

## Clinical Outcome of Post placental PPIUCD in a Primigravida Women Delivering by Caesarean Section

Shaily Sengar<sup>1</sup>, Raman Ohary<sup>2\*</sup>, Anant Kumar Rakhonde<sup>3</sup>, Uma Jain<sup>4</sup>

<sup>1</sup>Assistant Professor, Department of Obstetrics & Gynaecology, Govt Medical College (SRVS), Shivpuri, Madhya Pradesh, India

<sup>2</sup>Associate Professor, Department of Surgery, Govt (SRVS) Medical College, Shivpuri, Madhya Pradesh, India

<sup>3</sup> Professor, Department of Surgery, Govt (SRVS) Medical College, Shivpuri, Madhya Pradesh, India

<sup>4</sup>Professor, Department of Obstetrics & Gynaecology, District Hospital Associated, Govt (SRVS) Medical College, Shivpuri, Madhya Pradesh, India

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### Abstract

**Objective-** To assess the safety and efficacy of post-partum IUCD during caesarean section in a primigravida women. **Method:** This prospective observational study includes 100 women, who gave informed consent for post-partum intrauterine device insertion during caesarean section from Oct 2018 to Oct 2019 in the department of Obstetrics and Gynaecology, GMC Shivpuri associated District hospital Shivpuri Madhya Pradesh. The patients were followed up at 4-6 wk and at 3 months. **Result:** A total of 100 primigravida women underwent postpartum intracasearean insertion of CuT-375. The most common post insertion complication observed in the immediate post-operative period was wound infection (8%) and febrile morbidity (5%) majority of women (88%) had hospital stay b/w 5-8 days. The common adverse events observed during follow up at 3 month were pelvic pain, menstrual irregularity and other generalized complaints. At the end of 3 months cumulative expulsion, removal, pregnancy/ failure, and continuation rates are 2%, 6%, 0% and 92% respectively. **Conclusion-** Post placental intracasearean CuT- 375 insertion in primigravida women is a safe and effective method of reversible contraceptive with low expulsion and high continuation rate.

**Keywords:** Contraception, IUCD, LSCS, post placental, PPIUCD, CUT-375, Ceasarean section.

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### Introduction

The W.H.O revised the use of intrauterine contraceptive device (IUCD) from 6<sup>th</sup> week postpartum to within 10 min of delivery (post placental) to up to 48 hours of delivery [1].

In a recent study of postpartum unintended pregnancies 86% resulted from nonuse of contraception and 88% ended in induced abortion [2]. Early resumption of sexual activity coupled with early and unpredictable ovulation leads to many unwanted pregnancies in the first year postpartum. More ever in developing countries particularly, women who once go back home after delivery do not return from even a routine checkup leave aside contraception. This may be due to lack of education and awareness, social pressure, and non-access to facilities nearby. Thus, immediate post-partum family planning services need to be emphasized where the women leave the hospital with an effective contraception in place. Increase in hospital deliveries provides an excellent opportunity to sensitize women and provide effective contraception along with delivery services. An intrauterine contraceptive device (IUCD) has several advantages for use in postpartum period. As it is an effective, long term, reversible contraceptive, is coitus independent and does not interfere with breast feeding.

Cochrane reviews provide evidence of safety and feasibility of postpartum IUCD insertion in various settings [3].

The efficacy of intra cesarean IUCD insertion without any added risk of infectious morbidity has also reported by various studies [4,5].

### Material and Method

#### Study design

Prospective observational study

#### Study place

The current study is carried out in the department of Obstetrics and Gynaecology, GMC Shivpuri associated district hospital Shivpuri, Madhya Pradesh, India.

#### Study period

October 2018 to Oct 2019.

#### Ethical approval

Counseling was done prior to caesarean section; detailed information was provided related study procedures and an informed consent was taken.

#### Sample size

Consecutive sampling method was used and total 100 patients were included as per the inclusion and exclusion criteria

#### Inclusion criteria

Primigravida women undergoing for C. section and willing for post placental intracasearean Cu T-375(multiload) insertion who met WHO standard medical criteria for PPIUCD insertion.

