

## POST PLACENTAL INTRAUTERINE CONTRACEPTIVE DEVICE INSERTION: A PROMISING CONTRACEPTIVE APPROACH

Tahira Khalid, Tahmina Yousaf, Sadia Irum, Uzma Javed

Federal Government Hospital (FGH) Islamabad Pakistan

### ABSTRACT

**Objective:** To evaluate efficacy and safety of post placental intrauterine contraceptive device (PPIUCD) insertion during cesarean section.

**Study Design:** Case series.

**Place and Duration of Study:** Study was conducted at Federal General Hospital PMNHC Chak Shahzad for a period of 1 year, from May 2015 to May 2016.

**Methodology:** Seventy five pregnant women were recruited in antenatal period after counseling and convincing of patients and their husbands. CuT-380A was inserted manually after delivery of placenta during caesarian section. Women having premature rupture of membranes (PROM) more than 18 hours, postpartum hemorrhage (PPH), fever, structural malformed uterus, fibroid uterus were excluded from study. The women were followed at 6 weeks and 3 months to measure safety and efficacy of PPIUCD insertion.

**Results:** Among 75 patients included in this study, majority (44%) belonged to 25-30 years' age group. 89% were literate. 46% were para-3 and were going under 2nd or 3rd caesarian section. 85% had no knowledge of intra caesarian PPIUCD. 7% had bleeding problems, while 13% complained of vaginal discharge. PPIUCD was expelled in 2 cases and 1 case got infected.

**Conclusion:** Intra-caesarian PPIUCD was found to be highly effective, safe, long acting, cost effective and reversible method of contraception. Awareness of intra-caesarian PPIUCD was low but counseling of patients and family members was highly effective to increase acceptance. Strategies have to be developed to increase public awareness of PPIUCD through media and ground level workers.

**Keywords:** Contraception, Efficacy, Intra-caesarian, Post placental intrauterine contraceptive device (PPIUCD).

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### INTRODUCTION

An intrauterine contraceptive device (IUCD) is a long active, reversible, non-hormonal and effective of contraception with immediate effect. It is the most widely used method of contraception with approximately 160 million users worldwide. Post placental IUCD insertion leads to increase access to postpartum IUCDs, because it does not require a separate postpartum visit. Guidelines provide an evidence-based information of post placental IUCD placement after vaginal and cesarean delivery. Post placental IUD insertion is safe as compared to interval insertion in terms of lower risk of complications<sup>1</sup>.

The American College of Obstetricians and Gynecologists (ACOG) encourages strongly the use of immediate postpartum insertion of long-acting reversible contraception (LARC). In 2012-2013 it has been reported that there is increase in provision of IUCD and implant, with LARC insertion rate has been reached to 13.5/10000 deliveries<sup>2</sup>. LARC methods are ideally suitable to play a major role in fertility regulation worldwide as well for the impoverished countries. Caesarian section (CS) rates are rising in all countries. IUCD insertion at the time of CS provides an opportunity to increase access to LARC methods<sup>3</sup>.

Postplacental IUCD insertion is defined as placement of IUCD within 10 minutes of delivery<sup>1,4</sup>. It can be placed both after vaginal delivery and during caesarian section. All women undergoing LSCS are highly motivated and are

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**Correspondence:** Dr Tahira Khalid, Federal Government Hospital, Chak Shehzad Islamabad Pakistan

Email: [drtahira.fgh@gmail.com](mailto:drtahira.fgh@gmail.com)

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very suitable for LARC. Most studies have found intra-caesarian safe and effective<sup>5</sup>. Abdominal delivery provides a convenient opportunity for women.

This was particularly important for our women who have limited access to medical care. Obstetricians are also privileged as they can insert IUCD under direct vision without fear of perforation. Hence intra-caesarian PPIUCD insertion is an appealing contraceptive method for both women and health providers. Studies were available on this regard, but in low resource settings, like ours more research work was needed for implementation of this technique. So the objective of the study was to evaluate safety and efficacy of intra-caesarian PPIUCD in terms of infection, perforation, expulsion and conception.

## METHODOLOGY

This case series study was carried out in obstetrics and gynecology department of Federal General Hospital, Chak Shahzad for a duration of 1 year from 1<sup>st</sup> May 2015 to 1<sup>st</sup> May 2016. Women attending antenatal clinic and fulfilling inclusion criteria were included in this study after obtaining informed consent through consecutive non probability sampling technique. Sample size was calculate by World Health Organization calculator with 95% confidence level, absolute precision of 8%, taking anticipated population of 91% as efficacy from Singal *et al*<sup>19</sup> the calculated sample size was 75.

