

Postpartum Intrauterine Contraceptive Device During Cesarean Section: Safe And Effective Procedure

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ABSTRACT

Objective To determine the maternal outcome of postpartum intrauterine contraceptive device (PPIUCD) during cesarean section.

Study design Cross sectional study.

Place & Duration of study Department of Obstetrics & Gynaecology, Sheikh Zaid Women Hospital, CMC Shaheed Mohtarma Benazir Bhutto Medical University (SMBBU) Larkana, from June 2017 to June 2018.

Methodology In women who underwent elective cesarean section, copper (Cu380 Ag) ICUD was placed in uterus following complete placental delivery and short thread pushed through the cervix. Women were followed at one and six weeks postoperatively. Variables collected included infection and expulsion of ICUD. Data were analyzed on SPSS 23. Mean and SD was calculated for age and gestational age. Frequency and percentages were calculated for categorical variables. Effect modifiers like age, gestational age and parity were addressed through stratification. Chi square test was applied and $p < 0.05$ was taken as significant.

Results Overall 133 patients underwent elective cesarean section. Patient's ages were 25 to 35 years with the mean age of 29.59 ± 3.41 year. Majority of the women ($n=80$) were < 30 year of age. Mean gestational age of the patients was 37.64 ± 0.6 weeks. Majority of the women ($n=124$ - 93.2%) presented with < 38 weeks of gestation. Most of the women ($n=99$ - 74.4%) were para 3-4. Infection was found in 16 (12%) women whereas expulsion of device occurred in 7 (5.3%) women.

Conclusion PPIUCD during cesarean section is safe and effective method for long term contraception with low frequency of expulsion and infection.

Key words PPIUCD, Cesarean section, Uterine infection.

INTRODUCTION:

Family Planning is defined by WHO as, "a way of thinking and living that is adopted voluntarily upon the basis of knowledge, attitudes and responsible

decisions by individuals and couples, in order to promote the health and welfare of family groups and thus contribute effectively to the social development of a country.¹ Pakistan is the sixth populous country of the world with the birth rate 29.8 /1000 population, fertility rate of 2.68 child born / woman, with maternal mortality of 178 deaths / 100,000 and median age of 22.7 year.²

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Worldwide, intrauterine devices are most commonly used form of reversible contraception. About 160 million women are currently dependant on them. According to the research papers it was found that most of the Chinese women are greatly relying on reversible contraception methods along with other

south Asian and in Middle East women, with high acceptance rate.³ it is highly effective method of birth spacing, safe, cost effective and efficient in comparison with other methods of contraception.⁴

Women in developing countries like Pakistan are mostly underprivileged with multiple socioeconomic pressures. These social issues can delay in seeking medical treatment. Early marriages and early pregnancies make them prone for emergency cesarean sections. In this situation insertion of IUCD during cesarean section can be proved as advantageous over other available methods of contraception. Moreover, research has also proved that complications with or without intrauterine contraceptive device insertions are same during cesarean section. Thus the PPIUCD during cesarean section is practical and widely acceptable method for fertility control due to high risk of reproduction.⁵

Intrauterine contraceptive devices though are effective method of contraception however, number of complications like bleeding, perforation, pelvic infection and migration into peritoneum, omentum, appendix, colon, small bowel and bladder have been reported.⁶ In a study from Pakistan the mean hospital stay was reported as 3.48 days for women who received PPIUCD during cesarean section. Wound infection was common complication in that study which occurred in about 10%, whereas expulsion rate was 5.3% after 6 weeks postoperatively.⁷ There is paucity of data on clinical benefits of PPIUCD during cesarean section especially if we talk about Pakistan. The purpose of this study was to determine the outcome of PPIUCD in terms of wound infection and expulsion rate in our study population.

METHODOLOGY:

This was a cross sectional observational study conducted in the Department of Obstetrics & Gynaecology Unit-1 Sheikh Zaid Women Hospital, CMC / SMBBMU Larkana, from June 2017 to June 2018. Sample size was calculated by using WHO sample size calculator, taking Confidence level 95%, anticipated population proportion p: 5.3% and absolute precision required 4%. A total of 133 patients were recruited by non probability consecutive sampling technique. All patients admitted through OPD for elective cesarean section, were included. Inclusion criteria was gestational age of more than 35 weeks and parity of 3 or more with no history of heavy or irregular periods, dysmenorrhea, pelvic inflammatory disease or previous history of IUCD removal. Women who were prone to develop postoperative infection as those with rupture of membranes before cesarean section, delivery of

stillborn during current cesarean section were excluded from the study. Approval of study was taken from hospital ethical committee. Informed consent was taken from study participants.

