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OUTCOME OF INTRA-CAESAREAN PPIUCD INSERTION

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Abstract:

Aim of study: To study the acceptance rates of intra-caesarean Post placental Intrauterine contraceptive device insertion and to assess the safety , efficacy , expulsion rates , continuation rates and complications related to intra-caesarean PPIUCD insertion

INTRODUCTION : This study examines the factors responsible for accepting the intra-caesarean PPIUCD insertion and evaluates the safety, efficacy, expulsion and continuation rates of intra-caesarean PPIUCD insertion.

Material & Methods: This Prospective observation study was conducted in at Depatment of Obstetrics and Gynecology Goverment Medical College Aurangabad tertiary care hospital conducted from November 2019 to October 2021. In present study we have enrolled 332 cases during two years. Women fulfilling the inclusion criteria underwent postpartum insertion of IUCD.

Observation & Results: There were no major complaints in either group in Post operative period . At 6 months follow up in PPIUCD users, 3.91% had spontaneous expulsion and 4.21% removed copper T due to various reasons , 95.05% continued to use this method . There were no complications like perforation of uterus, intrauterine pregnancy with copper T, extra uterine pregnancy and infection.

Conclusion: The intra-caesarean PPIUCD insertion was found safe with low rates of expulsion, minimal bleeding tendencies, negligible rate of infection. PPIUCD looks promising as a first choice contraceptive in the eligible ones as a long term, reversible contraceptive in the control of health care , coitus independent, no interference with breastfeeding and without any systemic side effects.

Keywords: Contraception, Intra-caesarean, PPIUCD, Spacing.

INTRODUCTION

India is the second largest populated country in the world accounting 17.5% world's population[1].Access to safe and effective contraceptive services in the postpartum period is of utmost importance for a woman to prevent unwanted / mistimed pregnancy. In a recent study, out of 1000 women aged 15-49 years there was estimated rate of 144.7 pregnancies

and among them 70.1were unintended pregnancies. In the same study Abortions account for one third of all pregnancies, and nearly half of abortions were unintended[2]

In many developing countries, postpartum family planning usually initiated after 6 weeks postpartum. Resuming of sexual activity coupled with unpredictable ovulation leads to many unwanted pregnancies in the first year postpartum. Moreover in rural areas women who once go back home after delivery do not return back even for routine PNC checkup. This is may be due to lack of education and awareness, social pressure and non access to facilities nearby.[3]

The PPIUCD services in India started in 2009 and rapid expansion took place in 2012.In India, Copper T 380A is being supplied free of cost by the government, to all health centres and private practitioners.The government of India is mainly focusing on spacing methods.[4] The efficacy of intra-caesarean IUCD insertion without any added risk of infectious morbidity has also been reported by various studies.[5-7] 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.

A total of approx 20000 deliveries occur in our institute ,Out of which approx 5000 undergo LSCS. Increasing number of women undergo elective section due to repeat caesarean section, these women need effective long term contraception to allow them recuperate from surgery and for reliable means of child spacing.The present study is designed to compare the clinical outcome (i.e. acceptance, expulsion, safety, efficacy, complications, and continuation rates) in women undergoing intra-caesarean insertion of Copper T.

AIMS AND OBJECTIVES

- To study the acceptance rates of intra-caesarean PPIUCD insertion and to assess the safety , efficacy , continuation rates , expulsion rates and complications related to intra-caesarean PPIUCD insertion

MATERIALS AND METHODOLOGY

STUDY DESIGN: The present study was a prospective observational study conducted on women admitted to the tertiary care centre, Dept of Obstetrics and Gynecology. Women who gave consent for intra – caesarean IUCD insertion from Nov. 2019 to Oct 2021 were included in the study.

Ethical approval for the study was obtained from hospital ethics committee prior to the commencement of the study. Study population 660 women were counselled for PPIUCD and 332 women undergoing ceasarean sectiondelivering in the hospital fulfilling the inclusion criteria were included in this study after obtaining informed consent.

Procedure : women for the study were given detail information of the procedure. Detail history was recorded regarding age, socio economic status, education and residence. The past history and present delivery events were recorded. Routine investigations were done in all patients.

