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Research Article

Post-placental postpartum intrauterine contraceptive devices insertion: our scenario

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ABSTRACT

Background: India is the second most populous country in the world with a population estimate of 1,304,162,999 on 1st January 2016. Population explosion is a great menace for the country and effective population control is the need of the hour. This study was designed to evaluate postpartum intrauterine contraceptive devices (PPIUCD), which is a novel innovation in population control.

Methods: This was a prospective study with a sample size of 300 women (150 cesarean and 150 vaginal deliveries). After informed consent and assessing eligibility for PPIUCD, Cu-T 380A was inserted. Post-insertion, the cases were followed up to 12 weeks after delivery with special attention to acceptance and complications like IUCD expulsion, hemorrhage, pelvic pain and infection. The results were compiled and statistically analyzed.

Results: Acceptance of PPIUCD was higher in Cesarean deliveries than in vaginal deliveries. Acceptance was also higher in unplanned pregnancies. Presence of prior male child influenced decisions. Minor complications were reported but there were no serious complications. No expulsions were reported in post-cesarean cases.

Conclusions: PPIUCD, a long-acting reversible method of contraception, is a safe option with high retention rate and very few expulsions and side effects. There was higher rate of acceptance, no expulsion and high continuation rate in post-cesarean cases as compared to vaginally delivered cases.

Keywords: Intrauterine contraceptive device, Postpartum IUCD, Post-placental IUCD, PPIUCD

INTRODUCTION

India, the second most populous country in the world with a population density of 386/km² accommodates more than a sixth of the world's population.¹ As of 1st January 2016, the population of India was estimated to be 1,304,162,999 people.² Moreover, with the population growth rate of 1.34%, Indian population is predicted to be beyond 1.53 billion by the end of 2030.² Such population explosion is a great menace and strongly directs us to attempts to restrict population growth. Effective population control measures are the need of the hour and numerous methods have developed and strategies and policies made in this direction. Postpartum PPIUCD is a

relatively novel innovation and is coming up with excellent efficacy, safety and acceptance. The present study was carried out with an objective to study 300 such cases of PPIUCD insertion with regard to acceptance and complications.

METHODS

Our study was a prospective interventional analytical study conducted in the department of Obstetrics & Gynaecology, S. P. Medical College & P. B. M. Hospital, Bikaner, Rajasthan. The sample size was 300 cases (150 vaginal deliveries i.e. Group A and 150 Caesarean deliveries i.e. Group B). Women in third trimester

attending the antenatal clinic or admitted in labor room were counselled for PPIUCD. Exclusion criteria were ruled out. These included chorioamnionitis, prolonged rupture of membranes, ante-partum or post-partum haemorrhage, uterine cavity distortions like fibroids and septa, sexually transmitted diseases, severe anaemia, intrauterine fetal death and history of trophoblastic disease. Informed consent was taken from the eligible cases. Detailed history was taken including age, residence, religion, socio-economic status, literacy, antenatal booking, obstetric history and number of prior male children. Clinical examination and baseline investigations were done. Cu-T 380 was placed in the uterus after delivery of the placenta. Asepsis was ensured and proper technique used as per vaginal or Caesarean mode of delivery. Cases were kept in follow-up for 12 weeks post-delivery. Special attention was given to IUCD expulsion, haemorrhage, pelvic pain, discharge, strings coming out, breast-feeding and resumption of menses. Complaints of the cases were recorded and managed. Counselling was done. Data collected was submitted for statistical analysis.

RESULTS

Table 1: Distribution of cases according to planning of pregnancy.

Planning		Vaginal delivery (Group A)		Caesarean delivery (Group B)	
		No.	%	No.	%
Unplanned	Within 2 years	101	67.3	97	64.7
	≥2 years	19	12.7	16	10.7
Planned		30	20.0	37	24.6
Total		150	100	150	100

Table 2: Distribution of cases according to presence of prior male child.

