

Comparison of Outcome of Caesarean Section with & without Post Placental Intrauterine Contraceptive Device Insertion A Randomized Controlled Trial

Sumera Tahir, Saadia Saleem, Sumera Chaudary

ABSTRACT

Objective: To compare the outcome of Caesarean Section with and without post placental Intrauterine Contraceptive Device (IUCD) insertion in terms of frequency of bleeding and wound infection. **Study Design:** Randomized controlled trial. **Place and Duration:** Department of Obstetrics & Gynaecology, Allied Hospital, Faisalabad from 1st January 2013 to 30th June, 2013. **Methodology:** Three hundred & two pregnant women admitted for elective emergency caesarean section, willing to use intrauterine contraceptive device as a method for temporary contraception were randomly divided into two groups A & B. Group A had intrauterine contraceptive device inserted after delivery of

placenta and membranes. Group B did not have intrauterine device inserted. In post-operative period both groups were evaluated for heavy lochia or abdominal wound infection on day 3 and day 7. **Results:** In the experimental group (A) ten patients (6.6%) and in control group (B) 8 patients (5.3%) had wound infection. P value calculated as 0.627 which shows no statistical difference in 2 groups. Regarding heavy lochia in group A 4 patients (2.6%) and in group B 2 patients (1.3%) had heavy lochia. P value calculated as 0.410 which was statistically not significant. **Conclusion:** There is no significant difference in outcome of caesarean section with and without post placental IUCD insertion. **Key words:** Intrauterine device, caesarean delivery, post placental contraception.

Article Citation: Tahir S, Saleem S, Chaudary S. Comparison of Outcome of Caesarean Section with & without Post Placental Intrauterine Contraceptive Device Insertion A Randomized Controlled Trial. APMC 2015;9(1):41-44.

INTRODUCTION

Developing countries tend to have high birth rates.¹ Pakistan remains the seventh most populous country in the world with contraceptive prevalence of 30%.² 65% women in first year post-partum have an unmet need for family planning.³ Many people use contraception incorrectly and inconsistently.⁴

The most effective contraceptive methods are the long acting reversible contraceptive (LARC)

which are forgettable (user does not have to remember to take it) and include IUCD and depot progesterone.⁵

Women who are breast feeding need to use a contraceptive method which has no effect on lactation.⁶ IUCD fulfil this criteria and are the most widely used method worldwide. At least 13.6% of couples around the world selected the IUCD for birth control⁷ making about 150 million women worldwide.⁸ According to 1994-95 Pakistan contraceptive prevalence survey IUCDs are 2nd most common method of contraception used.⁹ Commonly used IUCD are Cu T 380 A & multiload Cu 250 or Cu 375.^{9,10} Although Copper T-380A is approved for used USA for 10 years it has been shown to consistently maintain its efficacy for 12 years.¹¹ Annual pregnancy rate for

Corresponding Author:

Prof. Dr. Sumera Tahir
Professor of Gynecology,
PMC / Allied Hospital, Faisalabad
Tel. +92 0300-6607509
E-mail: razatahir@hotmail.com

1st year of use is 0.5 to 1.0 per hundred women.^{11, 12 & 13} Cochrane review showed that devices containing 380 mm² of copper have lowest failure rates.¹⁴

For women with limited access to medical care, the time of delivery offers a unique opportunity to address the need for contraception, if the delivery, whether vaginal or by caesarean, takes place in a health centre.¹⁵

Caesarean section is a commonly performed operation that is globally increasing in prevalence. IUCD insertion during C. Section is ideal and convenient for both women and their health care providers as it is forgettable and associated with no discomfort fewer side effects and no interference with subsequent breastfeeding. For the health care provider the opportunity to insert the IUCD into the uterus under vision obviates the fear of perforating the uterus during the procedure.²

The current study was designed to compare the outcome of caesarean section in terms of bleeding (heavy lochia) and abdominal wound infection in patients with and without postpartum IUCD insertion. Rationale of the study is to increase confidence in the use of this method.

MATERIALS & METHODS

The randomized controlled trial was conducted in department of Obstetrics & Gynaecology Allied Hospital, Faisalabad from 1st January 2013 to 30th June 2013. Three hundred & two pregnant patients admitted for elective/emergency caesarean section having no uterine anomalies like large fibroids, uterine septum or cervical stenosis and willing to have copper IUCD as a method of temporary contraception were recruited for the study. Exclusion criteria included women with history of heavy menstrual bleeding, dysmenorrhoea, pelvic inflammatory disease, previous removal of IUCD due to complications and chorioamnionitis diagnosed prior to caesarean section.