Women received counselling regarding benefits and side effects of PPIUCD insertion while attending ANC clinic, admitted in antenatal ward and in labour room. Repeat counselling was done prior to caesarean section.Those women fulfilling the inclusion criteria underwent postpartum insertion of IUCD.

INCLUSION CRITERIA:

- All the women who were willing for intra-caeserean - copper T 380A insertion , who were between 18-45 years old , whose hemoglobin level was more than 8 gm/dl and who were willing for follow up for 6 months.

EXCLUSION CRITERIA:

- Women who were diagnosed with uterine abnormalities with fibroids and septa , who had Premature rupture of membranes more than 18 hours , who had genital infections , who had antepartum haemorrhage, post-partum haemorrhage.

Post insertion patients were monitored in the post-operative ward for bleeding pv , pain in abdomen, foul smelling discharge, and during this time they were counselled regarding the time to follow up at the time of discharge.

A validated prescribed proforma was filled completely. Data from the patients, which included socio demographic data, previous contraceptive history, awareness about PPIUCD, intended duration of IUCD use collected.

All women were advised to come for follow up at 6 weeks and 6 months following IUCD insertion. A follow up card was given to all the women containing information regarding type of PPIUCD inserted, insertion date, date of expiry, date of follow up visits, principal investigator's telephone number. During follow up visits, data were collected regarding complaints, willingness to continue Cu T, request for removal, willingness for reinsertion if expelled,pain scale was used for assessment of pain and likert scale was used for satisfaction rate. Clinical examination was done which included temperature, per abdomen examination for involution of uterus and supra-pubic tenderness, speculum examination to see if strings were visible and to look for any abnormal discharge. Then bimanual examination was done to look for cervical motion tenderness. Patients were reassured that they can consult us any time if they had any of the following :Foul smelling vaginal discharge , Lower abdominal pain , fever , symptoms of pregnancy , suspicious of expulsion of IUCD.

OBSERVATIONS AND RESULTS

Due to COVID19 pandemic situation the sample size of our study was reduced as less cases reported to our hospital.

Out of 660 women fulfilling eligibility criteria for PPIUCD insertion, 332 women were ready for PPIUCD insertion. Thus acceptability rate for PPIUCD insertion was 50.30%.

TABLE NO1:DISTRIBUTION OF WOMEN ACCEPTING INTRA CAESAREAN COPPER T INSERTION:

N=332

Reasons for accepting	No of women	Percentage of women
No interference with breast feeding	181	54.52%
Long term	96	28.91%
Safe	35	10.54%
Reversible	14	4.21%
Non hormonal	4	1.20%
Fewer clinical visits	2	0.60%
Total	332	100%

The most common reason for acceptance of PPIUCD insertion was no interference with breast feeding 54.52%, its long term effectiveness in 28.91% cases.10.54 % women accepted as it was safe.

TABLE NO2:DISTRIBUTION OF WOMEN NOT ACCEPTING INTRA CAESAREAN CUT INSERTION

N=328

Reasons for not accepting	No of women	Percentage of patients
Religious Beliefs	90	27.11%
Pain in abdomen	84	26.51%
Myths and misconception	60	18.07%
Refusal from partner	48	14.46%
Fear of foreign body	46	13.86%
Total	328	100%

328women did not give consent for Cu T insertion following delivery. The most common reasons for decline was religious beliefs 27.11% followed by pain in abdomen 26.51%, myths and misconception 18.07% , refusal from partner/ relatives 14.46% and fear of foreign body 13.86%.

