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PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1492749>Available online at: <http://www.iajps.com>**Research Article****IMMEDIATE POSTPARTUM IUCD INSSRTION A SAFE  
CONTRACEPTION OPTION****Dr. Abdullah Arif, Dr. Bushra Arif, Dr. Nida Arif**  
Services Hospital, Lahore**Abstract:**

**Background:** Policy maker are trying to control the fast increasing population.. In order to do this they are continuously working for some effective long term contraceptive methods so that population growth could be controlled. PPIUCD insertion is a step toward achieve this goal.

**Objectives:** To determine the frequency of complications following PPIUCD insertion among women undergoing C-Section 6 months follow ups.

**Material and Methods:** This was a descriptive case series study conducted on 200 cases. After taking ethical clearance from hospital ethical committee, the study was conducted in Gynecological Unit III of Services Hospital Lahore. Informed consent was taken from all patients. Detailed history was taken followed by counseling for immediate postpartum IUCD insertion. IUCD was inserted during intra caesarean section. The complication which expulsion, pelvic infection and displacement following PPIUCD insertion among the acceptors by 6 months follow up was observed. All cases of Caesarian Section and IUCD insertion were done by the researcher herself.

**Results:** There were total 200 women who were enrolled in this study with a mean age of  $26.87 \pm 4.13$  years. Gestational age at the time of enrollment was  $38.51 \pm 0.99$  weeks. Majority of the female were passed through one cesarean section 91(45.5%) and lesser were passed through three cesarean section 27(13.5%). Expulsion of PPIUCD was noted in 17(8.5%) of cases and persistent in 22(11%) of cases. Displacement of IUCD was found to be present in 53(26.5%) of cases and did not noted in 147(73.5%) of cases. 98(49%) were presented with pelvic infection and 102(51%) had no infection.

**Conclusion:** There is high rate of expulsion after six month of immediate insertion of PPIUCD in the females who were subjected cesareans section.

**Key Words:** Caesarean section, PP IUCD, Contraceptive device.

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**INTRODUCTION:**

Short interconception period after caesarean section puts a woman at increased risk of morbidity, mortality and surgical interventions [1]. Immediate post placental intra-caesarean intrauterine contraceptive device (IUCD) insertion could fulfill a long standing need for a reversible and effective, long term contraception, which does not interfere with breast feeding [2]

Modern Intrauterine contraceptive device (IUCD) is very safe, highly effective reversible and inexpensive family planning method which offers 5-10 years of protection against pregnancy[3]. The contraceptive use in Pakistan has been merely 30% for over a decade with IUCD being the least used method [3]. Among the options available, the multi-year cost of the Copper T380A IUD makes it one of the most cost-effective contraceptive options available [4]. The Copper T 380A intra-uterine contraceptive device (IUCD) is a highly effective, non-hormonal method that can be safely used by all women regardless of breastfeeding status during this interval [4]. According to the World Health Organization Medical Eligibility Criteria, an IUCD can be inserted in the 48 hours postpartum, referred to here as a postpartum IUCD (PPIUCD), or after four weeks following a birth [5]

The efficacy of intra caesarean IUCD insertion without any added risk of infectious morbidity has also been reported by various studies [6-8]. This technique offers the obstetrician an opportunity to insert the IUCD into the uterus under vision, thus obviating the fear of perforating the uterus during the procedure. However, despite the reported safety and efficacy, obstetricians are still hesitant to implement the advantages of Copper T 380A IUCD to women undergoing operative delivery [6]. Initiating IUCD use during caesarean has the added advantage of eliminating a six week postpartum waiting period and an additional hospital visit

There has been a study showing Clinical Outcome of Post placental Copper T 380A Insertion in Women Delivering by Caesarean Section [9]. In it a total of 300 primiparous women underwent postpartum intra caesarean insertion of Copper T 380A. The mean age of women included in the study was  $23.12 \pm 2.42$  years. Majority of women (94.33%) had hospital stay of less than 4 days. In the above mentioned study results at 6 months follow up are expulsion 87.5%, displacement 20.07 %, pelvic infection 46.36% (in terms of pelvic pain, vaginal discharge and fever) and continuation rate is 96.33%

