ORIGINAL ARTICLE

A STUDY ON THE COMPLICATIONS OF IMMEDIATE POST-PARTUM IUCD INSERTION

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ABSTRACT: BACKGROUND: More than half of Indian women in the first year post-partum wish to use a family planning method, but only one fourth is utilizing any method. This study was done to assess the complications of immediate postpartum insertion of intrauterine contraceptive device with the aim to offer a more effective postpartum family planning method. **STUDY SETTING:** Institute of Maternal and Child health, Government medical college, Kozhikode. **STUDY DESIGN:** A prospective longitudinal study. **METHODS:** The women who choose to have a postpartum intrauterine device insertion (Cu T 380A) were counseled and device inserted within 48hrs postpartum. Follow up is done from immediate postpartum period to 6 months for complications and client satisfaction. **RESULTS:** Of the 100 subjects in the study group, there were 68 intracaeserean insertions and 32 transvaginal insertions. Expulsion of the device was found to be a significant complication in this study. The total expulsion rate was 3% in the whole study group. There was no expulsion in the subjects who had intracaeserean insertion. All the expulsions were among those in the transvaginal route, which was 9.4% (p value, 0.031). At the end of six months follow up, of the total 91% of the subjects who continued with this method, thread of the device was not visible in 25.3%. In situ device was confirmed by ultrasonography in such cases. 89% of the women were satisfied with this method of family planning with intracaeserean insertion leading to more client satisfaction (p value 0.034). **CONCLUSIONS:** Immediate postpartum CuT 380A is a method of family planning with good client satisfaction especially intracaeserean insertion which had less expulsion rate than transvaginal.

KEYWORDS: copper T, intrauterine device, family planning, expulsion, postpartum.

ETHICS: This study was done in accordance with the standards of institutional ethical committee.

INTRODUCTION: India is the second most populated country in the world after china with an estimated total population of 1.26 billion.(1) India's maternal mortality ratio stays at an alarming figure of 254/100000 live births, which cause 117000 women to die from pregnancy and child birth complications every year.(2) This contributes to 20% of global maternal deaths.

A woman who becomes pregnant soon after a previous childbirth faces the risks of anemia, abortion, preterm labour and maternal death. A baby born after short birth interval has increased chances of being born preterm, small for gestational age and neonatal death. About 65% of the woman in the first year postpartum have an unmet need for family planning, while only 26% of women are using any family planning method in the first year of post-partum.(3)

It should be possible for health care providers to offer a family planning method to the mother in her immediate postpartum period, which should be reversible, with fewer

complications, not with increased morbidity, not interfering with breast feeding and having longer duration of action.

Intra uterine contraceptive devices have been used in India for decades for spacing pregnancies. CuT 380A is a highly effective device approved by government of India with an effective protection period up to 10 years. The government of India has initiated immediate postpartum family planning services by insertion of CuT 380A with more than 8000 postpartum intrauterine device (PPIUCD) having been inserted.[4]

Though it is well accepted the effectiveness of CuT 380A, it is not studied with diligence of the complications upon insertion and the satisfaction to the mother. In India a higher rate of expulsion of PPIUCD is noted (8-14%), but with good technique, the expulsion rate comes down to around 5%.

This present study intends to look into the complications associated with immediate postpartum IUCD insertion in a cohort of women in Institute of Maternal and Child Health, Kozhikode, a tertiary level teaching hospital.

MATERIALS AND METHODS: The study group included 100 women who delivered in the Institute of Maternal and Child Health, Kozhikode who are willing for immediate PPIUCD insertion. The device was inserted in the immediate postpartum period (within 48hours of delivery or intra-caesarean) after adequate counseling and getting written informed consent.

INCLUSION CRITERIA: Term pregnant women admitted in the antenatal ward who desires to postpone their next pregnancy.

EXCLUSION CRITERIA: Study group is screened twice before PPIUCD insertion.

First assessment (antenatal period);

1. Distorted uterine cavity.
2. Purulent vaginal discharge.
3. High risk of sexually transmitted diseases.

Second assessment (after delivery)

1. Chorioamnionitis.
2. Prolonged rupture of membranes.
3. Severe post-partum haemorrhage.
4. Genital trauma.

INSERTION TECHNIQUE: Insertion of the device was done either transvaginally or intra caeserean.

TRANSVAGINAL INSERTION: IUCD was inserted under aseptic precautions using Kelly's forceps. Cervix is visualized using Sims speculum and the area is wiped with povidone iodine solution. The anterior lip of cervix is held with sponge holding forceps, IUCD is taken out of the pack using Kellys forceps by no touch technique and inserted gently into the lower uterine cavity

without touching vaginal wall. The left hand of the inserter is used to push the uterus transabdominally upwards to reduce the angle between uterus and vagina. The Kellys forceps is then gently moved up in the uterus holding the IUCD firmly until the resistance of the fundus is reached. The IUCD is then released at the fundus and the Kellys forceps is carefully removed by sweeping it towards the sidewall of the uterus taking care not to dislodge the inserted device. The cervical os is again examined.

INTRACAESEREAN INSERTION: After the removal of placenta the IUCD is held between index and middle finger and placed through the uterine incision into the fundus. The thread of the device are placed in the uterine cavity and not pushed into the cervical canal, ensuring that it is not caught in the uterine sutures.

