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Research Article

Evaluation of PPIUCD versus interval IUCD (380A) insertion in a teaching hospital of Western U. P.

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ABSTRACT

Background: Comparative evaluation of PPIUCD and interval IUCD in terms of incidence of failure, expulsions, bleeding P/V and other complications.
Methods: Total 300 willing women after counselling in antenatal, early labor or postnatal period were inserted PPIUCD after excluding chorioamnionitis, PROM >18hrs, Unresolved PPH, Puerperal sepsis. Another 150 willing women were inserted interval IUCD after excluding contraindications. All were followed up for 6 months.
Results: Expulsion rate was significantly higher in PPIUCD as compared to interval insertions (4.3% v/s 2.0%; p value< 0.05). Number of removal of IUCD was almost similar in both groups(5.6% v/s 6.0%) but bleeding as a cause of removal was significantly more in interval group(23.5% v/s 88.5%). Common causes of PPIUCD removal were social.
Conclusions: Postpartum insertion of IUCD is safe effective, feasible and reversible method of contraception.

Keywords: PPIUCD, Interval IUCD, Acceptance, Safety

INTRODUCTION

Current population of India is 1.21 billion as per 2011 census. Approximately 61% of births in India occur at intervals that are shorter than recommended birth to birth interval of approximately 36 months. Currently 68% women are using contraception in developed world higher than in developing world in which it is 55%. A woman who becomes pregnant too quickly following a previous birth, faces risks of anaemia, abortion, premature rupture of membranes and maternal mortality. A baby born after short birth interval has increased chances of being born preterm, small for gestational age, death during neonatal period etc. Institutional deliveries have increased significantly all across the country, thereby creating opportunities for providing quality postpartum family planning services. So Cu-T insertion immediately after placental expulsion is important and effective, as it saves additional visit of women to hospital. Considering this fact, the mentioned study was conducted to evaluate PPIUCD.

Aims and objectives

Comparative evaluation of PPIUCD and interval IUCD in terms of incidence of failure, expulsions, bleeding P/V and other complications.

METHODS

Study design: Prospective observational study

Study group: 450 subjects, 300 in immediate postpartum IUCD group (150 each in normal vaginal delivery group and caesarean section group). 150 in interval IUCD group.

Inclusion criteria

All women coming to ANC clinic or labour room in early labour were counselled for post placental insertion of Cu-T. Those who opt for the method were included in the study.

Exclusion criteria

1) Chorioamnionitis
2) Puerperal sepsis
3) PROM > 18 hrs
4) Potentially infected dai handling cases.
5) Unresolved PPH.

All cases who accepted this method, IUCDs were placed fundally immediately after delivery of placenta by using placental forceps in vaginal delivery and by using sponge holding forceps in caesarean delivery before closure of uterine incision. These cases were followed at 15 days, 6 weeks and 6 months. Results were compared with interval IUCDs.

RESULTS

Total deliveries conducted in the duration of our study were 2083. Total acceptance rate of PPIUCD in our study was 14.4%. Majority of the cases who accepted PPIUCD belonged to the age group 20-25 years (15.7%) (Table 1).

Table 1: Acceptance rates.

Age Groups (years)	Total No. of Deliveries	Number of cases Who accepted PPIUCD	%
<20	40	1	2.5%
20-25	1007	158	15.7%
26-30	876	127	14.4%
30-35	105	13	12.3%
>35	55	1	1.8%
Total	**2083**	**300**	**14.4%**

Table 2: Expulsion rates in IUCD.

Type of Insertion	Primipara (n=69)	Multipara (n=231)	Total Expulsions	%	P Value
Vaginal PPL (n=150)	3(2%)	7(4.67%)	10	6.66%	0.04
T.C PPL (n=150)	0	3(2%)	3	2%	0.04
Interval Group (n=150)	1(0.67%)	2(1.33%)	3	2%	

Most of the patients who accepted PPIUCD were those who were primed during their antenatal period.

Expulsion occurred in 13 cases (4.3%) after immediate PPIUCD of which 10 occurred after normal vaginal delivery which was significantly higher ($p<0.04$) as compared to transcaesarean group. Total 3 expulsions occurred after interval insertions (Table 2).

IUCDs were removed in total 17 subjects (5.6%) after postpartum insertion, of which 9 were the cases with normal vaginal delivery and 8 were with transcaesarean. Almost equal in both groups

Continuation rates over a follow up period of 6 months were comparable in the 3 groups (Table 3).

Complications occurred in 16% (48) cases after PPIUCD [24 each in normal vaginal group and transcaesarean group], while after interval insertion complications occurred in 14.6% (22) cases. Most common complication after PPIUCD insertion was expulsion (mainly to insertion after vaginal delivery), while after interval insertion bleeding was most common complication (Table 4).

There was no significant complain of abdominal pain, discharge P/V and pelvic tenderness

Table 3: Outcome of IUCD.

Type of IUCD	No of cases	Continuation Over 6 months	%
PPL	150	131	87.33%
Transcaesarean	150	139	92.66%
Interval	150	138	92%

Cause of removal was mainly bleeding (8 cases, 88.89%) in interval IUCD group which was significantly higher as compared to PPIUCD group (23.53%). IUCDs were removed willingly in most of subjects (35.3%) with PPIUCD (Table 5).

Table 4: Complications after IUCD insertion.

