

Research Article

A prospective study of immediate postpartum intra uterine device insertion in a tertiary level hospital

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ABSTRACT

Background: In India there is an unmet need for contraception. Intrauterine device is a long acting reversible method. This study was done to determine the efficacy and safety of immediate Post-Partum Intrauterine Device (PPIUD) and to compare the outcome of PPIUD insertion after vaginal delivery and caesarean section.

Methods: A total of 113 women who underwent PPIUD insertion were followed up at 6 weeks and 6 months postpartum. Outcome in term of side effects, removal and expulsion was compared in vaginal delivery and caesarean section insertions.

Results: In 61.45% women there was no complaint. Menstrual disturbances were found in 16.66% women and pelvic pain in 13.54% women. The expulsion rate was 5.20% and IUD removal was done in 13.54% women. Incidence of removal was more in vaginal insertions than in caesarean insertions and this difference was statistically significant. Continuation rate at 6 months was 81.25%.

Conclusion: Immediate postpartum IUD insertion is a safe, convenient and effective method.

Keywords: Immediate postpartum, Intrauterine device, Caesarean section, Expulsion rate

INTRODUCTION

Postpartum period is one of the critical times when a woman needs special optimal health services as complication rates are quite high during this period and also the women are vulnerable to unintended pregnancy. In India, 65% of women in the first year postpartum have an unmet need for family planning. Only 26% of women are using any method of family planning during the first year postpartum.¹ The reasons for non-use of contraception are many, including lack of awareness, non-availability of accessible family planning services and limitations on women's mobility due mostly to cultural or geographical factors.

Intrauterine devices (IUDs) have been used by women in India for decades for spacing pregnancy. Copper IUDs

are the most commonly used type of IUD and the Cu T 380A has been found to be most effective IUD.² To address the unmet need during the post-partum period the Ministry of Health and Family Welfare, Government of India developed a national strategy to expand Post-Partum Intrauterine Device (PPIUD) services among public sector facilities. The aim of this study was to evaluate the safety, efficacy, side effects, complications and expulsion related to PPIUD and to compare the outcome of PPIUD insertion after vaginal delivery and caesarean section.

METHODS

This prospective study was conducted in the department of obstetrics and gynaecology, SGRR IM&HS from September 2011 to August 2012. The present study was

carried out on women who delivered at our hospital and underwent PPIUD insertion. All pregnant women who attended our antenatal clinic or admitted in the labor ward were counseled for different postpartum family planning methods. Those women who chose PPIUD were told regarding advantages, limitations, effectiveness and side effects related to IUD. Every woman was screened for clinical situations as per WHO medical eligibility criteria in the antenatal period, as well as immediately prior to insertion after delivery.

The inclusion criteria: Women in immediate post placental period (within 10 minutes of placental expulsion), immediate post-partum period (<48 hours after delivery) or during caesarean section.

The exclusion criteria: Women with acute purulent discharge, high individual likelihood of exposure to gonorrhoea or chlamydia, malignant or benign trophoblastic disease, suffering from AIDS and not clinically well or on antiretroviral therapy, between 48 hours and 6 weeks postpartum, chorioamnionitis, prolonged rupture of membranes >18 hours, postpartum endometritis/metritis and unresolving post-partum haemorrhage.

Informed consent was obtained in all clients before insertion. The PPIUD (CuT-380A) was placed within 10 minutes following delivery of the placenta, or within 48 hours following child birth using Kelly’s placental forcep to ensure the fundal placement (Figure 1). Intra caesarean insertion was done manually.



Figure 1: Showing Kelly’s placental forceps.

Records were maintained regarding PPIUD insertions and services by the provider. Follow up visit at 6 weeks postpartum and then at 6 months was recommended and thereafter as and when necessary. During the follow up visit the women were asked if they had any complaints and a speculum examination was performed to assess if the IUD strings have descended into the vagina. In a few women in whom strings were not visible in vagina ultrasonography was done to confirm the intrauterine position of IUD. Findings of the follow up visit were recorded in all clients including expulsion, menstrual disturbances, pelvic pain, removal, incidence of infection and other side effects. In case women failed to turn up for follow-up, they were contacted through telephone. The

statistical method for analysis was percentage, proportions and Chi square test.