FOLLOW UP: These women were followed up at 48hours after delivery, 6 weeks and 6 months postpartum. Symptoms regarding lochia, vaginal bleeding, abdominal pain and infection (fever, abdominal tenderness, and vaginal discharge) were looked for. All were again counseled about the possible complications of IUCD and to identify the expulsion of the device. Ultrasound examination was done in cases where the thread of the device was not visible. At the end of 6 months all of them were assessed for their satisfaction with PPIUCD insertion.

The study tool utilized were a questionnaire, to be answered by the women. During the follow up, clinical examination was done, laboratory investigations and ultrasound examination in indicated cases. All the observations were recorded. Study variables were age, parity, educational level socioeconomic status, complications and client satisfaction.

The data were statistically analyzed using the software statistical package for social sciences (SPSS) version 16 for windows. Data was analyzed using Chi square test and Fischer's exact test. P value <0.05 was considered to be statistically significant.

RESULTS: The total number of subjects included in the study was 100. 80% of them were of age 20-30 years. 3% were of age <20 years. 62% subjects in the group were of parity two, 34% parity three and 4% parity four. 68% subjects in the study group had delivered vaginally and 32% delivered by caesarean section (Table1). Excess vaginal bleeding was noted in two subjects in the immediate post-partum period, which was treated with uterotonics. All the subjects had normal involution of uterus.

Out of total 100 subjects, three (3%) had expelled the device (Table 2). All of them had transvaginal insertion of IUCD. One of them was not aware of the expulsion, which was identified during follow up at 6weeks. The other two had expelled the device spontaneously along with excess vaginal bleeding at around 6 and 8 weeks after insertion. Of the remaining 97 subjects, six (6.2%) requested to remove the IUCD even after reassurance. Three of them were due to excessive vaginal bleeding, two due to abdominal pain, and one decided for permanent sterilization (Table 3).

At 6 months follow up, 91% of the subjects continued with their device. IUCD thread was not visible at 48hrs both in the vaginal delivery and caesarian groups. At 6 weeks and 6 months postpartum, IUCD thread was not seen in 57.1% and 25.3% respectively. Ultrasonography was

done in all these subjects to confirm the presence of IUCD (Table 4). No subjects had features of infection during the study period. None of them had pregnancy during this period. However duration of 6 months is inadequate to comment upon this aspect. Client satisfaction was 89% with this method of family planning (Table 5).

DISCUSSION: The objective of this study was to identify the complications of immediate postpartum insertion of IUCD. This would further allow an appropriate, reversible and long term family planning option for women before returning home after delivery. The woman is most receptive to family planning methods while in her antenatal period prior to delivery. The postpartum period is a convenient time to have an IUCD inserted, since she is under medical care.

Throughout the period from 2004 to 2009 the age group 20 – 24 continued to have a peak fertility rate, with the Age Specific Marital Fertility Rate reaching 326 in 2009 from 303 in 2008.[5] This shows the significance of an effective contraceptive method during this period. In this study 80% of subjects were of the age group 20-30years.

Expulsion of the device was a significant complication of PPIUCD which was more with the vaginal route of insertion than intracaeserean insertion. Missing thread is a common problem following PPIUCD insertion particularly when inserted during caesarean section. Infection can be avoided by following strict aseptic precautions during insertion. Incidence of uterine perforation can be reduced with good technique of insertion. PPIUCD do not interfere with the normal physiological events in the immediate postpartum period. The occurrence of abdominal pain and bleeding may lead to removal of IUCD. The subjects who had intracaeserean insertion were more satisfied than the others after PPIUCD insertion.

Kittur et al has shown that 86.2% of subjects in their study were satisfied with the PPIUCD insertion.[6] In the present study 89% of subjects were satisfied with immediate postpartum IUCD insertion. Those who had intracaeserean insertion were more satisfied with this method than vaginal delivery group with a statistically significant p value of 0.034. Two subjects who had dissatisfaction were also ready to continue the device after counseling, emphasizing that good communication and adequate counseling are the keystones to postpartum insertion of IUCD.

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AGE (years)	Number/ %	Parity	Number/ %	Mode of delivery	Number/ %
<20	3	Para 1	0	Vaginal	32
20 – 30	80	Para 2	62	Caeserean	68
30 – 40	17	Para 3	34		
>40	0	Para 4	4		
Total	**100**		**100**		**100**

Table 1: Distribution according to age, parity and mode of delivery

Expulsion	Yes	No	Total
Transvaginal	3 (9.4%)	29 (90.6%)	32
Intracaeserean	0	68(100%)	68
Total	**3 (3%)**	**97 (97%)**	

Table 2: Expulsion of PPIUCD

Abdominal pain & cramps	2
Excess menstrual bleeding	3
Decided for sterilization	1

Table 3: Causes of removal of IUCD in the six cases

Thread status	Seen	Not seen	Total
At 48 hours			
Vaginal	0	32	32
LSCS	0	68	68
Total	0	100	100
At 6 weeks			
Vaginal	28(93.3%)	2(6.7%) **	30*
LSCS	14(20.6%)	54(79.4%) **	68
Total	42(42.9%)	56(57.1%)	98*
At 6 months			
Vaginal	26(100%)	0	26*
LSCS	42(64.6%)	23(35.4%) **	65*
Total	68(74.7%)	23(25.3%)	91*

Table 4: Thread status on follow up
*IUCD expelled/removed, ** Visible with USG

Satisfaction	Yes	No	Total
Transvaginal	25 (78.1%)	7 (21.9%)	32
Caeserean section	64 (94.1%)	4 (5.9%)	68
Total	**89**	**11**	**100**

Table 5: Distribution according to patient satisfaction

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