

Post-placental Intrauterine Contraceptive Device at Cesarean Section

Robina Ali, Samina Kausar, Adeela Akram

ABSTRACT

Objective: The objective of this study is to determine the efficacy of immediate post placental insertion of intrauterine contraceptive device (PPIUCD) at cesarean section in terms of expulsion and continuation. **Study design:** Descriptive case study. **Place and Duration of Study:** Department of obstetrics and gynecology, PMC and affiliated hospitals Faisalabad from 06/12/2012 to 05/06/2013. **Material & Methods:** A total of 146 patients were included in my study. The copper Intrauterine contraceptive device (IUD) was placed at the time of cesarean section immediately after the delivery of placenta. Final outcome was observed at the end of six months

at follow up visit and efficacy was labeled as per operational definition. **Results:** Mean age of patients was 26.6+4.5 years. Out of 146 patients, 98 (67.1%) patients were Para 1-3 and 48 (32.9%) were Para 4-6. At the end of six months expulsion of IUD were seen in 18 (12.3%) patients and 123 (84.2%) patients were willing to continue this method of contraception. **Conclusion:** Immediate transe-caesarean section PPIUCD is a safe, effective and acceptable method of contraception and should be offered to women undergoing cesarean section who are desirous of contraception. **Key words:** Contraception, intrauterine device, casarean section, expulsion, continuation.

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INTRODUCTION

Contraception is essential for improving maternal and child health.¹ Societies in both the developing and developed world suffer from unacceptably high rate of unintended and unwanted pregnancies despite the availability of safe and effective forms of contraception. Despite the progress made in recent decades in fertility reduction in developing countries upto 120 millions (10-20%) married women in most regions and more than 24% in Sub Saharan Africa continue to report an unmet need for contraception². The millennium development goal (MDG) that requires universal access to reproductive health reaffirms the need for

contraceptive options as well as access to other key reproductive health services including safe abortion, to reduce maternal mortality and achieve gender equity.

The quality of family planning services remain an important determinant that affects the continuation or discontinuation of contraception.³ Recommendations have been made regarding selection of contraceptive methods before hospital discharge.⁴ An IUD is the most widely used reversible form of contraception.⁵ IUD can be safely advised immediately after pregnancy, in case of diabetes, HIV and also in women with history of DVT, pulmonary embolism or coronary events.⁶

Immediate PPIUCD is common in developing countries and is rare in developed countries.⁴ As rate of cesarean section is becoming high, women undergoing cesarean section are fair candidates for using IUD for contraception at cesarean section.¹ such candidates come under the category¹

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rating of world. Immediate PPIUD at cesarean section provides good opportunity to achieve long term contraception with minimum discomfort to the patient.⁷ No studies have shown increased risk of infection or any other complication related to this.⁸ Immediate post placental insertion of IUD at cesarean section obviates the obstetrician's traditional fear of perforation during insertion¹ and allows to achieve appropriate fundal placement of IUD as entire uterus is under vision, eliminating an additional office visit.⁷

In Pakistan, research work in this aspect is lacking. Henceforth, there is a dire need to explore this novel approach to determine its efficacy in our own population.¹

MATERIALS & METHODS

This descriptive study was conducted in department of obstetrics and gynaecology PMC and affiliated hospitals Faisalabad from 06/12/2012 to 05/06/2013. A total of 146 patients were selected by non probability consecutive sampling technique. All patients undergoing emergency and elective cesarean section (C-section) with gestational age more than 35 weeks and giving informed consent for procedure were included. Whereas patients with gestational age less than 35 weeks with current evidence of pelvic infection, prolonged rupture of membranes, uterine fibroids or structural abnormality of uterus were excluded.

Data collection and procedure

Women fulfilling inclusion criteria undergoing emergency or elective cesarean section were included in my study. Exclusion criteria were followed strictly to limit confounding variables. Informed consent was taken. A copper IUD (model Tcu 380A) was placed in the fundus of uterus by obstetrician within ten minutes of removing placenta through the uterine incision using ring forceps. Intrauterine contraceptive device users were examined before hospital discharge and follow up visits were scheduled at 6th week and 6th month post partum. Pelvic examination was done to confirm the presence of IUD. In case of inability to find thread of IUD at pelvic examination its expulsion was verified by trans abdominal ultrasonographic examination by sonologist.

