

RETENSION RATE OF INTRA CAESARIAN INSERTION OF INTRAUTERINE CONTRACEPTIVE DEVICE AND EVALUATION OF COMPLICATIONSSuja Mary George¹, Mary George², Annie Soman³, Deepa Bavan⁴**HOW TO CITE THIS ARTICLE:**

Suja Mary George, Mary George, Annie Soman, Deepa Bavan. "Retension Rate of Intra Caesarian Insertion of Intrauterine Contraceptive Device and Evaluation of Complications". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 20, March 09; Page: 3522-3531, DOI: 10.14260/jemds/2015/507

ABSTRACT: The purpose of the study was to evaluate the percentage of patients retaining IUCD at 6 weeks and 6 months post intra caesarian insertion. Additionally, it also evaluates the safety and compares the possible complications like abnormal vaginal discharge, fever, subinvolution, abnormal uterine bleeding, perforation, expulsion etc. associated with intra caesarian insertion of IUCD with insertion done 3months or later after delivery. **MATERIALS AND METHODS:** A total 90 cases were evaluated:30 intra caesarian IUCD insertion, 30 LSCS without IUCD, and 30cases of IUCD insertion 3 months or later after child birth.6 months evaluation was carried out in the Department of Obstetrics & Gynaecology, MOSC Medical College, Kolenchery and follow up was done for the next 6months. **RESULT:** 80% of cases involving intra caesarian IUCD insertion retained IUCD at the end of 6mths follow up; 10% expelled before 6wks and 10% by 6mths. Complications were comparable in intra caesarian insertion and post puerperal insertion. No pregnancies occurred in both the groups during follow up. As IUCD is a foreign body; compared to both groups with IUCD, complications were less in the group for which caesarian alone was done. But, there were four pregnancies because of lack of contraception in that group.

KEYWORDS: Intrauterine contraceptive device (IUCD), Intra-caesarian insertion, Post puerperal, insertion, CuT, Lower Segment Caesarian Section (LSCS).

INTRODUCTION: ¹The population of India stands at 121 crore (census 2011). Curbing this alarming rise in population is of immediate concern for the health policy makers. In order to bring about population control, effective contraception techniques have to be implemented. When counseled properly, majority of women become prepared to delay the next pregnancy by adopting some or the other means of contraception. IUCD is world's most widely used and oldest method of reversible contraception. It is highly effective, long-acting, coitus independent, safe and rapidly reversible method of birth control with fewer side effects. Women find it attractive as it requires minimum attention once inserted. This is especially important for women with limited chances of medical attention. CuT 380 A is even issued by Govt. of India free of cost.

Routinely, CuT is inserted 3 months post-partum onwards. It is difficult to insert IUCD in post caesarian patients because of tightly closed internal os. Many doctors in the periphery are reluctant to introduce IUCD in post caesarian cases.

Increasing incidence of hospital delivery provides a chance for postpartum and intra caesarian insertion of IUCD. At the time of caesarian section women are more motivated for a long acting temporary method of contraception.² On the other hand, if they are made to wait for 6 wks for initiating an effective contraception, they may conceive accidentally or may not come for contraception. As IUCD is inserted along with C. S in a single setting, there no need for second motivation, decision making and hospital visit. The pain, syncopal attack, and difficulty of insertion

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through tightly closed os can hence be avoided.³ Expulsion rates for insertions following cesarean deliveries are about the same as for interval Insertion according to Blanchard H Mac Kaig et al.

AIM: To evaluate 30 cases of intra caesarian insertion of IUCD and their follow up for 6 months to analyze the retention rate and to compare the complications in these 30 cases with 30 cases of IUCD insertion after puerperium and 30 other matching cases of caesarian section without IUCD insertion.

OBJECTIVES:

1. To find out the retention rate of IUCD at 6wks and 6mths after intra caesarian insertion.
2. To evaluate complications involved like:
 - a. Perforation.
 - b. Abnormal vaginal discharge.
 - c. Subinvolution.
 - d. Abnormal uterine bleeding.
3. To compare complications in intracaesarian insertion of IUCD, with 30 cases of IUCD insertion after puerperium and 30 other cases of caesarian section without IUCD insertion.
4. To see conception rate with and without IUCD post-delivery among the 90 cases.

METHODOLOGY:

STUDY SETTING: Department of O&G, MOSC Medical College, Kolenchery, Ernakulam.

STUDY PERIOD: November 2013 to May 2014 and cases were followed up for the next 6 months.