After delivery of baby and placenta IUCD, Cu-T 380A, was inserted in uterus with the help of ovum forceps up to the fundus and threads were inserted down into vagina through cervix. Follow up was done at one week (before discharge) and at 6 weeks postoperatively. Pelvic examination was done to confirm presence of IUCD thread in vagina. The women who were lost to follow up were contacted through phone. Final outcome in terms of infection and expulsion of IUCD was assessed at 6 weeks.

Data was analyzed in SPSS version 23, descriptive statistics were calculated for all the variables. Mean and standard deviation were calculated for age and gestational age. Frequency and percentages were calculated for parity, infection and expulsion of PPIUCD at 6 weeks. Chi square was also applied in which p-value less than 0.005 was considered as significant

RESULTS:

A total 133 women were included with the mean age of 29.59±3.41 year. Majority of women (n=80 - 60%) were <30 year of age. Mean gestational age of the patients was 37.64±0.60 weeks. Among them majority of the women (n=124 - 93.2%) presented with <38 weeks of gestation. Most of the women (n=99 - 74.4%) had para 3-4 while 34 (25.60%) had para>4. Infection was found in 16 (12%) women whereas expulsion of device noted in 7(5.30%) women.

Stratification was done to find out the effect of age of the patients, gestational age and parity on the outcome (infection and expulsion) and results are shown in table I and II. P-value for the effect of gestational age and parity compared with the infection history were found to be significant 0.001 and 0.003 respectively. For the effect of age, parity and gestational age with the expulsion of IUCD the p-value for gestational age was found to be significant which 0.001 as mentioned in table I & II.

DISCUSSION:

Women are more often encouraged to opt for contraception during or after postpartum time period. Moreover, among the other contraceptive methods the ideal method is to insert the intrauterine device. Because it is thought to be as the most effective method for example it does not disturb the breast feeding and has few side effects. In contrary to other

Table I: Effect of Age, Gestational Age and Parity With Infection				
	Infection Yes (n%)	Infection No (n%)	Total	p-value
Age (Year)				
< 30	11 (68.8)	69 (59)	80 (60.2)	0.454
> 30	5 (31.2)	48 (41)	53 (39.8)	
Total	16	117	133	
Gestational age (Weeks)				
< 38	7 (43.8)	117 (100)	124 (93.2)	0.001
> 38	9 (56.2)	0 (0)	9 (6.8)	
Total	16	117	133	
Parity (n)				
Para 3-4	7 (43.8)	92 (78.6)	99 (74.4)	0.003
Para>4	9 (56.2)	25 (21.4)	34 (25.4)	
Total	16 (100)	117	133	

Table II: Effect of Age, Parity and Gestational age With Expulsion of IUCD				
	Expulsion Yes (n%)	Expulsion No (%)	Total (n %)	p-value
Age (Year)				
< 30	6 (85.7)	74 (58.7)	80 (60.2)	0.156
> 30	1 (14.3)	52 (41.3)	53 (39.8)	
Total	7	126	133	
Gestational age (Weeks)				
< 38	0 (0)	124 (98.4)	124 (93.2)	0.001
> 38	7	2 (1.6)	9 (6.8)	
Total	7	126	133	
Parity (n)				
Para 3-4	0 (0)	99 (79)	99 (74.4)	0.190
Para>4	7	27 (21)	34 (25.6)	
Total	7	126	133	

internally inserted devices and it is the long acting one.⁸ Nearly 160 million females rely on the intrauterine devices for contraception around the globe, hence making it the most commonly used contraception method. It is easy to reverse as well according to desire of women. Its acceptance as a method of contraception has been reported in a survey.⁹

Intrauterine device inserted during caesarean section is beneficial to the pregnant women as procedure can be done during same sitting. There are fewer side effects as compared to other methods. The fear that IUCD placement during

caesarean delivery may lead to complications is not true as the risk of side effects are as same as in normal caesarean deliveries where no device is inserted. Thus IUCD insertion while doing caesarean section is useful and acceptable method for contraception as found in our study. It is an easy technique for the obstetricians as well.¹⁰ No difficulty encountered in present series during the insertion of IUCD during caesarean section. Complications like bleeding, infection, migration of device were reported during the insertion and also on follow up.¹¹