Prior male child	Vaginal delivery (Group A)		Caesarean delivery (Group B)	
	No.	%	No.	%
Present	133	88.7	112	74.7
Absent	17	11.3	38	25.3
Total cases	150	100	150	100
p value	0.002			

Cases accepting PPIUCD on counselling were higher in Caesarean deliveries than in vaginal deliveries. The proportion of women accepting PPIUCD was 27.98% in vaginal and 36.95% in Caesarean deliveries. The mean age was comparable in the two groups, being 26.21 years in vaginal and 25.41 years in Caesarean group. Most of the cases were from low socio-economic status but there was no difference in rural and urban distribution and antenatal booking. Acceptance was higher in illiterates

and less-educated cases. Hindus accepted PPIUCD more easily than Muslims. Acceptance was also higher in cases of unplanned pregnancies (Table 1). Presence of a prior male child influenced acceptance, especially in vaginal group (Table 2). There was a significant difference in the two groups with regard to parity with a peak at para2 in Caesarean deliveries (Table 3). Complaints were reported by 42% of cases in vaginal and 24.7% of cases in Caesarean group (Table 4). However, there were no serious complications reported like perforation, infection or failure of contraception. Protrusion of the IUCD tail outside introitus with IUCD felt at cervix was seen in 8.7% and missing tail in 8% of the vaginal deliveries (Table 5). Number of protruding tails was significantly lower in Caesarean group (zero) but missing tails were significantly more (38.7%). Excessive bleeding occurred in 8% of the vaginal and 6% of the Caesarean cases. Ultrasound was used to localize the IUCD in such cases (Table 6). Most of the complaints were managed with counselling and appropriate management. Post-Caesarean cases required more counselling sessions but had higher acceptance rates.

Table 3: Distribution of cases according to parity.

Parity	Vaginal delivery (Group A)		Caesarean delivery (Group B)	
	No.	%	No.	%
1	14	9.3	25	16.7
2	40	26.7	103	68.7
3	39	26.0	17	11.2
4	27	18.0	4	2.7
≥5	30	20.0	1	0.7
Total	150	100	150	100
Mean	3.39		2.03	
p value	<0.001			

Table 4: Distribution of cases according to complaints.

Complaints	Vaginal delivery (Group A)		Caesarean delivery (Group B)		p value
	No.	%	No.	%	
Psychosocial	23	15.3	16	10.7	>0.05
Pain	22	14.7	14	9.3	>0.05
Protrusion of tail at introitus	15	10.0	0	-	<0.001
Bleeding PV	12	8.0	9	6.0	>0.05
Spotting	5	3.3	4	2.7	>0.05
Coital dysfunction	1	0.7	0	-	>0.05
Total no. of cases having complaints	63	42.0	37	24.7	-
Total no. of cases	150	100	150	100	-

Table 5: Distribution of cases according to positive clinical findings.

Clinical findings	Vaginal delivery (Group A)		Caesarean delivery (Group B)		p value
	No.	%	No.	%	
Missing tail	12	8.0	58	38.7	<0.001
Protrusion of tail at introitus with displaced IUCD	13	8.7	-	-	>0.05
Protrusion of tail at introitus with IUCD in situ	2	1.3	-	-	<0.001
Excessive bleeding	12	8.0	9	6.0	>0.05
Perforation	-	-	-	-	-
Pregnancy	-	-	-	-	-
Infection/PID	-	-	-	-	-
Cases with positive findings	39	26.0	67	44.7	-
Total no. of cases	150	100	150	100	-

Table 6: Distribution of cases according to findings at USG.

USG findings	Vaginal delivery (Group A)		Caesarean delivery (Group B)	
	No.	%	No.	%
Normal findings with IUCD in situ	12	8.0	58	38.7
Downward displaced IUCD	13	8.7	-	-
Protrusion of tail with IUCD in situ	2	1.3	-	-
Total no. of cases requiring USG	27	18	58	38.7
Total no. of cases	150	100	150	100

DISCUSSION

Population explosion is proving an epidemic for the whole world with an epicenter in the third world countries. Family planning measures need to be strengthened at all levels aiming at limitation of family size and indirectly improving maternal and child health parameters. Post-placental PPIUCD insertion is a highly effective, safe and easily accessible contraceptive method, especially in developing countries where chances of parturient women returning to health care centres for contraception are uncertain.

