Prospective Interventional Study on the Immediate Postpartum Insertion of IUCD

Dr. Jagrati Kiran Naagar[1], Dr. Shweta Yadav[2], Dr. Sachin Singh Yadav,[3]

1- Associate Professor, Department of Obstetrics and Gynaecology, Bundelkhand Medical College, Sagar (M.P.)
2- Professor and Head, Department of Obstetrics and Gynaecology, Government Medical College, Datia (M.P.)
3- Associate Professor , Department of Community Medicine ,Government Medical College, Datia, (M.P.)

Corresponding Author- Dr. Sachin Singh Yadav, Associate Professor, Department of community medicine ,Government Medical College Datia, (M.P.)

Abstract

Introduction: Intrauterine device insertion after delivery is a commendable family planning technique that provided women with secure, reliable, long-lasting, and adaptable contraception in the hospital setting. The purpose of the study was to compare the two modes of insertion—via vaginal delivery and caesarean section—and to assess the clinical outcome of postpartum insertion of intrauterine contraceptive devices in terms of safety and efficacy.

Objectives: 1. To determine awareness among parturient towards PPIUCD. 2. To assess safety and efficacy of PPIUCD insertion.

Materials and Methods: In this prospective interventional trial, 100 vaginal and 100 caesarean deliveries with PPIUCD implantation were evaluated over the course of a year and were followed for four months. A cohort of 200 women was chosen. Perforation, erratic bleeding, atypical vaginal discharge, and infection were outcome markers of safety. Pregnancy, expulsions, cessation, and incidence of coiled-up/undescended strings were outcome markers of efficacy. Data analysis was performed using SPSS software, and a p value of less than 0.05 is regarded as statistically significant.

Results: Only 38% (N=76) of the study sample in the current study was aware of the PPIUCD, while the other 62% were. In our series, there were no major issues like pregnancy or perforation. The most common consequence reported in both groups was severe PV hemorrhage accompanied by lower abdominal discomfort.

Conclusion: The PPIUCD is an excellent way to regulate or space out pregnancies. When a lady is deeply moved and genuinely needs it, it is suggested to her in a setting.

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

Introduction-

Many unwanted and unexpected pregnancies in poor nations like India result in induced abortions because contraception is not used. These pregnancies continuing are also linked to increased maternal difficulties and poor perinatal outcomes.[1] In India, 65% of postpartum women still lack access to family planning. For women who want long-acting, reversible, effective, coitus-independent, non-hormonal protection from pregnancy, postpartum insertion of intrauterine contraceptive devices (I-PPIUCD) is a safe, confidential, and very accessible option. Beginning in the crucial postpartum time, when the woman is strongly encouraged to embrace a long-term, dependable, feasible, safe, and reversible form of contraception, it does not interfere with breastfeeding and has few adverse effects. The woman is currently hospitalized along with her healthcare professional for the birthing and is discharged with a reliable method of birth control.[2] The insertion of a PPIUCD provides a unique chance to provide postpartum contraception to rural women who have limited access to medical care and infrequent and inaccurate postpartum visits due to socioeconomic issues. A birth to pregnancy gap of fewer than 24 months is linked to an increased risk of induced abortion, miscarriage, and maternal death.[2] In order to lower the risk of negative maternal, perinatal, and baby outcomes, it is advised to wait at least 24 months before trying for a second pregnancy.[3]Hence, this prospective interventional study was dedicated to find out the safety and efficacy of PPIUCD insertion through the two routes i.e. vaginal deliveries and caesarean section.

Materials and Methods-

The department of obstetrics and gynecology of BMC, Sagar (M.P.) carried out a cohort interventional study after receiving consent from the institutional ethical council. After receiving contraception counselling, 200 postpartum patients were included in the study. All eligible prenatal patients who were admitted to the hospital for delivery received PPIUCD counselling.

Those who chose to have a PPIUCD implanted gave their consent and were given CuT 380A. The study subjects were divided into two groups:

Group A: vaginal deliveries (100 cases).

Group B: intra cesarean (100 cases).