TABLE NO 3: DISTRIBUTION ACCORDING TO DEMOGRAPHIC PROFILE

Table 4 Age distribution

PERSONAL FACTORS	No of women	Percentage
AGE		
<20	**12**	**3.61**
21-24	**197**	**59.34**
25-29	**94**	**28.31**
30-34	**26**	**7.83**
>35+	**3**	**0.90**
EDUCATION		
Illiterate	**3**	**0.9**
Primary	**253**	**76.20**
Secondary	**43**	**12.95**
Higher secondary	**31**	**9.33**
Graduate	**2**	**0.6**
RELIGION		
Hindu	**205**	**61.75**
Muslim	**127**	**38.25**
SOCIOECONOMIC STATUS		
Upper	**3**	**0.9**
Upper middle	**39**	**11.75**
Lower middle	**217**	**65.36**
Upper lower	**65**	**19.58**

Lower	**8**	**2.41**
PARITY		
P1	**104**	**31.33**
P2	**142**	**42.77**
P3	**63**	**18.98**
P4	**18**	**5.42**
P5	**5**	**1.51**

Majority of the women were in the age group between 21-24 years (59.34%). CuT acceptance was more in para 1 and para2 who lie mainly in age group of 21-29 yrs. This explains high acceptance of PPIUCD in age group of 21-29 yrs. Most of the woman had studied up to primary (76.205%).
The people served by our institute mainly belongs to lower socioeconomic class with limited education upto primary standard. Most of the women belonged to lower middle socioeconomic status (65.36%).Majority of the women were para 2 (42.77%), (31.33.0 %) were Primigravida .

TABLE NO 4: COMPLAINTS AT 6 WEEKS AND 6MONTHS OF PPIUCD INSERTION FOLLOW UP

Complaints	**At 6weeks follow up N=332**	**At 6 months follow up N=321**
Heavy menstrual bleeding	**13 (3.92%)**	**7 (2.18%)**
Expulsion	**11(3.31%)**	**2(0.62%)**
Infection	**4 (1.20%)**	**3(0.9%)**
Pain	**14 (4.22%)**	**3(0.93%)**
Missing strings	**13 (3.92)**	**5(1.5%)**
No complains	**277 (83.43%)**	**301(93.77%)**
Total	332 (100%)	321 (96.68%)

At 6 weeks, out of the 332 women who returned for follow up, 277 (83.43%) had no complaints, 13 (3.92%) had heavy menstrual bleeding, 14 (4.22%) had pain in abdomen, 13 (3.92%) had missing strings, 11(3.31%) complained of expulsion of the IUCD and 4(1.20%) had infection .
At 6 months, out of the 321 woman who returned for follow up, 301 (93.76%) had no complaints, 7 (2.18%) had heavy menstrual bleeding, 3 (0.9%) had pain abdomen, 5 (1.55%) had missing strings, 2(0.6%) had expulsion of IUCD and3(0.93%)had infection.

TABLE NO 5: FOLLOW UP AND SATISFACTION

Follow up	**No of cases**	**Follow up in hospital**	**Follow up telephonically**	**Fully Satisfied**
At 6 weeks	332[100%]	**309**[93.07%]	**23**[6.93%]	**277**[83.43%]
At 6 Months	321[96.69%]	**239**[74.45%]	**82**[34.31%]	**300**[93.26%]

At 6 weeks, 332 (100%) women came for follow up,out of that 309 (93.07%) came for follow up in hospital and 23 (6.93%) women were followed up telephonically. 277 (83.43%) women were fully satisfied with PPIUCD insertion

At 6 month ,out of 321(96.69%) women , 239 (74.45%) gave follow up in hospital and 82 (34.31%) women gave follow up telephonically . 300 (93.26%)women were fully satisfied with PPIUCD insertion.

DISCUSSION

Unintended pregnancy is a major concern in India. Postpartum period is highly vulnerable period to unintended pregnancy as there are limited contraceptive options available in the breast feeding women. Thus postpartum period is an ideal time to begin contraception.

In present study, the acceptability rate for PPIUCD insertion was 50.30%, higher than that reported by **Renu Jain et al**[9]and **A .Gonie et** al[13]**Shibram et al** [14] reported 94% acceptability rate. The rate of acceptance was different in different studies because there was difference in percentage of different reasons for acceptance with different studies.

In our study women not accepting intra-caesarean PPIUCD insertion was 49.68 lower than that of **Renu Jain et al** and **A Gonie et al** .There are multiple reasons for not accepting ppiucd like abdominal pain ,refusal from partner ,religious beliefs , myths and misconception and fear of foreign body. In our study 14.46% refused to accept cuT because of refusal from partner which stresses that ANC counselling of PPIUCD of mother along with spouses should be done.27.11% refusal of PPIUCD were because of religious beliefs.