The study protocol was approved by ethics committee.

All ladies attending antenatal clinics who were candidates for elective/emergency LSCS were counseled regarding intra-caesarian PPIUCD insertion by attending doctor. If patient was reluctant she was given time to think and discuss with her family members and discussion was held again on the next antenatal visit. If the patient wished her husband and mother in law were also counseled and various misconceptions and myths were clarified. Finally, those patients who agreed had intra-caesarian PPIUCD

highlighted on their antenatal cards and these females were included in study.

All antenatal patients admitted for caesarian section that had been counseled for intra-caesarian PPIUCD insertion during their antenatal visits, their written consent was taken. Consent was taken from their husbands or fathers. The inclusion criteria were as follows; 20-40 years'age, term pregnancy, no history of infection of uterus, Hemoglobin>8, desire to have intra caesarian PPIUCD insertion. Patients were excluded if having following criteria, fever during labor, (temperature >38 C), having active sexually transmitted diseases (STD), chorioamnionitis, ruptured membranes for more than 18 hours, structuraluterine abnormalities, uterine myomas and PPH.

Uterine cavity was inspected after delivery of placenta. The IUCD was removed from the insertion sleeve. Uterus was stabilized by grasping at fundus with left hand. IUCD was held between middle and index finger. It was inserted through uterine incision and released at fundus of uterus and hand was removed slowly from the uterus taking care not to dislodge IUCD. Strings were guided towards the lower uterine segment without disturbing IUCDs fundal position. Care was taken not to include IUCD strings during uterine closure.

Intra-caesarian PPIUCD insertion was highlighted on discharge card. Women were counseled to return for follow up 6 weeks after discharge. They were advised to come back any time if had foul smelling vaginal discharge, lower abdominal pain and fever, suspicion that IUCD had fallen out. A record of patient's details including contact number was kept in a separate register.

SPSS version 17 was used to enter and analyze data. Descriptive statistics were used to calculate qualitative and quantitative variables.

## RESULTS

Intra-caesarian PPIUCD insertion was done in a total of 75 patients who gave their consent

and fulfilled inclusion criteria. Table-I showed the demographic characteristics of PPIUCD clients. Majority of cases were in age group 25-30 years (44%). Most of the clients were para-3 (46.7%), 89% were literate.

Majority of patients interviewed had knowledge of CuT (interval IUCD) but very few had knowledge of intra-caesarian PPIUCD insertion. 85.3% were quite surprised that and IUCD could be inserted during caesarian section and had never heard of such contraception. Follow up was done at 6 weeks and 3 months. Follow ups were ensured by taking contact numbers and addresses of patients, all the include patients came for follow ups and efficacy and safety of PPIUCD was evaluated.

Majority of patients (47%) had no complaints regarding use of IUCD, as shown in table-II. Major complaints were vaginal discharge and backache 13% each, followed by weight gain which was observed in 10.7% of patients. PPIUCD was effective with only expulsion rate of 2.6% (table-III).

No significant medication was required in any case and simple reassurance and counseling helped patients in continuation of PPIUCD.

In those cases, where strings were not visible, ultrasound was done to confirm that IUCD was in place and patient was reassured.

Only one patient demanded removal of IUCD and reason being was family pressure. Again counseling was done and patient agreed to continue PPIUCD.

No effect on lactation was observed. Majority had minor complaints and misconceptions relating intra-caesarian PPIUCD insertion to non-related complaints. Patient and sympathetic counseling and answering all questions proved to have an affirmative impact on all clients persuading them to continue PPIUCD.

**DISCUSSION**

Intra caesarian PPIUCD is convenient for many women for as it is safe, cost effective, reversible and non-hormonal method of

contraception. It does not affect lactation neither it is coital dependent. There is no pain on its

**Table-I: Demographic features of intra caesarian PPIUCD clients.**

Characteristics	Number	Percentage
<b>Age</b>		
20-25	22	29.3
26-30	33	44
31-35	17	22.7
35-40	3	4
<b>Parity</b>		
Primipara	-	-
Para-2	28	37.3
Para-3	35	46.7
Grand Multi	12	16
<b>LSCS</b>		
First caesarian	5	7
Previous 1 scar	31	41
Previous 2 scars	29	38.6
Previous 3 scars	10	13.3
<b>Educational Status</b>		
Illiterate	8	10.6
Primary	20	26.7
Secondary and higher	39	52
Graduate	8	10.7
<b>Socioeconomic Status</b>		
Low income	45	60
Middle class	30	40
High income	-	-

**Table-II: Complaints of clients at follow up.**

Complaints	Number	Percentage
bleeding	5	7
Abdominal pain	7	9.3
backache	10	13
Weight gain	8	10.7
Vaginal discharge	10	13
No complain	35	47

**Table-III: Efficacy and safety of PPIUCD.**

Findings	Number	Percentage
expulsion	2	2.6
infection	1	1.33
perforation	0	-
Pregnancy	0	-
Strings visible	43	57.3
Not visible	29	38.6

insertion per operatively. In India 65% of females have unmet need of family planning in the first year of post-partum period, so practice of

contraception in highly needed<sup>6</sup>. IUCD is the second most common contraceptive method used in Pakistan and worldwide and is as effective as tubal sterilization<sup>7,8</sup>.