All the data was collected by researcher and efficacy was measured as per operational definition.

Data analysis procedure

All the data was analyzed by using SPSS Version-10 Descriptive statistics were calculated for all variables. Mean and standard deviation was calculated for age and parity. Frequency and percentages were calculated for all quantitative variables like expulsion and continuation at 6th month post partum visit.

Sample size: By using WHO sample size calculator

$$P = 17.6\%⁷$$

Confidence level = 95%

Absolute precision required = 7%

Sample size = 146

RESULTS

Table 1: Mean and Standard Deviation Regarding Age and Parity

Variables	n	Minimum	Maximum	Mean	Std. Deviation
Age	146	19	36	26.68	4.55
Parity	146	1	6	2.76	1.52

Table 2: Distribution of patients by age

Age	Frequency	Percent
19-24	51	34.9
25-30	61	41.8
31-36	34	23.3
Total	146	100

Table 3: Distribution of Patients by Parity

Parity	Frequency	Percent
1-3	98	67.1
4-6	48	32.9
Total	146	100

Table 4: Efficacy in terms of Continuation

Continuation	Frequency	Percent
Yes	123	84.2
No	23	15.8
Total	146	100

Distribution of Patients by Age

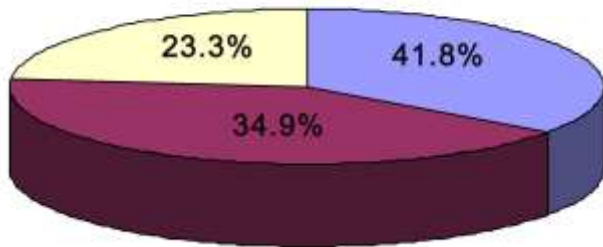


Figure 1: Distrubution of Patients by Age

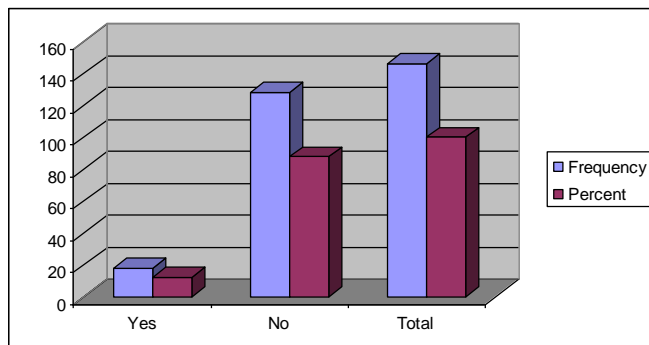


Figure 2: Efficacy in terms of expulsion

DISCUSSION

Postpartum period is one of the critical times when woman and newborn both need a special and integrated package of health services as morbidity and mortality rates are quiet high during this period and also the women are vulnerable to unintended pregnancy. Pregnancies taking place within 24 months of previous birth have a high risk of adverse outcome like abortion, premature labour, PPH, low birth weight babies and maternal death. Hence contraception needs to be practiced in this critical period.⁹

IUD is most commonly used reversible method of contraception worldwide with about 127 millions

current users. Insertion of an IUD immediately after delivery is appealing for several reasons. The woman is not pregnant and is motivated for contraception and the setting is convenient for both woman and provider. For women with limited access to medical care, the delivery affords a unique opportunity to address the need for contraception.

Timing of insertion is important as it influences the risk of expulsion. Ideally post partum insertion should take place within 10 minutes of placental delivery (post placental application) or later till 48 hours of delivery. The risk of expulsion is higher if inserted after 48 hours of delivery.⁹ In present study IUD was inserted post placentally in women delivering by Cesarean section (within 10 minutes of delivery of placenta). Amongst 146 women in this study, 18 had expulsion of IUD and cumulative expulsion rate was 12.3% at the end of 6 months. The results were comparable to a study by Celen et Al. In 2011 showing 10.6% expulsion rate at the end of 6th months.⁸

In another study conducted in India in which IUD was placed post placentally in woman delivering either by C-section or vaginally, cumulative expulsion rate at the end of 6 months was 10.68%. According to author the rate of IUD expulsion was slightly lower in group of woman delivering by C-section as compared to those delivering vaginally, although the difference was not statistically significant. Studies conducted in other parts of the worlds also reported similar expulsion rate⁹. In a study conducted in USA in 2012, no IUD expulsion was reported at the end of 6 months.⁷ A study of Allison Bryant also carries the same results.¹⁰