In our studymost of the women were para 2 (42.77%) which is comparable with study conducted by **Chris A Kanakuze et al(62%)and V D mule et al(55%).** Pradeep MR et alnoted that 48.64% primipara inserted intra-caesarean cuT . Para 1 and para2 mainly accepted intra-caesarean IUCD.

In our study, Majority of the women were aged between 21-24 years (59.34%) which is comparable with **Renu** [9]**Jain et al(55.48%),Chandra Vadhana et al**[8]**(54.5%), and Fozia Shaikh et al(60%)** and ***Janki patel et al*** (49.94%).

In our study,most of the women had studied up to middle school (76.205%), follwed by secondary (22.29%) and graduation only (0.60%) . As per.**Chandra Vadhana et al Renu Jain et al and Shilpa jain** [11]**et al ;** women who underwent PPIUCD insertion most of them had studied up to middle school 55% , secondary 42.67%andgraduation 66% respectively.

In the present study maximum number of women belonged to lower middle class 65.36% followed by upper lower 19.58% and upper class were very less 0.60%.The findings of our study were comparable to **Sneha Gupta et al**[**and R Chauhan et al**,maximum number of women belonged to lower middle class 63.4% and upper lower 45.5% respectively.

Majority of the women were Hindu 61.75% and 38.25% were muslim in our study. The finding of our study was comparable to **Soniya wishwakarma et al[12](90%) and Jitu Sharma et al(59.7%).**

In our study,Out of 332 women, the acceptance rates of antenatal counselling was 50.30% as compared to 11.75% in early labour, 37.05 were counselled before LSCS .Counselling done during antenatal period was more effective compared to other timing.

As per **Bhawna Tomar et al,Chandra Vadhana et al, Monika R et al and NeelimaAgarwal et al ;** The highest success rate of the postpartum long-acting intrauterine contraceptive device was noted in patients who were counseled thoroughly in the antenatal and intrapartum period .The finding of our study was comparable to **Neelima agarwal et al, Monika Raguvanshi et al ,Bhawna Tomar et al and Chandra Vandhana et al.**

In our study out of 332 women 174 (52.41%) women under went emergency LSCS while 158 (47.59%) women underwent elective LSCS which is comparable to study by **Sunita Singal et al.** [7]**(83.16% emergency LSCS).** In study by **Lakshmi Garuda et al** (69.59%) women underwent elective LSCS.

In our study at 6 weeks, out of the 332 woman who returned for follow up,277 (83.43%) had no complaints, 13 (3.92%) had heavy menstrual bleeding,14 (4.22%) had pain in abdomen, 13 (3.92%) had missing strings, 11(3.31%) had expulsion of the IUCD and 4(1.2%) had infection.While at 6 months of follow up,1.2% women had heavy menstrual bleeding 0.9% had pain, 2 (0.6%) had expulsion of the IUCD and 3(0.93%) had infection.There was no case of perforation or unplanned pregnancy. According to **Soniya wishwakarma et al2020 ;** The most common complaint was of undescended/missed thread in 22.2% women followed by bleeding (11.9%), expulsion (2.2%), pain (2%), and local infection (1.3%) at six weeks follow-up.As per **Chandra Vadhana et al** . There were no cases of perforation, pelvic infection, pregnancy with IUCD in situ or other major complications noted at 6 weeks follow up .The findings of our study were comparable to studies by **Chandra Vadhana et al, Janki patel et al,Soniya wishwakarma et al and Akshay patil et al.**

Results of our study were also comparable to studies done by **Rekha G. Daver *et al***[7] (8%) had menstrual complaints at 6 months, pain in abdomen was present in 11(10%), 5 (5%), 2 (2%), at 6 weeks, 3 months and 6 months respectively. 4 (5%) women could not feel the threads at 6 months. There were no major complications noted. **Satyavathi Maluchuru *et al***[15] (2015) conducted a study in which complications occurred in 62 women, of which 23(11.5%) had bleeding, 32 (16%) had string problems. There were no major complications.