SAMPLE SIZE: 90 cases were analyzed.

GROUPS:

- a. 30 cases of intra caesarian CuT insertion.
- b. 30 cases of LSCS without CuT.
- c. 30 cases of CuT insertions after puerperium.

SAMPLING:

GROUP I: Inclusion Criteria for Intra Caesarian Iucd Insertion

- a. Primary caesarian section only.
- b. Desire to have CuT after counselling.
- c. Consent for CuT insertion.
- d. <12hrs in active labour.
- e. <18hrs PROM.

EXCLUSION CRITERIA:

- a. Repeat caesarian sections.
- b. Evidence of genital infection.
- c. Congenital anomaly of uterus.
- d. Anemia.
- e. Meconium stained amniotic fluid.
- f. PPH.

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GROUP II: 30 comparable LSCS cases not willing for IUCD insertion.

GROUP III: 30 randomly selected cases of IUCD insertions 3 months or later after delivery.

PROCEDURE: During caesarian section, after delivery of baby and placenta IUCD was kept at the fundus and thread is directed down through os and uterine incision was closed making sure that the thread is not included among the sutures.

DATA COLLECTION: Data collection was done using the designed data sheet to extract information of patients for the required details.

- a. Age.
- b. Parity.
- c. Period of gestation.
- d. Indication for caesarean.
- e. Cervical dilatation, No. of hours in active labour, hours of PROM before CS.
- f. 4th POD:
 1. Confirmation of IUCD in-situ by USS.
 2. Evidence of infection like fever, abnormal vaginal discharge, wound infection, uterine tenderness, and sub involution.
 3. Abnormal uterine bleeding.
- g. 6 weeks postpartum and 6 months postpartum.
 1. CuT thread P/S.
 2. Confirmation of IUCD in-situ by USS.
 3. Evidence of infection like fever, abnormal vaginal discharge, wound infection, uterine tenderness, sub involution.
 4. Abnormal uterine bleeding.

ANALYSIS AND RESULTS: A total of 90 cases were analyzed which included 3 groups:

- A. 30 cases of intra caesarian IUCD insertion.
- B. 30 comparable cases of LSCS without IUCD insertion.
- C. 30 cases of post puerperal IUCD insertion (3 months onwards).
- D. The main study group comprised of 30 cases of intra caesarian IUCD insertion.

GROUP 1: 30 cases of intra caesarian insertion of IUCD.

Age	Frequency	%
<20 yrs	1	3.33
20-25 yrs	14	46.67
26-30 yrs	12	40
30-35 yrs	3	10
Total	30	100

Table 1: Age Distribution

All 30 cases were primi gravidas, primary emergency sections who had completed 37 weeks of gestation.

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	Frequency	%
No P/V	7	23.33
1-2 cm	11	36.67
3-4 cm	7	23.33
>4 cm	4	13.33
Full dilatation	1	3.33
Total	30	100

Table 2: Distribution according to cervical dilatation

No statistically significant association was found between cervical dilatation and discontinuation except for one full dilatation case. In the LSCS+CuT group there was only one case of full dilatation and copper T got expelled in that case on seventh day.

P/V done	7	23.33
No P/V	23	76.67

Table 3

All 6 cases of IUCD discontinuations were in the group where P/V was done.

	Frequency	%
ROM	5	83.33
No ROM	1	16.67
Total	6	100

Table 4: Rupture of membrane among the 6 cases of IUCD discontinuation

Majority of discontinuations were present in those patients with rupture of membranes. The only frank case of PID at 6 weeks in LSCS+ CuT group had PROM of 16 hrs which is significant.

	Frequency	%
≤6 weeks	1	3.33
6weeks-6months	1	3.33
Total	2	6.67

Table 5: Expulsion of IUCD

Among the 30 cases considered 2(6.67%) got expelled in 6 months.

	Frequency	%	Reason for removal
≤6 weeks	2	6.67	1. PID 2. Baby expired
6weeks-6months	2	6.67	menorrhagia
Total	4	13.34	

Table 6: Removal of IUCD

Among the 30 cases studied, 4(13.34%) needed removal.