RESULTS

A total of 113 women were included during the study period of one year. Table 1 shows the demographic characteristics of the women included in our study. As seen in Table 2, 58 (51.32%) women underwent post placental IUD insertion within 10 minutes of placental delivery following vaginal birth, whereas 51 (45.13%) women had device insertion during caesarean section. In 4 (3.53%) women IUD insertion was done between 10 minutes to 48 hours of vaginal delivery. All these women were asked to come for follow-up after 6 weeks and then after 6 months in the post-partum period. As seen in Table 3, only 57 (50.44%) women came for follow – up in out-patient department, where as 39 (34.51%) women were contacted by telephonic interview. But 17 (15.04%) women could not be followed-up. So results of follow-up were calculated in 96 (84.95%) women and results were compared in three groups according to type of PPIUD insertion.

Table 1: Demographic characteristics (n=113).

Characters	No. of women	Percent
Age		
20-25	51	45.13
26-30	49	43.36
31-35	13	11.50
Religion		
Hindu	97	85.84
Muslim	10	8.84
Others (Sikh, Buddhist)	6	5.30
Living children		
1	50	44.24
2	55	48.67
3 ore more	8	7.07

Table 2: Type of PPIUD insertion (n=113).

Type	No. of women	%
1. Post placental (within 10 minutes of delivery of placenta after vaginal delivery)	58	51.32
2. Immediate post-partum (10 minutes to 48 hours after child birth)	4	3.53
3. Intra caesarean	51	45.13

Table 3: Type of follow up (n=113).

Follow up	No. of women	Percent
Clinic	57	50.44
Telephone	39	34.51
No follow up	17	15.04

Findings of follow-up are given in Table 4. In 59 (61.45%) women there was no complaint regarding PPIUD. Overall 16 (16.66%) women complained of menstrual disturbances and 13 (13.54%) women had pain in lower abdomen and back ache. Menstrual disturbances were present in 10 (19.23%) women after post placental insertion whereas they were found only in 6 (14.63%) women with intra caesarean insertion. Pelvic pain was found in 7 (13.46%) women after post placental insertion and in 5 (12.19%) women after intra caesarean insertion.

However incidence of menstrual disturbances and pelvic pain was more in post placental insertions compared to intra caesarean insertions but this difference was statistically not significant (P value <0.05). In one (1.04%) woman there was evidence of foul smelling vaginal discharge and infection. One (1.04%) woman had secondary post-partum haemorrhage. She was treated by antibiotics and iron replacement therapy but she was not willing to continue IUD, so removal was done.

Table 4: Findings of follow up (n=96).

Variable	Post placental (n=52)		Immediate post-partum (n=3)		Intra caesarean (n=41)		Total		P value
	No.	%	No.	%	No.	%	No.	%	
No complain	31	59.61	2	66.66	26	63.41	59	61.45	-
Menstrual disturbances	10	19.23	0	0	6	14.63	16	16.66	<0.05
Removals	9	17.30	1	33.33	3	7.31	13	13.54	>0.05
Pelvic pain/ back ache	7	13.46	1	33.33	5	12.19	13	13.54	<0.05
Expulsions	4	7.69	0	0	1	2.43	5	5.20	<0.05
Infection	1	1.92	0	0	0	0	1	1.04	-
Continuation rate at 6 month	39	75	2	66.66	37	90.24	78	81.25	-

In 9 women USG was done to confirm the position of IUD. In all the women, IUD was found in normal position despite the non-visibility of strings in vagina. The expulsion rate was 5.20% which was detected by history, clinical examination and pelvic ultrasonography. These women were informed about IUD expulsion and were advised to use alternative method of contraception. Incidence of expulsion was more in vaginal insertions 4 (7.69%) than intra caesarean insertions 1 (2.43%) but this

difference was statistically not significant (P value <0.05). Table 5 shows reasons for discontinuation. IUD removal was done in 13 (13.54%) women. Various reasons for removal were pelvic pain, menorrhagia, PPH and infection. IUD removal was done in 10 (18.18%) women who had vaginal insertions but in only 3 (7.31%) women who had intra caesarean insertions and this difference was statistically significant (P value >0.05). The continuation rate was 81.25% at 6 months.

Table 5: Reasons of discontinuation (n=18).

Reason	Post placental (n=52)		Immediate post-partum (n=3)		Intra caesarean (n=41)		Total	
	No.	%	No.	%	No.	%	No.	%
Expulsion	4	7.69	0	0	1	2.43	5	5.20
Removal for								
a) Pelvic pain	4	7.69	1	33.33	1	2.43	6	6.25
b) Menorrhagia	3	5.77	0	0	2	4.87	5	5.20
c) PPH	1	1.92	0	0	0	0	1	1.04
d) Infection	1	1.92	0	0	0	0	1	1.04
Total	13	25	1	33.33	4	9.7	18	18.76

DISCUSSION

IUD insertion in post-partum period provides a good opportunity to achieve long term contraception with minimal discomfort to the woman. We investigated the 6 months out comes in women who had Cu-T 380A IUDs

insertion in post placental, immediate post-partum period and during caesarean section.