**MATERIAL AND METHODS:**

**SETTING:** Department of Gynecology Unit-III, Services Hospital Lahore

**STUDY DESIGN:** Descriptive Case Series

**DURATION OF STUDY:** within 6 months after approval of synopsis

**SAMPLE TECHNIQUE:** Non Probability Consecutive Sampling.

**SAMPLE SIZE:** sample size of 200 cases is calculated with 95% confidence level 6% margin of error and taking expected percentage of displacement i.e 20.07% (least among all) complications following PPIUCD insertion among women undergoing C-section after 6 months follow up

**INCLUSION CRITERIA**

1. All females undergoing caesarean section and counselled for Copper T Insertion (Cu-T)
2. Age between 18-35
3. Gestational Age 37-40 weeks assessed by Last Menstrual Period
4. No Pelvic infection assessed clinically i.e no history of fever, abdominal pain and pelvic discharge
5.  $Hb \geq 10$  mg/dl
6. No history of Hypertension and Diabetes Mellitus assessed by Fasting Blood Sugar Level ( $< 110$  mg%) and HBA1C  $< 6.5$  mmol

**EXCLUSION CRITERIA**

1. Previous Ectopic Pregnancy
2. Allergy to Copper
3. Chorioamnionitis assessed by prolonged rupture of membranes  $> 18$  hours, fever more than 99F, tachycardia: heart rate greater than 120beats/min and lower abdominal tenderness
4. History of Gynecological Malignancy

**DATA COLLECTION PROCEDURE**

After taking ethical clearance from hospital ethical committee, the study was conducted in Gynecological Unit III of Services Hospital Lahore. Informed consent was taken from all patients. Personal profile of the patient( including name, age, sex, patient registration no. & address) was noted

Detailed history was taken followed by counseling for immediate postpartum IUCD insertion. IUCD was inserted during intra caesarean section. The complications which would be expulsion, pelvic infection and displacement following PPIUCD insertion among the acceptors by 6 months follow up was observed. All cases of Caesarian Section and IUCD insertion was done by the researcher herself.

**DATA ANALYSIS PROCEDURE:**

The data was entered and analyzed by SPSS version 20. Numeric data like age and gestational age was presented as mean and S.D where as Qualitative data like expulsion, pelvic infection and displacement was presented in frequency and percentages. Data was stratified for number of caesarian sections, age, gestational age to address the effect modifiers. Post Stratification Chi Square Test was applied with P value  $\leq 0.05$  as significant.

**RESULTS:**

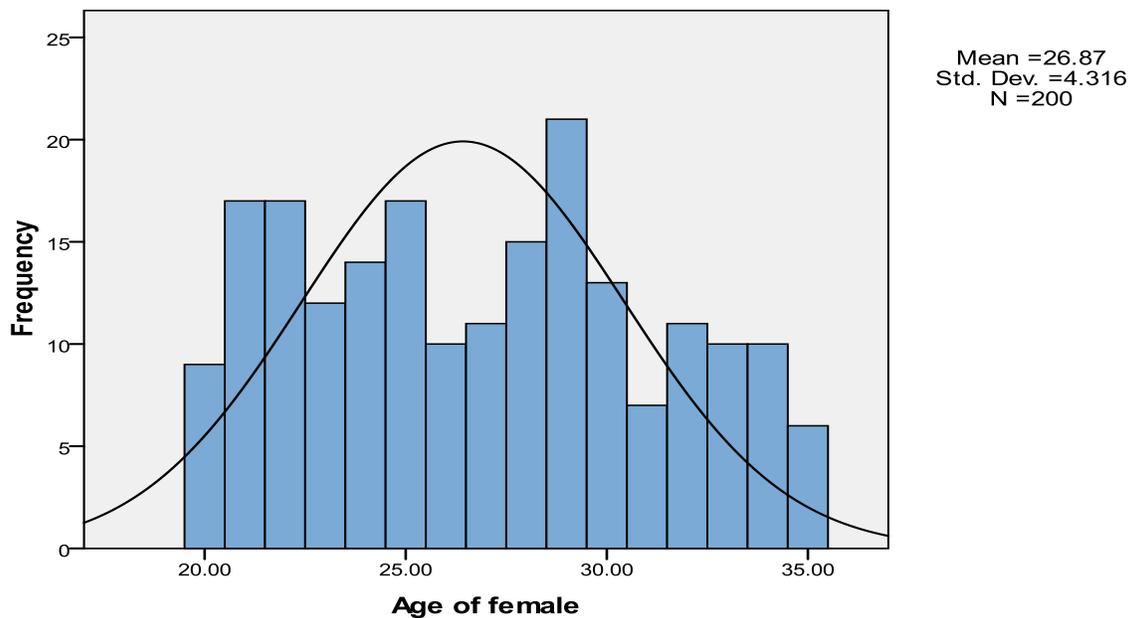
There were total 200 women who were enrolled in this study with a mean age of  $26.87 \pm 4.13$  years. Gestational age at the time of enrollment was  $38.51 \pm 0.99$  weeks. Majority of the female were Graph# 1:

