Original Research Article

Outcome of immediate postpartum insertion of IUCD- A Prospective Interventional Study

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Abstract

Introduction:Postpartum intrauterine contraceptive device insertion is an admirable family planning method which offered safe effective, long term and flexible contraception to women in the delivery setting. The rationale behind the study was to evaluate the clinical outcome of postpartum insertion of intrauterine contraceptive device in terms of safety and efficacy and to compare the two routes of insertion i.e. in vaginal deliveries and caesarean section.

Objectives: 1. To study level of awareness among parturient towards PPIUCD. 2. To study safety and efficacy of PPIUCD insertion.**Materials and Methods:** A Cohort of 200 women was selected as 100 vaginal and 100 caesarean deliveries with PPIUCD insertion were studied over a period of 1 year and followed for four months in this prospective interventional study. Outcome measures of safety were perforation, irregular bleeding, unusual vaginal discharge, and infection. Outcome measures of efficacy were pregnancy, expulsions, discontinuation, and incidence of coiled up/ undescended strings. SPSS software was used for data analysis and p value of less than 0.05 is considered statistically significant.**Results:** In the present study only 38% (N=76) of the study sample were aware of the PPIUCD while the rest 62% were unaware. No serious complications such as pregnancy or perforation were encountered in our series. Most frequent complication stated in both the groups was excessive bleeding PV supported by pain in lower abdomen. **Conclusion:** PPIUCD is an outstanding method to limit or space child births. It is suggested to a woman in a setting when she is highly inspired and genuinely needs it.

Keywords: Cohort, Caesarean section, IUCD, Postpartum contraception, Insertion of IUCD.

Introduction

In developing countries like India, many unplanned and undesired pregnancies end from non-use of contraception, most of which account to induced abortions. Continuation of these pregnancies is also related with greater maternal complications and adverse perinatal outcomes[1]. In India, 65% of women inthe postpartum period have an unmet need of family planning[1]. Postpartum insertion of intrauterine contraceptive devices (I-PPIUCD) is a safe, private, and highly accessible choice for women who desire long acting reversible, efficient, coitus-independent, non-hormonal protection from pregnancy. It does not interfere with breast feeding and has few side effects,beginning during the critical postpartum period, when thewomen is highly encouraged for accepting a long term,reliable, feasible, safe and reversible contraception. At this time, the woman is even now hospitalized with the health care provider for the childbirth and leaves thehospital with an efficient contraceptive in place[2]. PPIUCD insertion is an exceptional opportunity to offer postpartum contraception to rural women having marginal access to medical care and infrequent and inaccurate postpartum visit because of socioeconomic reasons.

Birth to pregnancy interval of less than 24months is associated with increased risk of maternalmortality, induced abortion, and miscarriage[2]. Therefore, the recommended interval before attempting the next pregnancy is at least 24 months in order to reduce the risk of adverse maternal, perinatal and infant outcomes[3]. Hence, this prospective interventional study wasdedicated to find out the safety and efficacy of PPIUCD insertion through the two routes i.e. vaginal deliveries and caesarean section.

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Materials and Methods

A prospective Cohort interventional study was conducted in the Department of Obstetrics and Gynaecology after obtaining approval from institutional ethical committee.

Two hundred postpartum subjects after contraception counselling included in the study. All eligible antenatal subjects hospitalized for delivery were counseled for PPIUCD. Consent was obtained from those who opted for insertion of PPIUCD, they received CuT380A.The study subjects were divided into two groups:

Group A: vaginaldeliveries (100 cases).

Group B: intra cesarean (100cases).

Post placental insertion was done by

1. Manual technique-This technique is used only within10 minutes following the delivery of placenta. In this period the cervix is still almost fully dilated. This accepts the passage of either forceps or the hand. After the active management of 3rd stage of labour is complete bimanual examination was performed to ensure empty uterine cavity. Implementing active management of third stage of labour is thefirst step for a safe IUCD insertion. IUCD pack was aseptically opened and CuT was held in right hand and slowly inserted through thecervix into the lower uterine cavity. CuT was slowly moved upwardsuntil fundus of uterus can be felt. The hand over the fundus and CuT are approximated and then IUCD was left at the fundus and the hand was slowly moved along the lateral wall of the uterus taking care not to dislodge the IUCD, while stabilizing the uterus with the outside hand. The IUCD should be inserted prior to starting the repair of the multiple laceration of the vagina or episiotomy

2. Long ring forceps technique-Post placental insertion of IUCD by ring/Kelly's forceps after vaginal delivery is much less painful to the client. It is easier to perform if the client has a well contracted uterus and has benefited from AMTSL. With forceps insertion it is easier to the clinician to maintain appropriate infection prevention. Therefore, long sterile gloves or regular length gloves with a water impermeable apron are not required. During manual insertion, the IUCD may be accidental displaced into thelower uterine cavity or pulled out actively when thehand is withdrawn. This problem is less likely withforceps insertion because forceps are slimmer than a hand.

Trans Cesarean Insertion-Following a cesarean delivery after the uterine angles are secured massage the uterus until the bleeding subsides. Make sure that uterine cavity is empty and haemostatic. Place the IUCD at the uterine fundus manually holding it between the index and middle finger or with a grasping instrument. Before stitching the uterine incision place the strings in the lower uterine segment near the internal cervical os. Prior to discharge post insertion counseling and advice was given to each woman. Discharge Card showing type of IUCD and date of insertion were given. Woman was told when to return for IUCD follow-up/PNC/ newborn check-up (6 weeks).She was notified to return anytime, if she observes foul smelling discharge different from the usual lochia,lower abdominal pain especially if accompanied by not feeling well, fever and chills, feeling of being pregnant or suspicion that IUCD has fallen out.