The main side effects of Copper containing IUD usage are prolonged or excessive bleeding and abdominal pain. In present study 16.66% women had menstrual

disturbances and 13.54% women had pain in lower abdomen and back ache. There was one case of vaginal discharge and infection. In a study by Shukla et al.³ using Cu T 200 B in immediate post-partum period, 27.23% women were found to have heavy bleeding during menstruation. Neither of the women in their study complained of pain in lower abdomen or abnormal vaginal discharge nor did any of them had any sign of PID but the follow up rate in this study was only 11.3% at 6 months while in our study it was 84.95% at 6 months. In a systematic review by Kapp and Curtis⁴ the outcome of post-partum insertion of IUD at different time interval was compared. The evidence demonstrated no increase in risk of complications among women who had an IUD inserted during the post-partum period. Post placental insertions during caesarean section were associated with lower expulsion rates than post placental vaginal insertions, without any increase in other complications.

Welkovic et al.⁵ studied post-partum bleeding and infection after post placental IUD insertion and found no difference in the incidence of excessive bleeding. In a review by Anita L. Nelson⁶ safety, efficacy and patient acceptability of Cu T 380A was studied. The evidence showed PPIUD was a safe and convenient method but vaginal insertions were associated with higher expulsion rates. In case of intra caesarean insertions results have demonstrated high levels of device retention and low levels of complications.

In our study expulsion rate was 5.2 percent. IUD removal was done in 13.54% women. The common causes for removal were pelvic pain and menorrhagia. In a study by Fernandes JHA et al.⁷ the authors used Multiload Cu 375 immediately after vaginal delivery and caesarean section. This study showed a significant difference in expulsion/removal rate in post placental IUD insertion after vaginal deliveries and caesarean sections. The expulsion/removal rate was 32% among the subjects in vaginal delivery group, but there were no expulsions or removals in those submitted to caesarean section. In our study also expulsion rate was more in IUD insertion after vaginal delivery (7.69%) as compared to caesarean section (2.43%) at the end of 6 months. In another study by Celen S et al.⁸ Cu T 380A insertion was done during caesarean section. The cumulative rate of expulsion, removal for bleeding/pain and other medical reasons were 17.6, 8.2 and 2.4 per 100 women per year respectively. Shukla et al.³ reported expulsion rate of 10.68% at the end of 6 month. Jose A, Lopez F et al.⁹ compared levonorgestrel intrauterine system (LNG-IUS) with Cu T 380A insertion during caesarean section. The IUD expulsion rate was 4.5% in each group.

Shereen Z. Butta et al.¹⁰ determined the safety of multiload Cu 375 insertion at caesarean section in term of infection, conception and perforation. In their study wound was infected in 10% women, lochia was heavy in 4% women and 82% women were willing to continue

with IUD and they found it as a safe and effective method. In our study also intra caesarean IUD was associated with lower rate of complications, removals and expulsions. More over insertion at caesarean section also offers an alternative to the common practice of tubal ligation in case of multiple repeat caesarean sections. Women who have had multiple caesarean sections at short intervals followed by tubal ligation, at a relatively younger age may regret it later on especially in view of high perinatal and infant mortality rates in developing countries like India. Therefore a reversible but long term method like IUD in this group of women is a feasible option. We did not encounter any serious complication, uterine perforation or misplaced IUD in our study, which is similar with results of other study by Xu J et al.¹¹ which also showed absence of any serious complication in their observations and found post-partum IUD as a safe contraceptive method.

CONCLUSION

Post-partum insertion of IUD has the advantages of high motivation, ease of insertion and convenience for both the clients and the service provider. Immediate post-partum intrauterine device insertion showed to be a useful and safe contraceptive method. Furthermore, the use of a safe contraceptive method, provided immediately after delivery and before discharge from hospital is a far-reaching reproductive health technique if we consider the high number of puerperae who do not return for contraception.

Synopsis

Access to safe and effective contraceptive services in the postpartum period is of utmost importance for a woman to prevent unwanted/mistimed pregnancy. Immediate postpartum insertion of IUD is an effective and safe method which can be accepted by the woman immediately after delivery.

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Ethical approval: The study was approved by the institutional ethics committee

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