Patients were randomly divided into two groups by using computer generated random number table. Group A of 151 patients had copper IUCD inserted during caesarean section after delivery of baby, placenta & membranes. IUCD was inserted with the help of sponge holding forceps through

the uterine incision and the shortened thread pushed through the cervix from inside the uterus. Group B of 151 patients did not received IUCD during caesarean section. Bleeding was checked by number of pads used and passage of clots and wound infection was checked by observing redness, swelling & discharge from abdominal wound on the 3rd post-operative day. Patients were discharged and recalled on 7th postoperative day when skin stitches were removed wound examined and information regarding bleeding was also taken.

RESULTS

In these 302 cases, age varied from 18-37 years, gestation age from 37-42 weeks and parity from 1 to 5. The mean \pm sd of the three variables for group A were 28.12 ± 4.53 , 38.70 ± 1.40 & 2.19 ± 0.91 respectively.

In group B mean \pm sd ratio of the three variables were 27.97 ± 4.85 , 38.66 ± 1.34 & 2.52 ± 1.23 respectively. P value for all three variables was calculated as 0.817, 0.610 & 0.894 and the difference between the two groups for these three variables was not significant statistically.

Wound infection distribution is shown in table 1 for both groups. P value was 0.627 showing there was no statistically significant difference in both groups.

Distribution of bleeding in group A & B is shown in table 2. P value was calculated as 0.410 showing no statistically significant difference in both groups.

Table 1: Distribution according to wound infection

		Group		Total
		Group A	Group B	
Wound infection	Yes	10 6.6%	8 5.3%	18 6.0%
	No	141 93.4%	143 94.7%	284 94.8%
Total		151	151	302

P-value 0.627

Table 2: Distribution according to bleeding

		Group		Total
		Group A	Group B	
Bleeding / heavy lochia	Yes	4 2.6%	2 1.3%	6 2.0%
	No	147 97.4%	149 98.7%	296 98.0%
Total		151	151	302

P-value 0.410

DISCUSSION

The present study was conducted with the need to improve contraception rate, increase patients compliance and offer women a chance to avail this method of contraception at the same time as they have caesarean section.

In our study age, gestational age and parity had no significant difference between the 2 groups A & B. Comparison of difference of wound infection in caesarean section with and without IUCD insertion was recorded, there was no significant difference in both the groups (P-value 0.627). Comparison of bleeding in both the groups showed no significant difference as the calculated p-value is 0.410. So immediate outcome of caesarean section with and without IUCD insertion has no significant difference in terms of frequency of bleeding and wound infection.

Our findings are in agreement with a study conducted by Bhutta et al showing no significant difference in caesarean section with and without IUCD insertion in terms of bleeding and wound infection. In this study 10% of women had infection after caesarean section with IUCD insertion and 2% without IUCD insertion. Bleeding was present in 4% in group A (with IUCD insertion) and 0% without IUCD insertion.² Another study by Kapp.N and others compared IUCD insertion postplacental after caesarean delivery with no insertion, clinical signs of infection was present in 3.4% with IUCD insertion 4.5% without IUCD insertion. Excessive bleeding was present in 5.5% cases with IUCD and 7.6% without IUCD insertion.¹⁶

Selvik Celen and others reported no serious complications in 245 patients with postplacental

IUCD at caesarean although there was a slightly increased expulsion rate.¹⁷

Erika and others also reported excellent results of postplacental IUCD and caesarean section at 6 weeks and 6 months follow up.¹⁸

The present as well as other studies have shown IUCD insertion at caesarean section to be effective and safe. Insertion at caesarean section also offers an alternative to the common practice of tubal ligation in cases of multiple repeat caesarean sections. Women who had multiple caesarean sections at short intervals followed by tubal ligation at a relatively young age may regret it later on, especially in view of the prevalent high perinatal and infant mortality rates. Insertion at caesarean section is also convenient for the woman, as she does not have to wait till the puerperium to start contraception. This reduces the risk of unplanned or unwanted pregnancies.