passed through one cesarean section 91(45.5%) and lesser were passed through three cesarean section 27(13.5%).

Expulsion of PPIUCD was noted in 178(89%) of cases and persistent in 22(11%) of cases. Displacement of IUCD was found to be present in 53(28.5%) of cases and did not noted in 147(73.5%) of cases. 98(49%) were presented with pelvic infection and 102(51%) were infection free.

When results were stratified for age, gestational age, and number of cesarean section it was noted that there was significant difference in pelvic infection in females who had history of two cesarean section. All other confounder was done significantly different for the outcome as mentioned in table 6, 7, and 8.

**Distribution according to Age of female**



**Table# 1: Distribution according to Gestational Age**

Gestational age of patients	
N	200
Mean	38.5100
Std. Deviation	.99743

**Table#2: Distribution according to Number of Cesarean Section****Number of cesarean section**

	Frequency	Percent
1.00	91	45.5
2.00	82	41.0
3.00	27	13.5
Total	200	100.0

1.68±0.70

**Table# 3: Distribution according to Expulsion of IUCD****Expulsion**

	Frequency	Percent
Yes	178	89.0
No	22	11.0
Total	200	100.0

**Table# 4: Distribution according to Displacement of IUCD****Displacement of IUCD**

	Frequency	Percent
Yes	53	26.5
No	147	73.5
Total	200	100.0

**Table# 5: Distribution according to Pelvic Infection****Pelvic infection**

	Frequency	Percent
Yes	98	49.0
No	102	51.0
Total	200	100.0

**Table# 6: Stratification for the Age of the women.**

		group of age		P-value
		18-30	>30	
Expulsion	Yes	139 78.1%	39 21.9%	1.00
	No	17 77.3%	5 22.7%	
Pelvic infection	Yes	80 81.6%	18 18.4%	0.23
	No	76 74.5%	26 25.5%	
Displacement of IUCD	Yes	40 75.5%	13 24.5%	0.60
	No	116 78.9%	31 21.1%	

**Table# 7: Stratification for the Gestational Age of women**

		Group of gestational age		P-value
		37-38	>38	
Expulsion	Yes	86 48.3%	92 51.7%	0.65
	No	12 54.5%	10 45.5%	
Pelvic infection	Yes	47 48.0%	51 52.0%	0.77
	No	51 50.0%	51 50.0%	
Displacement of IUCD	Yes	30 56.6%	23 43.4%	0.20
	No	68 46.3%	79 53.7%	

**Table# 8: Stratification with respect to Number of Cesarean section**

		Number of cesarean section			P-value
		1.00	2.00	3.00	
Expulsion	Yes	79 44.4%	75 42.1%	24 13.5%	0.62
	No	12 54.5%	7 31.8%	3 13.6%	
Pelvic infection	Yes	41 41.8%	48 49.0%	9 9.2%	0.04
	No	50 49.0%	34 33.3%	18 17.6%	
Displacement of IUCD	Yes	26 49.1%	19 35.8%	8 15.1%	0.69
	No	65 44.2%	63 42.9%	19 12.9%	

