Original Article

Safety and feasibility of intrauterine device insertion following post-placental delivery

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Objective: To assess the safety and feasibility of intrauterine (IUD) insertion following post placental delivery.

Methodology: The descriptive study was conducted at Rawal Institute of Health Sciences Islamabad, from November 2011 to November 2012 and included 100 pregnant women. IUCDs were inserted within 10 minutes of placental delivery by hand or IUCD inserter. The subjects were examined at 1 and 10 weeks postpartum for evidence of expulsion or infection.

Results: 110 subjects were enrolled while 100 received IUCDs following delivery; eight women refused insertion at the time of delivery, 2 IUCDs were not inserted due to PPH and PROM Evidence of intrauterine infection at 1st and 10th week of IUCD insertion was 8% and 3% respectively. 14% women complained of heavy vaginal bleeding at 1st week, which reduced to 6% at 10th week. Incidence of cramps also decreased from 7% to 4% at 10th week. On the whole, 5 partial and 3 complete expulsions occurred. Out of which 4 partial and 2 complete expulsions occurred during 1st week. Only one IUCD was removed at 1st week due to women's own request as her husband was going abroad.

Conclusion: IUCD insertion in post placental delivery was feasible and cost effective with an acceptable risk of expulsion. (Rawal Med J 2014;39: 186-189).

Key words: Contraception, Intrauterine contraceptive device, Post placental insertion.

INTRODUCTION

The intra uterine contraceptive device (IUCD) provides a safe, reversible, long-acting and cost effective form of contraception.[1] Out of current IUCDs, non hormonal IUCDs are more acceptable as they do not impede with breast feeding.[2-4] The immediate postpartum period when woman is still in medical center is the ideal time to commence contraception as she encounter's some difficulty in reaching the family planning clinics once she leaves because of certain domestic and financial reasons.[4] This is especially true in the rural areas and in families where the mother does not get support from her family. Recent studies have also established that IUCD insertion even after first trimester abortion carries no increased risk of perforation, infection or discontinuation, except minimal increase in the risk of expulsion (12%) over delayed insertion.[2,5,6] Out of many available IUCDs, recent evidence based studies have shown a change for copper-T (CUT380) for insertion in women who are nulliparous, have a history of pelvic inflammatory disease (PID) or sexually transmitted infection (STI) without high risk.[5] The present study was conducted to assess the safety and feasibility of immediate post placental insertion of IUCDs.

METHODOLOGY

The study was conducted at Rawal Institute of Health Sciences Islamabad, Pakistan from November 2011 to November 2012. A total of 110 pregnant women with an age greater than 18 years coming from either urban or rural areas were enrolled in study. Eight women refused insertion because of husband's unwillingness and in two it was not inserted due to PPH and PROM. The women with history of STI, undiagnosed vaginal bleeding, and history of postpartum or postabortal

sepsis, diagnosed cervical cancer or carcinoma in situ were excluded from the study. Operational definitions used were as follows: Partial Expulsion: Displacement of IUCD from uterine fundus to lower part of uterine cavity or cervix. Complete Expulsion: Absence of IUCD from uterine cavity (no IUCD seen in uterine cavity on follow up visit). Post placental: Insertion within 10 minutes of placental delivery after vaginal or cesarean delivery.[3]

A written informed consent was taken from all subjects. All insertions (CuT/ Multiload) were performed within 10 minutes of placental delivery. In cases of cesarean section IUCD was inserted before stitching the uterus. Information regarding age, married years, parity, past obstetric history, time interval between delivery and inertion and technique used for insertion was recorded.

Follow up visits were scheduled at 1st and 10th week postpartum and same proforma was filled. We selected follow up at 10th week because uterus completes its involution in 8 weeks postpartum postulating that most of the expulsion takes place during this period. At each visit, clients were assessed for intrauterine infection (fever and uterine tenderness), excessive vaginal bleeding or cramps. Per speculum examination was done to see the thread of IUCD and it's location in uterine cavity (fundus, middle, lower uterine segment, intracervical or absent) was confirmed by transabdominal ultrasound. Data were analyzed using SPSS version 16.

RESULTS

Out of 110 women enrolled in this study, only 100 underwent IUCD insertion. The median age was 28 years, while the median time from placental delivery to IUCD insertion was 7 minute. Most of the insertions were done by hand (52%) and was placed at or close to fundus. There was no uterine perforation due to insertion.

Table 1. Demographic analysis of subjects with IUCD insertion.