CONCLUSION

Postpartum IUCD insertion after caesarean section is a safe choice for patients undergoing caesarean section as it would improve contraception rate, increase patients compliance and offer women a chance to avail this method of contraception at the same time as they have caesarean section.

REFERENCES

1. Canning D, Schultz TP. The economic consequences of reproductive health & family planning. *Lancet* 2012;380:165-71.
2. Bhutta S, Butt IJ, Bano K. Insertion of intrauterine contraceptive device at caesarean section. *J Coll Physicians and Surg Pak.* 2011;21:527-30.
3. Effects of contraceptives on haemoglobin and ferritin. Task Force for Epidemiological Research on Reproductive Health, United Nations Development Programme/United Nations Population Fund/World Health Organization/World Bank Special Programme of Research, Development and Research Training in Human Reproduction. World Health Organization, Geneva, Switzerland. *Contraception.* 1998;58:262-73.
4. Fertility control, contraception & abortion. In: Monga A, Bobbs S, editors. *Gynaecology by*

- ten teachers. 19th ed. London: Hodder Arnold; 2011. P. 62-84.
5. Van Braeckel D, Temmerman M, Roelens K, Dogomme O. Slowing population growth for well-being and development. *Lancet* 2012;380:84-5.
 6. Cohen JE. Human population: the next half century. *Science*. 2003;302:1172-5.
 7. Kaneshiro B, Aeby T. Longterm safety, efficacy and patient acceptability of the intrauterine Copper T-380A contraceptive device. *Int J Women's Health*. 2010;2;211-20.
 8. Hebacher D, Chen P, Park S. Side effects from the copper IUD; do they decrease over time? *Contraception*. 2009;79:356-62.
 9. Piotrow PT, Rinehart W, Compton AW, Coleman LP. Population information program. The John Hopkins School of Hygein and Public Health: Series B5, 1988.
 10. Miller ER, Shane B, Murphy E. Contraceptive safety: rumours & realities. Washington DC: Population Reference Bureau; 1998.
 11. Anderson K, Rybo G. Levonorgestrel releasing intrauterine device in treatment of menorrhagia. *Br J Obs & Gynaecol*. 1990;97:690-4.
 12. Gardosi J, Mul T, Schram C, Vanner T. The thread less copper intrauterine contraceptive device. Analysis of the first 150 women years. *Br. J Obstet Gynecol*. 1996;103:574-6.
 13. Long-term reversible contraception. Twelve years of experience with TCu-380A and TCu220C. *Contraception*. 1997;56:341-52.
 14. Cameron ST, Glasier A. Contraception and sterilization. In: Edmonds DK, editor. Dewhurst;s textbood of obstetrics and gynaecology, 8th ed. San Francisco: Wiley-Blackwell; 2011. P.495-512.
 15. Conde-Agudelo A, et al. Birth spacing and the risk of adverse perinatal outcomes: a meta-analysis, *JAMA*.2006;295:1809-23.
 16. Kapp N, Curtis K. Intrauterine device insertion during the postpartum period: a systematic review. *Contraception*. 2009;80: 327-36.
 17. Selvik C elen, Ayhan Sucak, Nuri Danis man. Immediate postplacental insertion of an intrauterine contraceptive device during caesarean section. *Contraception*. Sep. 2011, Vol 84(3): 240-243.
 18. Erika Levi, Evelyn Cantillo, Amtasrigowri Murthy. Immediate postplacental IUD insertion at caesarean delivery: a prospective cohort study. *Contraception* August 2012, Vol. 86(2):102-105.

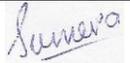
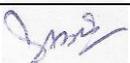
AUTHORS

- **Prof. Dr. Sumera Tahir**
Professor of Obstetrics & Gynecology
PMC / Allied Hospital, Faisalabad
- **Dr. Saadia Saleem**
Assistant Professor of Obstetrics & Gynecology
PMC / Allied Hospital, Faisalabad
- **Dr. Sumera Chaudary**
Woman Medical Officer/PGR
Department of Obstetrics & Gynaecology
Allied Hospital, Faisalabad.

Submitted for Publication: 05-01-2015

Accepted for Publication: 14-02-2015

AUTHORSHIP AND CONTRIBUTION DECLARATION

Name of Author	Contribution to the paper	Author's Signatures
Prof. Dr. Sumera Tahir	1 st Author	
Dr. Saadia Saleem	2 nd Author	
Dr. Sumera Chaudary	3 rd Author	