#### Exclusion criteria were

Hb < 8 gm, ROM > 18hr, unresponsive PPH, obstructed labour, distorted uterine cavity and chorioamnionitis.

\*Correspondence

**Dr. Raman Ohary**

Associate Professor, Department of Surgery, Govt(SRVS) Medical College, Shivpuri, Madhya Pradesh, India.

E-mail: [raman.ohary4@gmail.com](mailto:raman.ohary4@gmail.com)

**Methodology**

Detailed history was taken. Women received counseling about PPIUCD insertion during prenatal visit or after admission to hospital. The insertion of IUCD (CuT-375 multiloop) was done after delivery of placenta using ring forceps through the uterine incision and fundus placement of device was ensured. Antibiotics were administered as per the hospital protocol for cesarean section. Women were observed daily for evidence for PPH and sepsis during the entire hospital stay.

Follow up planned at between 4-6wks, 3 month and 6 month or earlier in case of any adverse events like pelvic pain, foul smelling discharge or excessive bleeding.

At each visit a detailed history regarding excessive bleeding symptoms of infection, abdominal cramps or any other complications were taken along with general, physical, and pelvic examination.

Ultrasound was done in first visit to confirm location of IUCD and at subsequent visit if IUCD thread was not visible.

Data are validated. Descriptive data are summarized as percentage or mean.

**Result**

A total of 100 women fulfill who standard medical criteria for PPIUCD insertion has post placental intra caesarean CUT-375.

**Table-1: Demographic and clinical profile of the women**

	Parameters	number	%
(A) Age group	< 20y	20	20%
	20-30y	64	64%
	30-40y	16	16%
(B) Literacy	Literate	62	62%
	Illiterate	38	38%
(C) socioeconomic status	Lower	38	38%
	Middle	44	44%
	Upper	18	18%
(R) religion	Hindu	78	78%
	Muslim	22	22%
(E) type of LSCS	Elective	70	70%
	Emergency	30	30%

Most of the women were age of 20-30 y .

62% women were literate who opt for PPIUCD .

38% women were belong to lower class, 44% of middle class and 18% of upper class women opted PPIUCD as a mode of contraception.

22% Muslim and 78% Hindu women underwent for PPIUCD [the ration between Hindu and Muslim is 85%: 15% in Shivpuri and near around places].

**Table -2 : Post insertion complication**

Complications	Number
Fever	5
PPH	2
Foul smelling lochia /puerperal sepsis	0
Wound infection	8
UTI	2

Fever is seen in 5 patients out of 100. It was due to URTI (upper respiratory tract infection) in 2 patients, typhoid is diagnosed in 2 patients and wound infection was a cause of fever in 1 patient. All patients were investigated and treated (conservative management). Excessive bleeding (PPH) seen in 2 patient managed promptly with active management. Wound infection was the most common post insertion complication (8%), it was due to several predisposing factors.

**Table -3 Duration of hospital stay**

Duration of hospital stay	Number
< 5day	2
5-8 day	88
>8day	10

Most of the women stayed for 5-8 days as it was a protocol in this hospital to stay for 8 days after caesarian section. Only 2 women discharged on the fourth day on their request. 10 women stayed more than 8 days due to fever, wound infection, and anemia.

**Table-4: Follow up**

	4-6wk	%	3month	%
Continuation rate	100	100%	92	92%
<b>Adverse events</b>				
Discharge p/v	6	6%	15	15%
Menstrual complaints	20	20%	18	18%
Pelvic pain	22	22%	32	32%
Pelvic infection	0	0	0	0
Other complaints*	20	20%	22	22%
Expulsion complete	0	0%	2	2%
Incomplete	0	0%	0	0%

\* (weakness /wt loss/ fatigue/ generalized pain)

Most common adverse events seen is pelvic pain, menstrual complaint, and other complaint at 4-6 wk follow up whereas pelvic pain was the most common complaint at 3 months follow up.

Cu T expelled in two women which is diagnosed at 3 months follow up, and they were unaware of that.