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	Frequency	%
Expelled	2	6.66
removed	4	13.34
continuing	24	80
Total	30	100

Table 7: Continuation Rate

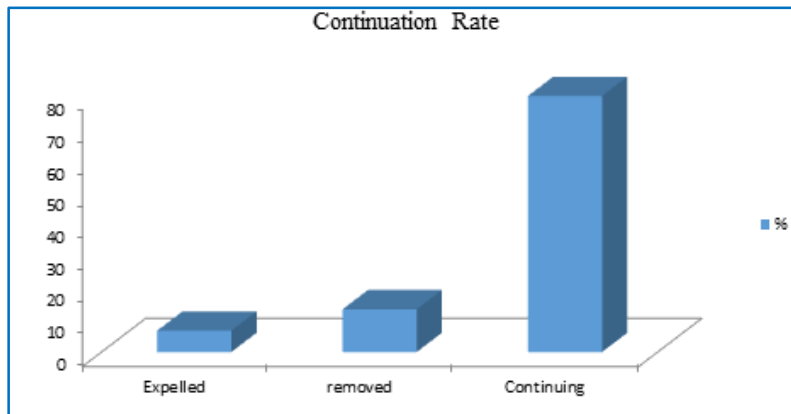


Fig. 1

IUCD was retained beyond 6 months in 24(80%) patients among the intra caesarian insertion group. One case (3.33%) was removed at 10 months because of PID. So continuation rate was 76.67% at 1 year. Of the 20% discontinuation cases, 10% discontinuations occurred ≤ 6 weeks. Out of this one was expelled and two were removed. Reason for removal was PID in one case and death of baby in the other. Between 6 weeks and 6 months, 3 more cases (10%) discontinued; one expulsion and 2 removals because of AUB.

	Frequency	%
Thread seen	16	53.33
Thread not seen	8	26.67
IUCD removed/expelled	6	20
Total	30	100

Table 8: Thread complications at 6 months

At six months six cases discontinued. Of the remaining 24 cases, 16 (66.66%) showed thread on P/S examination. Two of them had long thread requiring trimming. To avoid this long thread complication the end of thread was curled before introducing in to the cervical canal which might be the reason for thread non visibility in the rest 8 cases.

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Sl. No.	Expelled/ removed	Rsn for removal	Time of discontinuation	Cervical dilatation	Active phase(hrs)	ROM	Indication
1	E		7 days	Full dil	4-8hrs	8-12	GDM
2	E		6wks-6mths	0-2 cm	Nil	Nil	Gest HT
3	R	PID	6weeks	3-4cm	4-8	>12	F. distress
4	R	AUB	6wks-6 months	0-2cm	4-8	4-8hrs	Failed indn
5	R	AUB	6wks-6mths	3-4 cm	4-8	8-2hrs	CPD
6	R	DEATH OF BABY:		IUCD	REMOVED	AT	1 MONTH

Table 9: Analysis of discontinued cases

The only case of CuT with LSCS done at full dilatation got expelled which also had ROM more than 8hrs. 4 out of 5 cases of discontinuation had active phase duration >4hrs. PID case necessitating IUCD removal had ROM>12 hrs.

	6weeks	6months
1. Abnormal bleeding	7(23.33%)	10(33.34%)
• Spotting P/V	7	5
• Menorrhagia	0	5
2. Pain	1(3.33%)	0
3. PID	1(3.33)	0
TOTAL	9/30 (30%)	10/30 (33.33%)

Table 10: Complication among 30 cases of intra caesarian CuT insertion

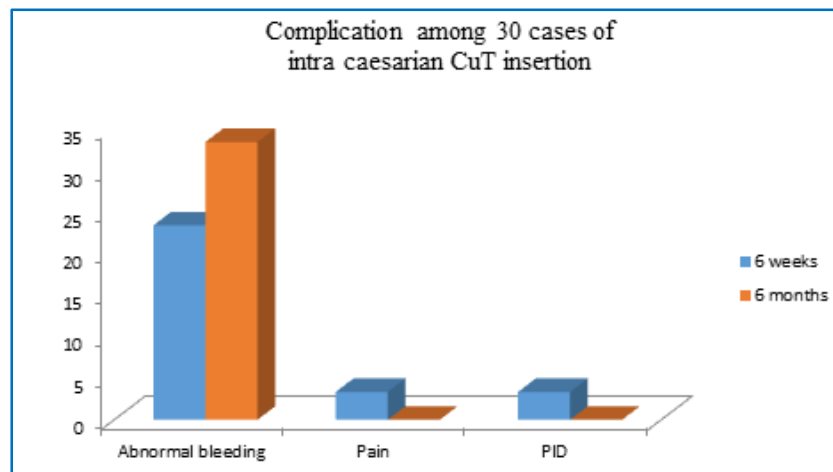


Fig. 2

There was only one case of PID at 6 weeks necessitated CuT removal. One more case needed removal because of PID after 10 months i.e. 2 cases of PID up to 10 months of insertion.