When their complaints were addressed at 6 weeks Heavy menstrual bleeding reduces from 3.92% to 0.9%, pain in abdomen reduced from 4.22% to 0.9% and infection reduced from 1.2% to 0.93% at 6 months which is comparable to soniya wishwakarma et al,Heavy menstrual bleeding reduces from 11% to 6%, pain in abdomen reduced from 2% to 1.6% and infection reduced from 1.3% to 0.7% at 6 months.

Farhat Arshad *etal* menstrual problems were present in 30 women (11.6%) and 17 women (10.24%) at 6 weeks and 3 months respectively. Pain in abdomen was present in 25 (14.20%), 22 (13.25%) and 24 (15%) at 6 weeks, 3 months and 6 months respectively and vaginal discharge was present in 22 (12.5%), 20 (12%) and 21(13.12%) respectively. No case of PID or perforation was noted.

In present study, no case of uterine perforation was found. Perforation of the uterus while placing a PPIUCD immediately after delivery of placenta or during cesarean section or during the first 48 hours postpartum is unlikely because of thickness of the uterine wall in postpartum period.[2] None of the studies, as per literature search, have reported uterine perforation after PPIUCD insertion. As per**Chandra Vadhana et al2018 and V Gupta et al ;** There were no cases of perforation, pelvic infection, pregnancy with IUCD in situ or other major complications noted**In present study**, there were no cases of unintended pregnancy. Other studies also reported similar finding like**Chandra Vadhana et al2018 and V Gupta et al ;** There were no cases of pregnancy with IUCD in situ or other major complications noted.

In our studyat 6 weeks, 332 (100%) women came for follow up,out of that 309 (93.07%) came for follow up in hospital and another 23 (6.93%) women followed up telephonically.

Out of 321 women 239 (74.45%) followed up in hospital and another 82 (26.31%) women gave follow up telephonically. The findings of our study were comparable to studies by R**enu jain et al,Rekha Jakhar et al and Mamta Rani et al.**[10]

In our study ,300 (91.86%)women were fully satisfied who continued with IUCD at 6 months according to Likert satifaction scale.The findings of our study were also comparable to studies by Pulwasha M et al,Aashika janwadkar et al and Sumesh kumar et alwith satisfaction rate at 6 months were 93.6%, 78% and92% respectively.

Women were satisfied after addressing their minor complaints and counsellingat 6 weeks follow up and motivated them to continue IUCD at 6 months follow up**.**

In our study,4(1.2%) women wanted removal for heavy menstrual bleeding not responding to medical treatment . 3(0.9%) women wanted removal for abdominal pain and 4(1.2%) woman wanted removal of cu T for infection and total expulsion rate was 3.3% .Three woman were willing to do permanent method of sterilization for which they had done tubal ligation, The findings of our study were also comparable to studies by **Purnima Gupta et al**,**Chandra Vadhana et al ,Reetu Hooda et al and Radha Agarwal et alwith total expulsion rates 6.19%,3.5%,14.75% and9.33% respectively.**

In our study at 6 weeks and 6 months of follow up there was 100% and 95.01%continuation rate of PPIUCD respectively. This is consistent with a study conducted by **Reetu Hooda et al ,Radha agarwal et al and France john et al**,with the continuation rates of 90%, 76.7% and 86.10% respectively at 6 months of follow up.

The results of our study were also similar to Raffat Sultana *et a*[al16],(2015) who reported continuation rates of 92% and 82.6% at 6 weeks and 6 months postpartum respectively and **Anjum Afshan et al.** (2014) study showed the continuation rates at 6 weeks and 6 months as 90% and 84% respectively.

CONCLUSION

The Intra caesarean PPIUCD was found safe without complications and 100% effective during follow up period with low rates of expulsion , minimal bleeding tendencies, negligible rate of infection. PPIUCD looks promising as a first choice contraceptive in the eligible ones as a long term , reversible contraceptive in the control of health care and good satisfaction rates on likert scale with an effective contraceptive before discharge from hospital. There is a need to work and improve on reducing fear of complications, myths and misbeliefs about Copper T and to increase the rate of acceptance during the ANC period. We recommend studies with more population as the present study has a small sample size with a short duration as a limitation.

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