Expulsion rates can vary extensively, depending on the timing of insertion, the technique used, skill of the person doing the insertion. The six month cumulative expulsion rates in Kenya were 1% for immediate insertion and 5% for insertions done before hospital discharge, rates comparable to or even lower than interval insertion.¹¹

Compared with interval insertions, immediate postplacental insertion do not increase the risk of infection, bleeding, uterine perforation or endometritis, nor do they affect the return of the uterus to its normal size. (Insertions that are done after 6 weeks postpartum).¹¹

High fundal placement by hand or with forceps during the postpartum period reduces the risk of expulsion. When IUD is placed at the time of cesarean section, Cx is not fully dilated most of the times making it more difficult for IUD to be expelled through the cervical canal.⁷

The main side effects of IUD usage are heavy periods and dysmenorrhea¹. In my study 84.3% women reported being happy with their IUD and were willing to continue with it at the end of six months.

Out of 146, only 23 women (15.7%) were not willing to continue and requested to remove it. The reasons were dysmenorrhea¹, bleeding or willingness for planned pregnancy. The results are comparable to a study conducted in Jinnah hospital, Karachi showing continuation of IUD in 82% of women at the end of six months.¹ In a study conducted by Levi E in 2012, 80% of women reported being happy or very happy with their IUD use and were willing to continue with it. Another study published in journal watch by Allison Bryant reported same results for continuation of IUD.¹⁰

Insertion at cesarean section also offers an alternative to common practice of tubal ligation in multiple repeat cesarean sections, at a relatively young age in which case patient regret her decision regret later on. This is even more relevant in our settings especially in view of prevalent high perinatal and infant mortality rates. Therefore a reversible long acting method like IUD is a feasible option coupled with appropriate technique of insertion to avoid complications and ensures continuation of use¹.

CONCLUSION

Immediate transe-caesarean section PPIUCD is a safe, effective and acceptable method of contraception and should be offered to women undergoing cesarean section who are desirous of contraception.

REFERENCES

1. Bhutta SZ, Butt IJ, Bano K, Insertion of intrauterine contraceptive device at cesarean section. *J Coll Physicians Surg Pak* 2011;21:527-30.

2. Chen BA, Reeves MF, Hayes JL, Hohmann HL, Perriera LK, Creinin MD. Post-placental or delayed insertion of levonorgestrel intrauterine device after vaginal delivery. *Obstet Gynaecol* 2010;1079-87.
3. Ambadekar NN, Rathod KZ, Zoddpey SP. Health care delivery practice in rural areas of Yayatmal district regarding IUD insertion. *Indian J Public Health* 2010;54:201-4.
4. Kaneshire B, Abey T. Long term safety, efficacy and patient acceptability of the intrauterine copper T-380A contraceptive device. *Int J Womens Health* 2010;2:211-30.
5. Saarikoski S. Intrauterine device: An effective alternative to oral hormonal contraception. *Prescrire Int* 2009;18:125-30.
6. Levi E, Cantillo E, Ades V, Banks E, Murthy A. Immediate post-placental IUD insertion at cesarean delivery: A prospective cohort study. *Contraception*. 2012;86:102-5.
7. Celen S, Sucak A, Yildiz Y, Danishman N. Immediate post-placental insertion of an intrauterine contraceptive device during cesarean section. *Contraception* 2011;84:240-3.
8. Townsend JW, Sitruk-Ware R, Williams K, Askew I, Brill K. New strategies for providing hormonal contraception in developing countries. *Contraception*. 2011;83:405-9.
9. M Shuka, S Qureshi, Chandrawati. Post-placental IUD-A five year experience at tertiary care center in north India. *India J Med Res*. 2012;136:432-5.
10. Bryant A. Post cesarean Contraception and [online] Published in 2012. Available from <http://www.medscape.com/viewarticle/770463> 10.
11. United Nations population information network (POPIN), UN population division. Department of Economic and Social affairs with support from UN population Fund IUD insertion. Timing vital in postpartum use. *Fam health Int winter* [internet] 1996 cited on winter 1096;6(2): available from: <http://www.un.org/popis/journals/network/network162/times162t1m>.

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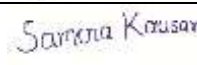
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