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COMPARISON OF CONTINUATION RATES OF 30 CASES OF INTRA CAESARIAN INSERTION OF IUCD WITH 30 POST PURPERAL IUCD INSERTION:

	≤6 weeks	6wks-6mths	Continuation >6 mths
LSCS with CuT	3(10%)	3(10%)	80%
CuT alone	3(10%)	2(6.67%)	83.3%

Table 11: Continuation rate

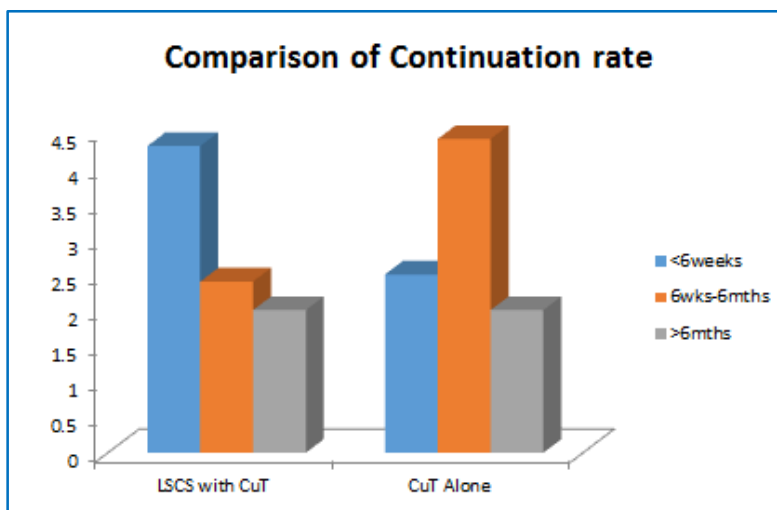


Fig. 3

The continuation rates in both the groups were comparable.

83.3% at six months in the CuT alone group as compared to 80% in the intra caesarian group, the difference was not statistically significant. In both groups there was one case of expulsion and two removals at ≤ 6 weeks. Between 6 wks band 6 mths in the CuT alone group there were no expulsion but two removals were there one for menorrhagia and one for PID.

	6 weeks		6 months	
	LSCS+ CuT	CuT alone	LSCS+ CuT	CuT alone
AUB	7(23.33%)	9(30%)	10(33.33%)	7(23.33%)
• Spotting P/V	7	3	5	3
• Menorrhagia	0	2	5	2
• Spotting+menorrhagia	0	4	0	2
Pain	1(3.33%)	2(6.67%)	0	2(6.67%)
PID	1(3.33%)	1(3.33%)	0	0
Total	9(30%)	12(40%)	10(33.33%)	9(30%)

Table 12: Complications among the two groups

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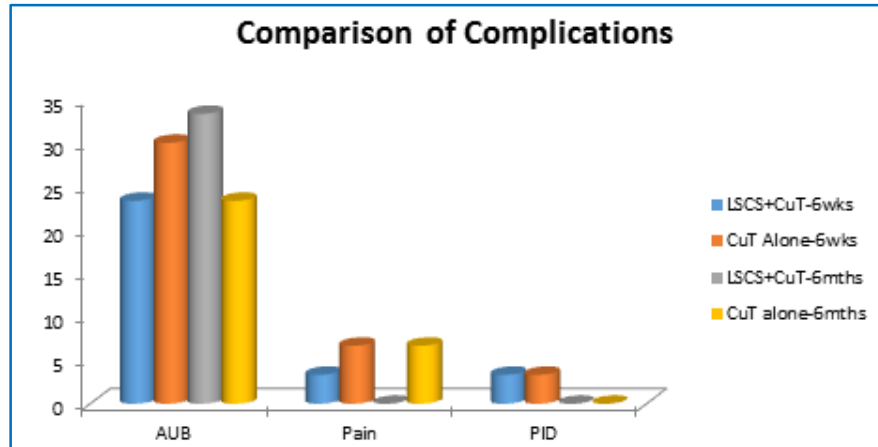


Fig. 4

On analysis of complications no statistically significant difference was noticed among the two groups. At six weeks 7 cases (23.33%) had menstrual problems in LSCS+ CuT group and 9 (30%) in IUCD alone group. At six months follow up 33.3% had AUB in LSCS + CuT and 23.3% in IUCD alone group. Pain was a side effect in 4 patients up to 6 months in IUCD alone group as compared to only one patient in LSCS+ CuT group. There was 1 case of PID in both groups at 6 weeks necessitating CuT removal. One more case of PID occurred around 10 months in both groups. So, a total of 2 PID cases occurred in both the groups in a 1 year follow up.