In this study the frequency of infection was reported

among sixteen patients which was only 12% and expulsion noted in seven (5.3%) patients. In a study it was found that the mean stay at hospital of women in whom intrauterine devices was inserted at the time of caesarean section was 3.48 days. Meanwhile, infection in the wound was reported among 10% females.¹² Intrauterine devices expulsion at six weeks was reported as 2.6%.¹³

It was noted that expulsion rate was 5.3% when IUDs inserted immediately postpartum. In a study a comparative evidence concerning timing may come from, in which women requesting interval (n=1394) or immediate post-partum insertions (n=562) were randomized to two copper devices. Both IUDs had higher expulsion rates when inserted immediately post-partum than when inserted at times unrelated to pregnancy.¹⁴ Infection rate was 12% in this study while infection from Guinea, Ethiopia and Philippines were not reported during follow-up visits.¹⁵

CONCLUSIONS:

Infection with intrauterine contraceptive device insertion was observed in 12% women which is not different from those in whom device was not placed. Expulsion rate was only 5% which is also in acceptable range.

REFERENCES:

1. Koltan SO, Tamay AG, Yiidirum Y. Chronic Cervical Perforation by an Intrauterine Device. *J Chin Med Assoc.* 2010;73:325-7.
2. Lopez-farfan JA, Gonzalez AH, Irvin J Machorro V, Estrada LAV. A t (LNG-IUS) vs. copper T 380A intrauterine device applied during caesarean section. *Open J Obstet Gynecol.* 2012;2:151-5.
3. Nelson AL. Safety, Efficacy, and patient Acceptability of the copper T-380A intrauterine contraceptive device. *Chin Med Insights Women Health.* 2011;4:35-50.
4. Nidhi M, Neelesh D, Vrunda J. Intrauterine device insertion during caesarean section- a born for rural women. *IOSR J Dent Med Sci.* 2013;8:21-3.
5. Bataineh OF, Bani-Irshaid IH, Al-Ghoweri AS, Al-Jahmi M. Migration of an intrauterine contraceptive device to the caecum: a case report. *J Roy Med Serv.* 2009;16:61-3.

6. Bhutta SZ, Butt IJ, Bano K. Insertion of intrauterine contraceptive device at caesarean section. *J Coll Physicians Surg Pak.* 2011;21:527-30.
7. Celen S, Sucak A, Yildiz Y, Danisman N. immediate postplacental insertion of intrauterine contraceptive devise during cesarean section. *Contraception.* 2011;84:240-3.
8. Cohen JE. Human population: the next half century. *Science.* 2003;302(5648):1172-5.
9. Winner B, Peipert JF, Zhao Q, Buckel C, Madden T, Allsworth JE, Secura GM. Effectiveness of long-acting reversible contraception. *N Engl J Med.* 2012;366(21):1998–2007.
10. Saarikosi S. Contraception during lactation. *Ann Med.* 1993;25:181-4.
11. Tang HY, Feng ZJ. [Comparative study of clinical effects of CVu IUD and TCu 380A IUD were used on women who once been done caesarean section.] *Zhonghua Yi Xue Za Zhi.* 2012;92:1209-11. Chinese.
12. Gupta I, Mahajan U, Sawney H. Concurrent copper T insertion with medical termination of pregnancy in women with previous caesarean section delivery. *Indian J Med Res.* 1988; 87:450-2.
13. Ruiz-Velasco V, Garcia C, Castro H. C section IUD insertion. *Contracept Delv Syst.* 1982;3:21-4.
14. Grimes DA, Lopez LM, Schulz KF, Van Vliet HA, Stanwood NL. Immediate post-partum insertion of intrauterine devices. *Cochrane Database Syst Rev.* 2010;12:CD003036.
15. Pfitzer A, Mackenzie D, Blanchard H, Hyjazi Y, Kumar S, Lisanetwork Kassa S, et al. A facility birth can be the time to start family planning: postpartum intrauterine device experiences from six countries. *Int J Gynaecol Obstet.* 2015;130:S54–6.

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Fozia Shaikh: Study design.

Shazia Shaikh: Data collection.

Basma: Composition of article.

Sonia: Review of article.

Tanweer Akhtar: Literature search.

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