Post placental insertion was done by

1. Manual technique- Only within 10 minutes of placenta delivery is this procedure performed. The cervix is still virtually totally dilated during this time. This permits the passage of the hand or forceps. To guarantee that the uterine cavity was empty, a bimanual examination was done after the active management of the third stage of labor was finished. For a safe IUCD insertion, aggressive management of the third stage of labor must first be implemented. CuT was gripped in the right hand and slowly injected through the cervix into the lower uterine cavity after the IUCD pack had been aseptically opened. CuT was gradually raised till the uterus' fundus could be felt. The uterus is stabilized with the outside hand while the hand over the fundus and CuT are approximated, the IUCD is left at the fundus, and the hand is slowly moved along the lateral wall of the uterus while taking care not to dislodge the IUCD. Before beginning the repair of the numerous laceration of the vagina or episiotomy, the IUCD should be placed.

2. Long ring forceps technique- The client experiences significantly less discomfort during post-vaginal birth when IUCD is inserted using ring or Kelly's forceps. If the customer has had success with AMTSL and has a well-contracted uterus, the procedure is simpler. It is simpler for the clinician to maintain proper infection prevention with forceps insertion. Therefore, ordinary length gloves or long sterile gloves with a water-resistant apron are sufficient. The IUCD may unintentionally fall into the lower uterine cavity after manual implantation or actively be yanked out when the hand is removed. Since forceps are slimmer than a hand, this issue is less common when using forceps for insertion.

Trans Cesarean Insertion: After a cesarean delivery, massage the uterus until the bleeding stops after the uterine angles are fixed. Inspect the uterus to make sure it is empty and hemostatic. IUCD can be manually positioned at the uterine fundus by holding it between the index and middle fingers or by using a grasping device. Place the strings in the lower section of the uterus close to the internal cervical os before sewing the uterine incision. Each woman received counseling and assistance following post-insertion prior to discharge. Discharge Card was provided, displaying the type of IUCD and the date of insertion. She was instructed to come back at any time if she notices foul-smelling discharge that is not her normal lochia, lower abdomen pain, particularly if it is accompanied by sickness, a fever and the chills, a sense of being pregnant, or a suspicion that her IUCD has come loose.

Statistical Analysis-

The statistical analysis was performed using SPSS for windows version 25.0 software. The findings were present in number and percentage analyzed by frequency, percent. Chi-square test was used to find the association among variables. The critical value of *P* indicating the probability of significant difference was taken as <0.05 for comparison.

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

According to Table 1, of 200 births, 38% were aware of PPIUCD whereas 62% were not. This can further imply that according to the current study, PPIUCD awareness levels were rather low.

Table 2- Association of Education with Awareness towards PPIUCD

Education	Awareness (76)	Unaware (124)	p-value
Illiterate	7	60	**0.01***
Primary school	28	27	
Higher secondary	25	37	
Graduates	16	0	

***p<0.05 is statistically significant**

According to table 2, there was a linear link between the awareness of I-PPIUCD among educated and uneducated women. All women with graduate degrees were aware of PPIUCD. This demonstrates that awareness and education are significantly related (p 0.05).

Table 3- Follow up details of Study participants for PPIUCD

Visit number	Vaginal deliveries	Caesarean deliveries	Total (%)
1st visit	30	29	59(30)
2nd visit	22	15	37 (18)

The follow-up percentage was not sufficient, according to table number 3. Only 18% of people showed up for the second visit and only 30% for the first follow-up visit. The remaining participants were not found for 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	11	12	4	6	0.01*
Bleeding PV	11	8	8	7	0.02*
Discharge PV	5	5	4	2	0.11
Misplaced IUCD	5	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**

Based on table 4 Lower abdomen pain was the most frequent complication reported at the first follow-up between 4 and 8 weeks, followed by bleeding PV, which was statistically significant (p 0.05). Throughout the research, no cases of pregnancy or perforation were documented. The vaginal birth cases had more complaints of excessive PV bleeding and atypical vaginal discharge at the second follow-up between 12 and 16 weeks, whereas caesarean had less abdominal pain.

Table 5- Indications of Removal of PPIUCD

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

According to table 5, menorrhagia and discharge PV were the most common causes of PPIUCD removal in vaginal deliveries and could not be treated conservatively. Menorrhagia and abdominal discomfort were signs of removal in caesarean procedures. The overall dropout rate for vaginal births was 29%, compared to 20% for Caesarean sections.