POST PUERPERAL IUCD INSERTION IN POST LSCS CASES: Among 30 cases of post puerperal IUCD insertions 8 was done following LSCS. One among them needed removal ≤ 6 weeks (1/8ie 12.5%). So continuation rate at 6 weeks was 87.5% which was comparable to 90% in intra caesarian insertion. Complication rate also was comparable.

30 cases of LSCS without IUCD insertion:

	Frequency	%
LSCS alone	4/30	13.33
LSCS with CuT	0	0
CuT alone	0	0

Table 13: Pregnancy among the three groups

	6 weeks	6 months
Pain	2	1
Spotting	2	0
Wound infection	2	0
Pregnancy	0	4

Table 14: Complications in patients with LSCS alone

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As IUCD is a foreign body; compared to both groups with IUCD, complications were much less in the group for which caesarian alone was done. But there were four pregnancies in 1 year follow up because of lack of contraception in that group. (1 at 3rd month, 1 at 7th month, 1 at 10th month and 1 at 11th month). Three pregnancies are ongoing and one ended as missed abortion. No pregnancies occurred in both the groups with IUCD during follow up.

DISCUSSION: In our study the expulsion rate was 3.33%(1 in 30) up to 1 month which is less than the expulsion rate at 1 month i.e. 6.4% which was obtained in the study carried out by⁴ Mishra Sujnanendra, in a recent study in 2014 May published in Federation of Obstetrics and Gynecology Society of India journal. Expulsion rate was similar to a multi-country study done in Belgium, Chile and Philippines which showed a rate of expulsion at 1 month ranging from 4.6-16% and in the study of⁵ Gupta Swati, Malik Shashiprateek et al.

Expulsion of PPIUCD usually occurs in the first few months after insertion. In our study it was on 7th day and 3 ½ months (6.6%). The expulsion rate is⁶ comparable with the study of Abhilasha Gupta, Aruna Verma et al which was also 6.6%. No further expulsion occurred in a one year follow up. In a multi-center study done by⁷ Tatum et. al, the expulsion rate of PPIUCD was similar at one and 12 months in Belgium (4%) and Chile (7%). Continuation rate at 6 months was 80% in our study which is comparable to 81.11% in Mishra Sujnanendra, a FOGSI study.

The only case of expulsion of IUCD up to 6 weeks in intra-caesarian insertion was a case of LSCS done at full dilatation. So proper selection may decrease the immediate expulsion rate. Similarly the only case of frank infection necessitating IUCD removal upto 6 weeks was one with PROM of 16 hours. So, selecting cases avoiding prolonged PROM can reduce the incidence of PID.

AUB was seen in 7 cases in a 6 week follow up and in 10 cases in a 6 months follow up. But only in 2 cases, CuT removal was done. This was a result of proper counselling and most had relief in a 1 year follow up. So, proper counselling is a key factor to obtain good continuation rates. Selecting cases with no or few number of P/V's, absent PROM and full dilatation helps to reduce complication rates.

Due to lack of contraception, there were 4 pregnancies in the patients for whom LSCS was done without IUCD insertion whereas no pregnancies were reported in the patients with contraception (i.e., post puerperal and intra caesarian insertion). This is especially significant in our nation which is at the verge of population explosion.

Complication and discontinuation rates was the same in intra caesarian and post puerperal insertions of IUCD, i.e. intra caesarian IUCD insertion is safe and effective and also has a high retention rate and needs adequate promotion.⁸ The popularity of immediate post-partum IUD insertion in countries as diverse as China, Mexico, and Egypt support the feasibility of this approach.

CONCLUSION: Continuation rate at 6 months in post puerperal (83.3%) and intra caesarian (80%) IUCD insertion was comparable. The complication rates like AUB, PID, expulsion, perforation etc. were also comparable and there were no pregnancies.

So, intra caesarian insertion of IUCD is a highly effective and safe method providing high retention rates. Proper steps must be taken for the promotion of intra caesarian insertion of IUCD.

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