**Table -5: Reasons for Cu- T removal**

	4-6 wk	%	3Month	%
Pelvic pain	0	0	1	1%
Menstrual complaints	0	0	2	2%
Pelvic infection	0	0	0	0%
Psychological cause	0	0	3	3%
Failure/pregnancy	0	0	0	0%

6 women out of 100 removed Cu-T due to psychological cause, menstrual complaints, and pelvic pain. At the end of 3 months cumulative expulsion, removal, pregnancy/ failure, and continuation rates are 2%, 6%, 0% and 92% respectively.

### Discussion

The postpartum period provides opportunity to the health care provider for counseling a woman regarding the available family planning methods including IUCD insertion to avoid unintended conception. It is observed that women who have been counseled for postpartum IUCD insertion have 10-time higher chance of getting IUCD than those, where insertion was delayed till complete involution of uterus [6].

The intrauterine device is an effective long lasting and reversible method of birth control. Immediate post placental IUCD Insertion (PPIUCD) during cesarean section provides a good opportunity to achieve long term contraception with minimal discomfort to women [7].

It is being increasingly practiced after reported safety and lower expulsion rate following intra caesarean IUCD insertion[9].

Infection morbidity in the present study was consistent with previous reports by Celen et al. and Eroglu et al., [8,10].

Wound infection was observed to be the most common post insertion complication (8%). It was due to chronic anemia, malnutrition, poor socioeconomic status and chronic infection prior to caesarean. Managed conservatively with higher antibiotics, daily dressing injectable iron and blood transfusions.

5 women had fever post-partum. Out of 5 one diagnosed to have typhoid fever, 2 women had upper respiratory tract infection (URTI) and in 2 women wound infection is the cause of fever. All these women are managed conservatively with specific antibiotics. UTI (urinary tract infection) was found in only one woman. All these women responded well to antibiotics.

2 women observed excessive bleeding p/v after cesarean section day 1, immediate management done with Inj Oxytocin, Inj Prostodin, tab misoprostol and blood transfusion done. Both these cases were due to atonic PPH.

Majority of women (88%) had a hospital stay of 5-8 days (due to hospital protocol) only 10 women stayed for >8 days due to febrile morbidity and wound infection.

Follow up care after immediate PPIUCD insertion is a vital component for ensuring detection of early expulsion and higher continuation rates.

Current guideline recommends that asymptomatic IUCD users should return for a follow up visit after 3-6 wk of insertion[11]. In the present study follow up was scheduled at between 4-6 wk , 3 months, 6 months and 12 months but only 28 % women came for 3<sup>rd</sup> follow up at 6 month and only 10% came for 4<sup>th</sup> follow up at 12 month. 100 % women successfully completed 3<sup>rd</sup> follow up at 3 months.

Expulsion of IUCD is an important factor affecting efficacy of the device. In the present study 2 IUCD were expelled completely making expulsion rate 2%. These two women were unaware of that and expulsions diagnosed on 3<sup>rd</sup> month follow up. Observations are similar to those of Chi et al.,[12]

The common adverse events observed during follow up were menstrual complaints, excessive vaginal discharge, pelvic pain and other complaints. Vaginal discharge smear taken, no specific infection found and treated with antibiotics. For pelvic pain analgesics were given along with antibiotics. For menstrual complaints along with

counseling tranexamic acid given in most, for few oral contraceptive pills given for 3 months.

The cumulative removal rate of IUCD at 3 months observed in the present study was 6% as reported by Hages et al.[13] The common cause of removal were psychological (3%), menstrual complaints (2%) and pelvic pain (1%).

There was no case of unintended pregnancy with Cu T in situ. These observations are similar to the previously reported cumulative pregnancy rate of less than 1\100 women with one year follow up [14,15].

### Conclusion

Post placental intra caesarean CuT-375 insertion in primigravida women is safe and effective with low expulsion and high continuation rates; in the present study cumulative expulsion, removal, failure, and continuation rate of 2%, 6%, 0% and 92% were respectively. It can contribute significantly to increase the use of IUCD as a long-acting reversible contraceptive in Indian population.

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