

Expulsion Rate of Post Placental Intrauterine Device Placed in Women Delivered by Caesarean Section and Vaginal Delivery

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ABSTRACT

Background: Pakistan has become the fifth most populous nation of the world. Use of post placental intrauterine device may be helpful in countries like Pakistan where women have limited access to medical care and family planning services. The aim of this study was to determine the expulsion rate of post-placental intrauterine device (IUCD) placed in women delivered by caesarean section or vaginal delivery.

Patients and Methods: This descriptive case series study was carried out in the Department of Obstetrics & Gynecology Sir Ganga Ram Hospital, Lahore from August 2014 to August 2015. All women delivering vaginally or by Caesarean section who opted for intrauterine contraceptive device after counseling were enrolled in the study. The expulsion rate was noted at 6 weeks and 6 months follow up visit or earlier if expelled. Data was collected on pretested Performa.

Results: In this study, out of 160 cases, 40.63% (n=65) were between 18-30 years of age while 59.37% (n=95) were between 31-50 years of age having mean age of 32.2 years. Among them 27.5% (n=44) had 1-3 para and 72.5% (n=116) had >3 para. Frequency of expulsion of post placental IUCD was recorded as 13.13% (n=21). No significant association was found for age, parity and mode of delivery.

Conclusion: The frequency of expulsion rate of post placental intrauterine contraceptive device inserted in women delivered by cesarean section and vaginal delivery is low. Therefore, this method can be opted for effective family planning in Pakistani population.

Keywords: Post-partum intrauterine device, expulsion rate, contraception.

INTRODUCTION

Pakistan has become the world's fifth most populous nation. Pakistan's population was 197.4 million in 2011 with an increase of 62.7 million from the last census in 1998.¹ Contraceptive prevalence in Pakistan was reported as just 35% in 2013.² One important reason is that, despite of adequate counseling during antenatal and postnatal period; women fail to return for contraceptive care.³

Post placental intrauterine contraceptive devices (IUCD) insertion is an effective and safe method of contraception.^{3,4} The advantages, in addition to physicians' convenience, of its use include highly motivation of women for contraception through IUCD.³⁻⁵ Furthermore, post placental IUCD is a long term, reversible method. It does not affect breastfeeding and coital activity. It is helpful in countries like Pakistan where women have limited access to medical care and delivery may be the only time when they come into contact with health care providers.⁶ It may lead to fulfillment of the unmet need of contraception in Pakistan.

Muller et al. in 2005, showed that expulsion rate of the IUCD were significantly lower after cesarean section (0 vs. 16.7%; $p < 0.001$) as compared to vaginal delivery.⁷ However, 1 year later, Riealde et al (2006) documented that though expulsion rates were lower after cesarean section (9% vs. 13%) as compared to vaginal delivery, yet the differences was statistically insignificant (p -value=0.3).⁸

At the moment, no such study has been done in Pakistan and whatever international evidence is available on this topic is too old and contains controversy.^{7,8} Post placental IUCDs have recently been adopted in practice locally. The purpose of the current is to determine the expulsion rate after cesarean section and vaginal delivery. Therefore, if vaginal delivery is in fact associated with higher expulsion rate, post placental IUCDs should be avoided in such patients in future and alternative contraceptive method should be preferred.

PATIENTS AND METHODS

This descriptive case series was carried out at the Obstetrics and Gynaecology Unit-I, Sir Ganga Ram Hospital, Lahore from August 2014 to August 2015. Sample size of 160 cases was calculated with 5% margin of error, 95% confidence level, taking expected expulsion rate to be 11.7% of IUCD placed after vaginal delivery.⁷ Patients aged between 18-50 years, delivering vaginally or by cesarean section, counseled for intrauterine device insertion in antenatal or in latent phase of labour were included in this study. However, women having post placental haemorrhage (as per examination), Rupture of membranes >18 hours (as per history of PV leak by the patient), Fever >38°C, Anemia (Haemoglobin<10g/dL), Obstructed labour (labour with no advance of the presenting part of the fetus despite strong uterine contractions assessed clinically), distorted uterine cavity by fibroids/congenital malformation (As per ultrasound examination) were excluded from the study. Approval from Institutional Ethical Review Board, FJMU was taken before the start of the study. Total 160 cases, presenting in the Obstetrics & Gynaecology outdoor and emergency department of Sir Ganga Ram Hospital, Lahore were enrolled in this study. Detailed history as well as written informed consent was taken from the patient. Mode of delivery was recorded. Immediately after delivery of the baby and placenta, post-placental intrauterine contraceptive device was inserted. Patients were followed after 6 weeks of placement in outdoor. Expulsion of IUCD was looked for as per operational definition. Patients' demographic details along with expulsion of IUCD was noted and recorded into the Performa. All the IUCD's were placed and assessed by the researcher herself or certified trained doctor on call. All the collected data was entered into SPSS version 10. Numerical variable i.e. age was presented by mean+sd. Categorical variables i.e. parity and expulsion was presented as frequency and percentage. Data was stratified for vaginal and cesarean delivery, age and parity. Post stratification chi square test was used taking p value ≤0.05 as significant.

