarean inserted PPIUCD, but in our study a significant number of intra-caesarean inserted PPIUCD mothers presented with no clinically visible threads even at 12 months followup which are then confirmed by ultrasonography.[8]

Long string found in 8% of mothers in vaginal PPIUCD and 5% in intra-caesarean PPIUCD leading to feeling of uneasiness and discomfort. But the statistically significant difference was recorded among two types of vaginal insertion group. It was found 20% of immediate Post-partum IUCD had long thread in compare with 6.6% of mothers of post-placental IUCD. 70% of the women were satisfied with the PPIUCD inserted vaginally and 65% in caesarean group which is comparable to the study done by Levi. E. et al.[9] IUCD inserted vaginally or intra-caesarean, contraceptive efficacy was same i.e. 0 per HWY and no perforation was recorded in both groups. From our study, it was found that PPIUCD is an effective and safe method of contraception simulating the inference drawn by Cochrane Database review by Grimes et al in 2010.[10]

CONCLUSION: From our study, it can be concluded that PPIUCD is safe and efficacious in the field of Post-partum family planning whatever may be the mode of delivery as inserting Cu T 380A in Post-partum period is safe leading to expanding usage of the IUCD. The expulsion rate is minimal in our study as compared to previous studies.

Both vaginal insertion and intra-caesarean insertion are safe in terms of complication and efficacious from contraception point of view. The PPIUCD is safe, having no reported incidence of pregnancy, with low rates of expulsion, pain abdomen, pelvic infection, and loss of strings. Continuation rate in intra-caesarean insertion is higher compared to vaginal insertion.

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