Age (years)	(21-39) 28.08±4.22
Married years	(1-20) 6.76±3.34
Parity 0	8(8%)
1	7 (7%)
2	25 (25%)
3	34 (34%)
4	19 (19%)
5	7 (6%)
Prior Vaginal deliveries	
0 1 2 3 4 5	8(8%) 16 (6%) 218 (18%%) 322 (22%) 410 (10%) 7(7%)
Prior Cesarean Section	
0 1 2 3 4 5	0 1 (1%) 7 (7%) 12 (12%) 09 (9%) 0
Placental delivery	
Spontaneous	92 (92%)
Manual	08 (8%)
Time from placental delivery to IUCD insertion	(4-13) 6.77±1.57
Technique used for IUCD insertion	
Hand	52 (52%) n
IUCD Inserter	48 (48%)

Thirty-four percent of the subjects had 3 children, 71% had prior vaginal deliveries while 29% of the subjects had prior cesarean sections. In 92% of the cases the placenta was delivered spontaneously (Table 1).

Table 2. Follow up at 1 and 10 week postpartum.

Outcome		
Evidence of intrauterine Infection	1 week	10 weeks
Fever >38 ^{0}C	5	2
Uterine tenderness	3	1
Evidence of excessive bleeding	14	6
Evidence of cramps	7	4
Strings missing on Physical exam	2	1
Expulsion		
Partial	4	1
Complete	2	1
Removal (due to other causes)	1	0
IUCD location on USG		
At fundus	65	62
Middle of the uterus	30	3
Lower uterine segment	1	1
Intracervical	2	0

At follow up, 8 subjects had fever and lower abdominal pain (tender on examination) at 1st week of insertion, while the percentages decreased to 3% at 10th week. Similarly, the bleeding tendencies were 14% and cramps 7% at 1st week and decreased to 6% and 4% at 10th week (Table 2).

On the whole, 3 complete expulsions occurred. Both were in first week in primiparas, delivered vaginally while third expulsion was seen at 10th week in a woman who underwent cesarean section. Four partial expulsions occurred in cases of vaginal delivery. All expulsions, which occurred after vaginal deliveries, were inserted by resident on floor.

DISCUSSION

In this study, we inserted IUCD immediately after placental delivery as it was seen in different studies that the post placental IUCD insertion is associated with high satisfaction (99%) and continuation rate (78-81%) in comparison to other contraceptive methods.[3,7] Not only woman but whole of the family has a high motivation for accepting contraception at the time of delivery. Thus, the health care centre providing PP IUCD ensures the use of reversible long acting contraception.[5] In another study, it was concluded that the family planning services are more acceptable at the time of child birth.[8] This approach is more applicable to developing countries like ours where delivery may be the only time when a healthy woman comes into contact with health-care providers and the chances of the woman returning for contraceptive advice are uncertain. This is seen in our study as only eight out of 110 refused insertion, indicating high acceptance rate.

In our study, the incidence of intrauterine infection was only 8% at 1st week and 3% at 10th week. This is similar to Marai's study who found that the incidence of reproductive tract infection is more in early post insertion time especially in developing countries.[7] In another study, similar incidence of pelvic infection was noted, which warrants the use of prophylactic antibiotics.[5]

Timing of insertion, counseling and provider training are important factors for IUCD insertion in post-partum period, as myths of contraceptive method can be addressed effectively by good counseling.[9] Timing of insertion is the main factor which influences the risk of expulsion. Ideally, post-partum insertion should take place within 10 min of placental delivery (post-placental application).[10-13] Expulsion of an IUCD is an important factor affecting its safety and efficacy. Partially expelled IUCDs should be removed promptly because their contraceptive efficacy is uncertain and may rarely lead to complications.[11] In the present study, we found 1 and 10-week rates of partial expulsion 4% and 1% respectively and complete expulsion to be 2% and 1%, respectively. Our results are in consistent with previous studies.[14,15] IUCD inserted 6 or more weeks after delivery, especially after cesarean section had high expulsion rate.[16]

The IUCD expulsion rate also depend on clinician experience as the skilled clinicians have been associated with lower expulsion rates than unskilled

clinicians.[17] This is similar to our study in which expulsions occurred in those cases in which IUCDs were inserted by residents on floor. We found that incidence of excessive bleeding was high (14%) initially but it decreased with time and at 10th week it was 6%. This is in contrary to Elsedeek study who found that bleeding remained excessive in clients with IUCD as compared to those who received IUS.[18]

CONCLUSION

IUCD inserted in immediate post partum period was an effective method of contraception associated with an acceptable rate of expulsion and a minimal rate of infection and bleeding.

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Analysis and interpretation of data: Kinza, Ayesha
Drafting of article: Kinza
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