**DISCUSSION:**

Fertility decline is the prime purpose of any family planning program besides preserving mother and child health which is of utmost importance for any country to keep health indicators in line with the targets of the Millennium Development Goals. This could only happen when long term contraceptives are promoted and made available to all eligible women looking for long term spacing, through quality family planning services, dedicated work force and state of the art service outlets.(107) Temporary contraceptive methods including condoms are very popular in many developing countries. A condom has a high failure rate (20% with typical use); therefore, it can result in an unwanted or untimely pregnancy. A number of such pregnancies result into multi parity or an unsafe termination of pregnancies and therefore, high maternal morbidity and mortality rates. This may be associated with low use of modern long term contraceptives which provide protection for 4–5 years. The modern Intrauterine contraceptive device (IUCD) is very effective (99%) and an inexpensive family planning method. (108)

Pakistan's population is crossing 180 million whereby the contraceptive prevalence rate (CPR) has been stagnant (around 30%) in Pakistan for more than a decade now. People mostly rely on short term and temporary methods, of which condoms are the most popular one, but with high failure rate because of its incorrect use. Therefore, the number of children

per woman in Pakistan is still above 4 with a high (25%) unmet need for contraceptives. (109)

The women mainly complained of excessive bleeding and were treated adequately with No steroidal Anti-Inflammatory Drugs (NSAIDs) and haematinics. Shukla et al. indicated a higher incidence of menorrhagia (27.2%) with use of CuT 200 in postpartum women.(110) Gupta et al. observed bleeding in 4.3% PPIUCD cases using CuT-380-A.(111) Other studies using CuT-380 A have reported IUCD removal due to bleeding/pain as 6% to 8%. Difference in types of IUCD could possibly explain the different rates of bleeding problems. (112)

In the present study, a lesser number of spontaneous IUCD expulsions were observed as compared to other studies. Çelen et al. reported 1-year cumulative expulsion rates of 12.6% and 17.6% in two different studies of PPIUCD insertions.(113) In a recent study by Kittur and Kabadi, using similar technique and timing (within 10 minutes of placental delivery) of PPIUCD (CuT-380 A), as in our study, and also trained providers resulted in similar fewer expulsions (5.23%). Timing of IUCD insertion is an important determinant of expulsions. UN-POPIN report stated that 6-month cumulative expulsion rate was 9% for immediate postplacental insertions (within 10 minutes) compared with 37% for insertions between 24 and 48 hours after delivery.(114)

Mishra S et al., found expulsion rate 6.4% at 6 weeks. 23.05% participants were lost follow up [7]. Gunjan goswamy et al., found expulsion rate was 10% and 30% lost follow up. In their study bleeding/discharge (30%), abdominal pain (20%), family pressure (20%), just did not want to continue (5%) were the reasons they found for removal of IUCD in the follow up.(115) The expulsions were significantly higher in post placental IUCD insertions after vaginal deliveries as compared to caesarean insertions. This difference was also observed in a recent systematic review of PPIUCD insertions.(113) Gupta et al. also reported lower expulsions after intracaesarean insertions.(114) Letti Müller et al. studied expulsion rates of immediate postplacental CuT-380 an insertion by transvaginal sonography and found statistically significant higher expulsions in vaginal insertions than caesarean insertions.

In the present study, even if we combine the discontinuations (removal of IUCD for different medical or personal reasons) and spontaneous expulsions we still have a commendable IUCD continuation rate of 90.6%. In the absence of IPPIUCD insertions, these women would have left the hospital premises without effective postpartum contraception. Similar rates of removal of PPIUCD have been reported in recent studies, ranging 3–8% [100, 23].

Anjali et al., observed 28% lost follow up. Majority (22%) were expelled, 8% had pain abdomen and 6% found menstrual irregularities [4]. Vidya ramana et al., observed high follow up (93%). Very minimal percentage expelled and went for removal due to complications like pain and discharge.(116)

Satyavathi et al., found reasons for removal were bleeding (27.27%), menstrual disturbances (18.18%), pressure from family (27.27%) other problems (18.18%) and pain (9%). Majority studies including current study observed pain and discharge were the main problems for removal of IUCD.(117)

