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Original Research Article

Clinical outcome of post-abortion intrauterine contraceptive device insertion

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ABSTRACT

Background: Clinical outcome of post abortion IUCD varies according to type of abortion, method of abortion and period of abortion. There is paucity of Indian literature regarding factor affecting clinical outcome of post-abortional intrauterine contraceptive device insertion. This study was conducted to evaluate clinical outcome of post abortion intrauterine contraceptive in terms of acceptability, safety and continuation rate.

Methods: A prospective cohort study where 112 patients over period of 18 months (November 2017 to April 2019) were included in study done at VMMC and Safdarjung Hospital, New Delhi, India.

Results: Total 112 patients recruited. Their age ranges from 26-30 years. Mean age of women were 28.11±4.51 years. Majority of women who underwent IUCD insertion were para2. Regardless of type of IUCD, the most common side effects associated with copper wearing IUCD were change in amount of menstrual flow. Two cases of PID after CuT380A insertion and one case of PID after cu375. No perforation occurred. Continuation rate were 86.79%. Satisfaction rate were 82.14%.

Conclusions: There is higher rate of continuation and satisfaction among women who had undergone immediate post abortion OUCD insertion. Early insertion of IUCD after abortion is safe, effective and well tolerated by women. Clinical outcome of post abortion is not affected by type of copper containing IUCD i.e., Cu380A and Cu375.

Keywords: Continuation, Immediate insertion, Intrauterine device, Post abortion contraception, Satisfaction

INTRODUCTION

Globally including India, a large proportion of abortions are repeat abortion. The global disparity in access to contraceptive immediately following abortion for new strategies of ensuring access to effective, convenient and safe family planning method.¹

The return of fertility after an abortion is good and 83% of women who had an abortion ovulate during the first menstrual cycle following the abortion and ovulation may occur as early as 8-10 days after an induced abortion.² After induced abortion, a women's motivation to use contraception may be high and for women who had limited access to a clinician, abortion care may provide a

unique opportunity to address a women's need for contraception.³

A post abortion contraceptive method should be effective, long-acting, reversible and convenient to use. The immediate Intrauterine contraceptive device insertion would provide the women an opportunity to have an effective contraceptive method earlier, before resumption of sexual activities. In addition, insertion of an IUCD immediately after abortion may avoid discomfort related to insertion.

The objective of the study is to compare clinical outcome of Cu-IUCD insertion post abortion with respect acceptability, expulsion/removals and complication.

Furthermore, authors also aim to investigate the various factor affecting the clinical outcome of post abortion IUCD i.e. type of abortion, period of gestation, type of IUCD and method of abortion.

METHODS

It is a prospective cohort study of women seeking medical/surgical termination of pregnancy or underwent management for spontaneous abortion in department of obstetrics and gynecology VMMC and Safdarjung hospital and desirous of CuT380A or Cu375 IUCD as post abortion contraceptive. Total 112 women included in study from November 2017 to April 2019. Women divided into two groups according type of abortion (spontaneous/induced). Sub group analysis was done according to;

- Type of IUCD (CuT380A/Cu375)
- Method of abortion (medical/surgical)
- Period of gestation (1st trimester/2nd trimester).

Inclusion criteria

- Women underwent copper containing IUCD insertion as method of contraception after complete abortion
- Willing to participate in the study and return for follow-up visits for 6 months.

Exclusion criteria

- Clinical examination/USG suggestive of retained products of conception
- Clinical/laboratory evidence of septic abortion
- Post abortion hemorrhage
- Abnormality of uterus or distortion of uterine cavity
- Pelvic inflammatory disease
- WHO MEC category 3/4 for IUCD insertions.

A woman who desired IUCD as contraceptive method where be counselled regarding advantages, limitation, effectiveness and side effects of IUCD, Copper380A/Cu375 providing contraception for 10 years/5 years respectively, were inserted as preferred by the women. Eligible women were enrolled for the study. Written informed consent were taken from all women seeking copper IUCD after abortion. pre and post abortion examination and investigation done and recorded. IUCD was inserted by “no touch withdrawal technique”. Each patient was given a bleeding diary with standardized definition of bleeding, spotting and no flow days. Women were called for follow up on 15th day, 1 month, 3 month and 6 months.