Clinical Presentation at Follow up	Type of IUCD insertion						
	PPL (n=150)	(%)	Transcaesarean (n=150)	(%)	Interval (n=150)	(%)	*p* Value
Bleeding	5	3.3%	8	5.33%	8	5.3%	0.637
Discharge P/V	4	2.7%	8	5.3%	6	4%	-
Pain abdomen	4	2.7%	3	2%	3	2%	-
PID	0	0%	0	0%	2	1.2%	
Missing strings	1	0.6%	2	1.2%	0	0%	-
Expulsion	10	6.6%	3	2%	3	2%	0.04
Total	24	16%	24	16%	22	5.3%	0.54

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

Cause of Removal	Different Modes/Periods of IUCD insertion					
	Vaginal PPL (n=150)	(%)	T.C. PPL (n=150)	(%)	Interval (n)	(%)
Social causes (Without any Medical reason)	7	77.8%	3	37.5%	0	0.00%
Bleeding	1	11.11%	3	37.5%	8	88.89%
Discharge P/V	0	0%	0	0%	0	0%
Pain/PID	0	0%	0	0%	1	11.1%
For conception	1	11.11%	1	12.5%	0	0.00%
Other Contraceptive method	0	0%	1	12.5%	0	0.00%
Total	9	100%	8	100%	9	100%

DISCUSSION

The PPIUCD is a highly effective, long acting, reversible, cost effective and easily accessible family planning method that is safe for use by most postpartum women-including those who are breast feeding.

Total acceptance rate of PPIUCD in our study was 14.4%. Majority of the cases who accepted PPIUCD belonged to the age group 20-25 years (15.7%). This was probably because most of the patients who came to the hospital for delivery also belong to age group 20-25 years. Alvarez Peyalo et al (1996)[1] also found that the average age of PPIUD acceptors was 20.6 years.

The results of our study showed that expulsion rates after vaginal PPIUCD in present study were 6.6% which is in accordance with study of Haynes JL et al (2007).[2] In present study expulsion after transcaesarean insertion occurred in 2% cases, which is comparable with the results of study of Muller ALL et al (2005)[3], Lopez-Farfan JA et al (2010).[4] According to our study rate of expulsion of PPIUCD was significantly higher ($p<0.05$) in the normal vaginal delivery group (6.6%) than in transcaesarean group (2%). This lower expulsion rate after transcaesarean insertion as compared to vaginal insertion may be due to direct placement of IUD at the fundus during caesarean section.

The rate of expulsion in interval IUCD group in our study was 2% which was significantly lower ($p<0.05$) as compared to PPIUCD group (4.33%) Expulsion rates were comparable between transcaesarean and interval IUCD group i.e. 2% for each group, whereas the expulsion was significantly higher in vaginal delivery group i.e. 6.67%. Bonilla Rosales F et al (2005)[5] in their study found expulsion rate of 16% and 2% for PPIUCD and interval IUCD respectively.

The cumulative rate of removal over 6 months follow up after PPIUCD insertion was 5.6%, almost equal in both vaginal delivery and transcaesarean group (6% and 5.3% respectively). Zhou SW et al (1991)[6] showed the removal rate of 4.6% and 4.2% for vaginal PPL and transcaesarean PPL respectively.

In our study, rate of removal in interval insertion group was 6% (9 cases), whereas it was 5.66% (17 cases) in PPIUCD group ($p=0.95$) i.e. equal in both the groups.

In our study various complications were seen in 48 cases (16%) in those who choose immediate postpartum insertion. Expulsion was the most common complication in the vaginal group (6.6%).while in the transcaesarean group bleeding 5.3% (8 cases) was the most frequent complication. Bleeding occurred in 13 (4.33%) cases, 5 cases (3.3%) of bleeding were reported from vaginal delivery group and in the transcaesarean group bleeding occurred in 8 cases (5.3%). Celen S et al (2004)[7] reported cumulative rates of bleeding equal to 11.4% and 8.2% respectively. No case of PID/endometritis reported in our study. EL Beltagy et al (2010)[8] also reported no increase in the incidence of PID after immediate postpartum IUCD insertion. No case of perforation was reported from both the groups. This decreased risk of uterine perforation may be because of thick wall of the uterus. This is in accordance with the study of El Shafei MM et al (2000)[9] and Ricalde et al (2006)[10] where no perforations were observed in PPIUCD. No failure reported from both the groups.

While comparing PPIUCD with interval IUCD the cumulative rate of complications were similar in our study (16% and 14.6% in PPIUCD group and interval IUCD group respectively).This was in accordance with the study Eroglu et al (2009)[11] where the rates of complications did not differ significantly between the two groups.

Most common medical reason for PPIUCD removals in our study were bleeding and pain which account for removal in 6 cases (2%).

Our study showed continuation rates of about 90% for PPIUCD users over a follow up period of 6 months. Celen et al (2004) also showed continuation rates of 87.6% for PPIUCD at 6 months interval. On comparing the Interval IUCD with PPIUCD, slightly higher continuation rates were obtained for Interval IUCD group (92%) than PPIUCD group (90%) in present study. Although slight difference exist between the two groups but the difference was not statistically significant ($p=0.49$).

CONCLUSION

From the above study we came to the conclusion that postpartum insertion of PPIUCD is safe effective, feasible and reversible method of contraception.

Compared with interval insertions, postpartum insertions do not increase the risk of infection or endometritis, bleeding, uterine perforation. Nor do they affect the return of uterus to normal size. Particularly note worthy is the very low rates of perforation in the postpartum period because of the thickened uterine walls.

IUCDs if safely inserted in immediate postpartum period and included as a part of obstetrical management of the patient, contraceptive protection can be provided for the high risk group of obstetrical patients which need but wouldn't take advantage of available contraceptive services at any other time.

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