In a local study, total of 3,250 clients were counseled for IUCD insertion, 2,490 clients were counseled for insertion of PPIUCD and 760 clients were counseled for Interval IUCD .Acceptance rate was less in PPIUCD insertion (36.1% v/s 60.5%) but actual insertion was more in PPIUCD insertion (58.8% v/s 32.6%) and the difference was significant. Most common reason for acceptance by clients in both group was long term use. The reason for refusal in both groups was mainly fear of side effects. (118)

Strategies to improve current scenario: Government needs to develop strategies to increase public

awareness of the PPIUCD through different media sources. It is also important to arrange for training on PPIUCD in order to increase knowledge and skills among healthcare providers. This will also further promote PPIUCD use and aid in reduction of the expulsion rates.

#### CONCLUSION:

Insertion of IUCD in immediate postpartum period is an effective, safe, and convenient contraceptive intervention in both cesarean and vaginal deliveries. Although there is a relatively higher incidence of expulsions after vaginal IPPIUCD insertions,as compared to caesarean section. They should be encouraged considering the advantages that come along. PPIUCD insertions by trained clinicians, principles of fundal placement using long placental forceps, and timing of insertion are helpfull in reducing complications and expulsions.

#### REFERENCES:

1. Sultana R, Noor S, Fawad A, Abbasi N, Bashir R. Septic/unsafe abortion; a preventable tragedy. J Ayub med coll Abbottabad. 2012;24:3-4
2. Malik A, Nessa K, Begum R. Septic Abortion and Associated Morbidity and Mortality. Chattagram Maa-O-Shishu Hosp Med Coll J. 2013;12(3):20-2
3. Londo ML, Abortion counseling: attention to the whole woman, International Journal of Gynecology and Obstetrics, 1989, Supplement 3, pp. 169-174
4. The Alan Guttmacher Institute (AGI), Family planning improves child survival and health, Issues in Brief, New York, Oct. 1997.
5. Justesen A, Kapiga SH and van Asten H, Abortions in a hospital setting: hidden realities in Dar es Salaam, Tanzania, Studies in Family Planning, 1992, 23(5):325-329; and AGI, Clandestine Abortion: A Latin American Reality, New York: AGI, 1994.
6. Westoff CF, Sharmanov AT and Sullivan JM, The replacement of abortion by contraception in three Central Asian Republics, unpublished manuscript, Office of Population Research, Princeton University, Princeton, NJ, USA, 1998.
7. Fikree FF. The emerging problem of induced abortions in squatter settlements of Karachi, Pakistan, Demography India, 1996, 25(1):119-130.
8. AGI, Hopes and Realities: Closing the Gap Between Women's Aspirations and Their Reproductive Experiences, New York: AGI, 1995, Appendix Tables 5 and 7; Czech Statistical Office et al., 1995, op. cit. (see

- reference 2); and 1995 National Survey of Family Growth, CDC, National Center for Health Statistics, Hyattsville, MD, USA, special analyses.
9. Torres A and Forrest JD, Why do women have abortions? *Family Planning Perspectives*, 1988, 20(4):169-176.
  10. Fikree FF et al., 1996,
  11. Farquharson RG, Jauniaux E, Exalto N. Updated and revised nomenclature for description of early pregnancy events. *Human reproduction* 2005;20 (11): 3008–11.
  12. Mohangoo AD, Blondel B, Gissler M, Velebil P, Macfarlane A, Zeitlin J. International comparisons of fetal and neonatal mortality rates in high-income countries: should exclusion thresholds be based on birth weight or gestational age?. 2013; *PLoS ONE* 8(5):e64869.
  13. Li Z, Zeki R, Hilder L, Sullivan EA. Australia's Mothers and Babies 2010. Perinatal statistics series no. 27. Cat. no. PER 57. Australian Institute of Health and Welfare National Perinatal Statistics Unit, Australian Government. Retrieved 4 July 2013.
  14. Ahman E, Shah IH. New estimates and trends regarding unsafe abortion mortality. *Int J Gynecol Obstet*. 2011;115:121-126.
  15. Sabourin JN, Burnett M.A Review Of Therapeutic Abortions And Related Areas Of Concern In Canada. *J Obstet Gynaecol Can*. 2012;34(6):532-542.