RESULTS

A total of 160 cases fulfilling the inclusion/exclusion criteria were enrolled to determine the expulsion rate of post placental intrauterine contraceptive device inserted in women delivered by cesarean section and vaginal

Table 1: Frequency of expulsion of IUCD in different age groups, according to parity and modes of delivery

Characteristics	Frequency of expulsion (%)	p-value
<i>Age group (years)</i>		
18-30	9 (42.9)	0.82
31-50	12 (57.1)	
<i>Parity</i>		
1-3	9 (42.9)	0.09
>3	12 (57.1)	
<i>Mode of delivery</i>		
Cesarean	11 (52.3)	1.0
Vaginal delivery	10 (47.7)	

delivery. Age distribution of the patients was done which shows that 40.63% (n=65) were between 18-30 years of age while 59.37% (n=95) were between 31-50 years of age. Mean age of the patients was 32.19±5.83 years.

Frequency of parity was recorded as 27.5% (n=44) for 1-3 para and 72.5% (n=116) had >3 paras. Patients were distributed according to mode of delivery, where 51.88% (n=83) had cesarean delivery while 48.12% (n=77) had vaginal delivery. Frequency of expulsion of post placental IUCD was recorded as 13.13% (n=21) while 86.87% (n=139) had no expulsion. Stratification for expulsion of post placental IUCD with regards to age shows that out of 21 expulsion cases, 9 were between 18-30 years and 12 were between 31-50 years of age (p-value=0.82). Stratification for expulsion of post placental IUCD with regards to parity shows that out of 21 expulsion cases, 9 were between 1-3 para and 12 had >3 paras (p-value=0.09). Stratification for expulsion of post placental IUCD with regards to mode of delivery reveals that out of 21 expulsion cases, 11 had cesarean section while remaining 10 had vaginal delivery (p-value=1.0) (Table 1).

DISCUSSION

The intrauterine contraceptive device (IUCD) placed after delivery is a safe, highly effective, long-lasting means of contraception. Nevertheless, the IUCD is certainly one of the most effective contraceptive methods; its failure rate is 1-3 per 100 woman per year.⁹ Insertion of an intrauterine

contraceptive device (IUCD) immediately after delivery is appealing for several reasons. The findings of this study are in agreement with Riealde et al (2006) documented that though expulsion rate was lower after cesarean section was 9% and 13% for vaginal delivery.⁸ Another study conducted on 1037 pregnant women in which the expulsion rate was 11.7% for the women whom IUCD was placed after delivery.⁵ Another study recorded the effectiveness (in terms of expulsion) of IUCD insertion soon after placental delivery was determined which shows no expulsion in 76% within 6 months.¹⁰ An Indian study conducted on 168 women reported 16.4% as IUD expulsion rate in women undergoing post-puerperal IUD insertion.¹¹

Erika Levi and others¹² assessed to long-term effective contraception and recorded that forty 43 (48%) women returned for their 6-week follow-up visits, and among those, no expulsions were recorded. Forty-two (47%) women were reached for phone follow-up at 6 months postpartum, and 80% reported being happy or very happy with their IUCD. The authors concluded that immediate post-placental IUCD insertion at the time of cesarean delivery is safe and acceptable. In the light of the above studies and findings in this study, it is evident that post placental IUCDs are effective mean of contraception even immediately after delivery. Therefore, this method of contraception may be used in future for family planning Pakistan.

CONCLUSION

We concluded that the frequency of expulsion rate of post placental intrauterine contraceptive device inserted in women delivered by cesarean section and vaginal delivery is 13.3% in this study which is quite low and this method is effective for family planning in our population.

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