The present study was conducted in the Department of OBG, S. P. Medical College & P. B. M. Hospital, Bikaner, Rajasthan, which is a tertiary care health centre. Sample size was 300 (150 post Caesarean & 150 post vaginal delivery cases) enrolled in the study after proper counselling and informed consent.

After counselling, 27.98% vaginally delivered cases and 36.95% Caesarean cases accepted insertion of PPIUCD. Acceptance and actual insertion are not high because PPIUCD is still a novel concept in the community.^{3,4} Acceptance was higher in Caesarean group, similar to other studies.⁴ Mean age was comparable in both groups (26.21 years in vaginal & 25.41 years in Caesarean) probably because most females coming to the hospital for delivery belong to the same age group.⁵ Higher acceptance in illiterates, less educated cases and cases with low socio-economic status can be related to their willingness for contraceptive use with a fear of failure to return back. They also lack awareness of other measures. Though antenatal counselling improves acceptance but a large number of deliveries at our institute are un-booked and referred cases from PHCs and CHCs. Henceforth, booking status was almost similar in both groups and was approximately 50%. Duration since last child birth was significantly associated with acceptance of PPIUCD.⁶ It was observed that 80% of Group A cases and 75.4% of Group B cases had present unplanned pregnancy, that too mostly within 2 years of previous child-birth. This was mainly due to lack of knowledge of contraceptive measures or failed contraception. Such women were counselled easily and had better acceptance as reported in other studies too.^{4,6,7} Higher number of Hindu patients could be related to predominance of Hindu population in our area. There was significant difference in parity in the two groups with a clustering of cases at Para2 in Group B as reported in other studies also.^{8,9} This may be related to the awareness that family size should be limited or at least spacing should be done if there is an operative delivery. Also, there is reluctance to permanent family planning measure like tubal ligation due to certain myths, prejudices and also due to high neonatal and infant mortality and morbidity rates in India and especially Rajasthan. CuT 380A is an excellent alternative which provides contraception for 10 years and is also reversible as soon as removed. Easier acceptance in women with prior male child could be related to social bias and lack of education and needs to be changed¹⁰. The cases were followed up to 12 weeks post-delivery. Minor complaints like pain, spotting or bleeding per vagina and psychosocial issues were similar in both groups and managed with counselling and appropriate treatment. Clinical examination revealed that 10% of Group A cases had IUCD tail protruding at the introitus. Ultrasound revealed that in 8.7%, protruding tails represented displaced or partially expelled IUCDs and 1.3% had protrusion of tail with IUCD in situ. Studies have reported varying expulsion rates (3-10.5%).^{4-8,11,12} There was no case with expelled IUCD in Group B. Lower expulsion rates in caesarean group could be related to

better fundal placement of IUCD by senior surgeon under direct visualization in Caesarean as against blind procedure in vaginal deliveries.^{5,11} Missing IUCD tail was reported in 8% of Group A cases and 38.7% of Group B cases. Surprisingly, ultrasound examination of these cases revealed that all of them had IUCD in situ, similar to other studies.⁶ Significantly higher number in Caesarean group was related to coiling of IUCD tail above the tighter cervix.⁶ Excessive bleeding was present in 8% in Group A and 6% in Group B. Like other studies, no perforation was reported in either group and no case of infection related to IUCD was reported.^{5,8} These related to proper training of medical fraternity, appropriate case selection and good antibiotic coverage. In our study, 24% of the cases in Group A and 9.3% of cases in Group B required or opted for removal. Analysis of the causes for removal revealed that apart from the 8.7% of partially expelled IUCDs in the vaginal group, excessive bleeding per vagina (8%) and pain (4%) were the two most common causes for removal. In the Caesarean group, although IUCD was removed for excessive vaginal bleeding in 6% and pain in 2.7% of the cases but expulsion of IUCD was not reported. Hence, like other studies, continuation rate was 76% in vaginal delivery group and 90.7% in Caesarean delivery group.¹²

CONCLUSIONS

Post-placental PPIUCD is an excellent method of contraception, especially in areas with limited awareness and access to postpartum care and family planning measures. A further improvement in acceptance and continuation rates can be achieved by integration with national health programs. Limitation of family size and reduction in number of unplanned and closely spaced pregnancies will also help secure better health for mother and child.

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