In this study majority of women had primary/secondary level of education and were quite receptive for intra caesarian PPIUCD after counseling and discussion. Studies have shown that women education was most important determinant of contraception<sup>9,10</sup>. Education renders people more receptive to new ideas and awareness regarding importance of birth spacing.

In this study highest acceptance of intra caesarian PPIUCD was seen in multiparas which was consistent with study done by Grimes *et al*<sup>11</sup>. Perhaps, these clients were highly motivated for birth spacing as they were undergoing repeat caesarian section. Majority of intra caesarian PPIUCD acceptors were undergoing second or third caesarian section. According to some studies, the risk factors for IUCD expulsion following immediate post placental insertion also dependent on parity of women<sup>12</sup>.

In our study majority of patients belonged to 25 -30 year age group. In another study by Cordes *et al* it was found that average age was of 21.6 years. No serious complication such as perforation, misplaced IUCD, pregnancy with IUCD was encountered which is in accordance with the another study where no perforations were observed<sup>13,14</sup>.

Like other studies bleeding and lower abdominal were the commonest complaints but their frequency was quite less as compared to other studies<sup>15</sup>. Patients were reassured and no patient needed aggressive management as the complaints settled within 2-3 months.

Only two patients (2.6%) reported expulsion. This was similar to a multi country study done in Belgium and Philippines which showed expulsion rate of 6-7% but this was in contrast to Celen *et al* who found expulsion rate of 16.4%<sup>16</sup>.

In another study by Shukla *et al*<sup>17</sup>, expulsion rate was 10.68% at 6 month of treatment. There

was no complaint of pain and vaginal discharge but heavy bleeding was observed in 287/1037 females. In another study the PPIUCD was also declared effective, safe and cost effective method of contraception with expulsion rate of 10.5% and no case of complications reported<sup>18</sup>. This was also supported by Suri Vanita<sup>19</sup>. In another study complication at 6 weeks and 12 weeks' expulsion rate at 6 and 12 weeks was 0% at 6%. Other complications were infection (2% and 0%), pain (8% and 4%) while bleeding was (4% and 2%)<sup>20</sup>.

In this study majority (85%) had never heard of intra caesarian PPIUCD, though majority knew about interval CuT-insertion but they had a lot of misconceptions related to it like heavy bleeding being a non-reversible method, effect on lactation, vaginal infections. It was evident from study that proper guidance, information and motivation lead to high acceptance of intra caesarian PPIUCD<sup>21,22</sup>.

It was observed during this study that counselling and motivation during antenatal visits was highly effective as patients were quite receptive during this period. It was also observed that patients who were reluctant were under pressure due to husband/family members. Patients were encouraged to have discussions with husbands and the couple was counseled together. This aspect was in accordance to many studies which showed that when partner was involved in contraceptive counseling acceptance was higher<sup>8,14</sup>. No patient reported interference of intra caesarian PPIUCD in lactation/coitus<sup>22</sup>.

Despite the high level of acceptance and low level of awareness, there is a need the government should develop strategies to increase public awareness of the PPIUCD. It is also important to arrange training courses on PPIUCD among staff should be arranged to increase knowledge and skills among healthcare providers. These strategies will further promote PPIUCD use and aid in reduction of the expulsion rates<sup>23</sup>.

Limitation of this study was small sample size and being followed up only for 12 weeks.

Patients should have been followed up for at least one year to comment on failure rate and long term use of PPIUCD.

## CONCLUSION

Intra cesarean PPIUCD was found to be a highly effective, safe method of contraception method. Maximum acceptance was seen in multiparas, educated ladies between 26-30 years of age undergoing repeat cesarean section. Ground level primary health care workers (auxiliary nurses, midwives and TBA's) should be properly educated regarding PPIUCD so that public awareness can be increased.

In a developing country like our health care professionals should motivate pregnant females along with their family members for birth spacing by PPIUCD. A little effort on counselling of the couple can bring a great change.

## CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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