Discussion-

The awareness rate in the current study was 38%. Maximum acceptability was observed among individuals who were informed in circumstances involving secondary (81%) and higher education (100%). The awareness percentages ranged from 5.79% to 53.5% in several surveys.[4,5,6] 55.5% of the women in the current study were para-1, 35.5% were para-2, and 9% were para-3. Women taking IUCDs who had one kid ranged from 46.5% to 73.17% in other studies, whereas those who had two or more children ranged from 35.76% to 47%.[7-10] Depending on their level of education, the admission percentages in different research ranged from 9.4% to 48.3%.[11,12] Healthy pregnancy timing and spacing have a direct impact on maternal health and newborn outcomes, according to a report published by the WHO in 2006.[3]

Healthy timing and spacing of pregnancies could avoid nearly 32% of all maternal deaths and more than one million deaths of children under the age of five in nations with high birth rates. Regardless of the type of contraceptive used, this data suggests that well-spaced pregnancies have a good impact on maternal health. The absence of any significant problems in this trial is noteworthy. Menorrhagia affected 15% (N=30) of the cases, and in 14 of those, the IUCD had to be removed since the patients did not react to the treatment. In several studies, the prevalence of menorrhagia ranged from 11.5% to 27.23 percent.[13,14] In the current study, 18.5% of instances (N=37) of abdominal pain were recorded. 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.

Conclusion-

The study's findings support the effectiveness of post-placental IUCD as a means of contraception. This level of programmatic effectiveness can be regarded as a high success in the current location when postpartum care is frequently infrequent and access to care is restricted. The acceptability was high despite the women's extremely low awareness. It necessitates creating plans to use various media outlets to raise public knowledge of the PPIUCD. It is crucial to provide training on PPIUCD in order to improve the knowledge and abilities of healthcare professionals. Along with lowering expulsion rates, this will support the promotion of PPIUCD use.

Conflict of Interest- None declared

Source of Funding- None

References-

1. Postpartum IUCD Reference Manual, Family Planning Divsion. Ministry of Health and Family Welfare, Government of India, New Delhi, India 2010.
2. Agudelo AC. Birth Spacing and the Risk of Adverse Perinatal Outcomes: A Meta-Analysis. JAMA 29. 2016:1809-1923.
3. World Health Organization. (2016). Birth spacing report from a WHO technical consultation. Geneva: World Health Organization http://www.who.int/iris/handle/10665/73710.
4. Awadalla HI. Contraception Use among Egyptian Women: Results from Egypt Demographic and Health Survey in 2005. J Reprod Infertil. 2019;13(3):167–173.
5. Katheit G, Agarwal J. Evaluation of post-placental intrauterine device (PPIUCD) in terms of awareness, acceptance, and expulsion in a tertiary care centre. Int J Reprod Contracept Obstet Gynecol. 2013;2(4):539-543.
6. Kumar S, Sethi R, Balasubramaniam S. Women's experience with postpartum intrauterine contraceptive
device use in India. Reprod Health. 2019;11:32
7. Khan ME, Patel BC. Male involvement in family planning: a knowledge, attitude, behaviour and practice survey of Agra district. New Delhi: population council, 2017.
8. Bhalerao AR, Purandare MC. Post-puerperal Cu-T insertion: a prospective study. J Postgrad Med. 2019;35:70.
9. Kittur S, Kabadi YM. Enhancing contraceptive usage by post-placental intrauterine contraceptive devices (PPIUCD) insertion with evaluation of safety, efficacy, and expulsion. Int J Reprod Contracept Obstet Gynecol. 2015;1:26-32.
10. Grimes L. Immediate postpartum insertion of an IUD is safe & effective. Global health technical briefs. Family Health International; 2017.
11. Ali RAM. Acceptabilitya Safety of Postpartum Intrauterine Contraceptive Device among Parturients Muhimbili. National Hospital, Tanzania Muhimbili University of Health and Allied Sciences. November 2016.
12. Ullah, M.S. & chakraborty, N. The use of modern & traditional methods of fertility control in Bangladesh: a multivariate analysis. Contraception. 2014;50(4):363- 372.
13. Maluchuru S,V. Aruna, N. Prabhavathi, Postpartum – Intrauterine Device Insertion – 2yr Experience at a Tertiary Care Center in Guntur Medical College /Govt. General Hospital, Guntur. IOSR. 2015;14(3):56-61.
14. Shukla M. Post-placental intrauterine device insertion – A five-year experience at a tertiary care centre in north India. Indian J Med Res. 2018;136(3):432–435.
15. Stefan Welkovic, L Costa, A Faundes, R Ximenes, C Costa. Postpartum bleeding & infection after postplacental IUD insertion. Contraception. 2011;63:155-8.