Statistical Analysis-All the participants were called for follow up at 8weeks and at 16 weeks interval.All the data were compiled and analyzed using SPSS 22.0.(Trial version) and p-value <0.05 is considered statistically significant. Chi- square test was used as test of significance.

Results

Table 1:Distribution of Cases according to type of delivery and Awareness (N=200)

Type of delivery	Number	Awareness	
		Aware	Unaware
Vaginal	100	36	64
Caesarean	100	40	60

As per table 1 among 200 deliveries done around 38% were aware about PPIUCD while 62% were unaware. This can further suggest the awareness levels towards PPIUCD was quite low as per current study.

Table 2:Association of Education with Awareness towards PPIUCD

Education	Awareness (76)	Unaware (124)	p-value
Illiterate	5	64	**0.001***
Primary school	30	25	
Higher secondary	27	35	
Graduates	14	0	

***p<0.05 is statistically significant**

As per table 2 a linear correlation was observed between the educated and uneducated women regarding awareness of I-PPIUCD. All graduate women were aware about PPIUCD. This shows education was significantly associated with awareness ($p<0.05$).

Table 3: Follow up details of Study participants for PPIUCD

Visit number	Vaginal deliveries	Caesarean deliveries	Total (%)
1st visit	32	28	60 (30)
2nd visit	20	16	36 (18)

According to table no. 3 follow up percentage was not satisfactory. Only30% came for the first follow up visit and 18% for the2nd visit. Rests of the subjects were lost to follow up.

Table 4:Side effects and Complications associated with follow up

Variables	Follow up 4-8 weeks		Follow up 12-16 weeks		p-value
	Vaginal	Caesarean	Vaginal	Caesarean	
Lower abdomen pain	12	14	4	7	0.01*
Bleeding PV	10	6	8	6	0.02*
Discharge PV	6	5	4	2	0.11
Misplaced IUCD	4	3	4	1	0.12
Perforation	0	0	0	0	0.00
Pregnancy	0	0	0	0	0.00

***p<0.05 is statistically significant**

As per table 4 At the first follow up between 4-8 weeks, most common complication reported in both the groups was lower abdominal pain followed bleeding PV which was statistically significant ($p<0.05$).No case of perforation or pregnancy was reported during the study.At the second follow up between 12-16 weeks, the vaginal delivery cases reported more complaints of excessive bleeding PV and unusual vaginal discharge, while caesarean has lower abdominal pain.

Table 5: Indications of Removal of PPIUCD

Indications	Vaginal deliveries	Caesarean deliveries
Lower abdomen pain	3	7
Menorrhagia	8	6
Discharge PV	6	4
Misplaced IUCD	3	2

As per table 5 In vaginal deliveries, the frequent reasons for PPIUCD removal were menorrhagia and discharge PV which could not be relieved by the conservative treatment. In cases of caesarean sections, the indications of removal were pain in abdomen, menorrhagia. The overall discontinuation rate was29% in vaginal deliveries and 20% in caesarean section

Discussion

In the present study the awareness level was 38%. Among those who were aware, maximum acceptance was seen in cases with secondary (81%) and higher education (100%).The awareness levels varied in different studies from 5.79% to 53.5%[4-6]. In the present study 55.5% of the women were para-1, 35.5% were para-2 and 9% were para-3. In other studies women with one child accepting IUCDs varied from 46.5%-73.17%, women accepting IUCD having two or more children varied from 35.76%-47%[7-10]. The acceptance rates in different studies varied from 9.4% to 48.3% depending on their education status [11,12]. In a report released by WHO in 2006[3], healthy timing and spacing of pregnancies has adirect effect on maternal health and new-born outcomes.In countries with high birth rates, about 32% of all maternal deaths and over one million deaths of children below 5yrs could be prevented by healthy timing and spacing of pregnancies. This finding indicates a positive maternal health outcome in well-spaced pregnancies,irrespective of the contraceptive used. It is noteworthy that there were no serious complications in this study. 15% (N=30) cases had menorrhagia, of these IUCD had to be removed in 14 cases as they did not respond to treatment given. Incidence of menorrhagia varied from

11.5%-27.23% in various studies [13,14]. In the present study pain abdomen was reported in 18.5% cases (N=37) in this study. Pain was reported more in cases of caesarean sections(N=21) compared to vaginal deliveries (N = 16). Similar resulted were reported in other studies[15]. There were no cases of perforation or pregnancy in the present study. This is in accordance with the other studies [16,17]. Absence of uterine perforation and low incidence of infection are strong indicators of safety. Post-partum IUD insertion is common in several countries.

Conclusion

This study concludes that post-placental IUCD is an effective method of contraception. In the current region where access to care is limited and postpartum care is often infrequent, this level of programmatic achievement can be considered as high success. Despite very poor awareness among these women, the acceptance was high. It demands for developing strategies to increase public awareness of the PPIUCD through different media sources.It is also important to impart training on PPIUCD to increase knowledge and skills among health care providers. This will aid in promoting PPIUCD use besides reducing expulsion rates.

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