At each visit following observation made

- Speculum examination were performed to assess if IUCD is in place and to rule out expulsion

- USG pelvis were done to exclude expulsion in case of non-visualization of IUCD string on per speculum examination
- Occurrence of pregnancy
- Pelvic infection
- Request for removal and reason for removal
- Any complaints and queries.

If at any visit there were finding suggestive of pelvic inflammatory disease appropriate treatment as per NACO guidelines were given. IUCD removal done in case of excessive bleeding, pain expulsion, pregnancy or subject's request.

Following outcome were studied at end of study

Primary outcome

- Continuation rate of IUCD at 6 months
- Safety profile: hemorrhage, perforation, infection
- Acceptability.

Secondary outcome

- Reason of discontinuation
- Expulsion/removal with reason
- Bleeding pattern
- Pain.

Statistical analysis

Baseline demographic data were compared according to treatment group to assess for significant difference using Fisher's exact test or Chi-square test for categorical data Student t-test for continuous data. The data were entered in MS excel spread sheet and analysis were done using statistical package for social science version 21.0 (SPSS).

RESULTS

All patients who received post abortion IUCD from November 2017 to April 2019 were included in analysis. During study period total 112 post abortion IUCD insertion done. Out of 112, 104 insertion done after 1st trimester abortion and 8 insertion done after 2nd trimester abortion. 60 women opted for CuT380A and 52 opted for Cu375. At end of 6 month out of 112, 92 women continued IUCD (Figure 1).

On analysis of all demographic variables there were no significant difference between those who choose CuT380A or Cu375. Majority (48.31%) of women belong to age group 26-30 years. Mean age of women were 28.11±4.5 years. Majority of women who underwent IUCD insertion were para2. Out of 112, 52 women underwent immediate insertion of IUCD. Majority (92.85%) of IUCD insertion were perceived to be easy by provider.

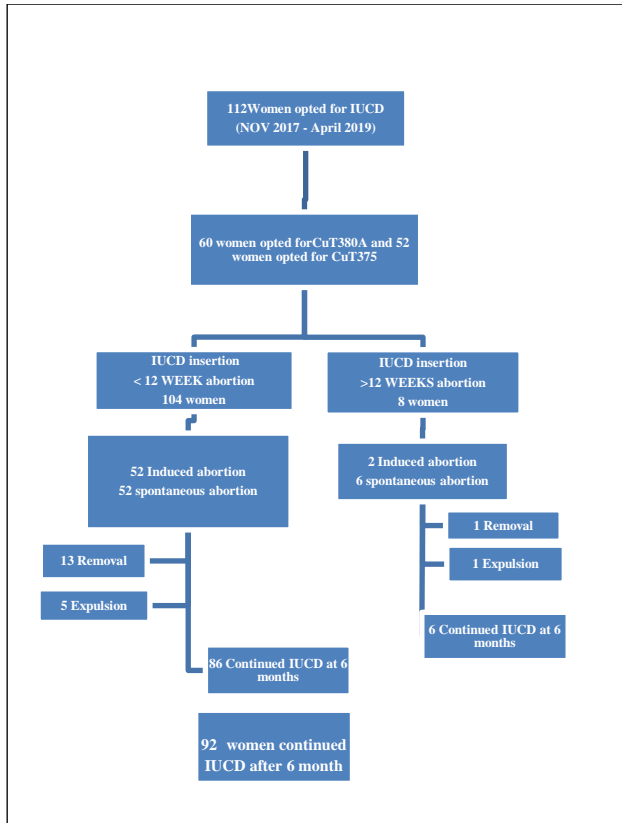


Figure 1: Flow chart of study participants.

Regardless of type of abortion, period of gestation, type of IUCD most common side effect with copper bearing IUCD are change in amount of menstrual blood flow and related cramps. No perforation occurred. Two (1.78%) women reported with intrauterine pregnancy with IUCD

in situ at 6 months follow-up and opted for medical termination of pregnancy along with IUCD removal. Strings were not visualized in 3 cases at 3 month and 3 cases at 6 months follow-up. Continuation rate was 86.79% at 6 months follow-up. There were 13 case of removal and 5 case of expulsion after 1st trimester IUCD insertion while 1 case of removal and 1 case of expulsion after 2nd trimester IUCD insertion. There were 9 cases of removal and 4 cases of expulsion following induced abortion whereas 5 cases of removal and 2 cases of expulsion following spontaneous abortion insertion. This difference is statistically insignificant (Figure 2).

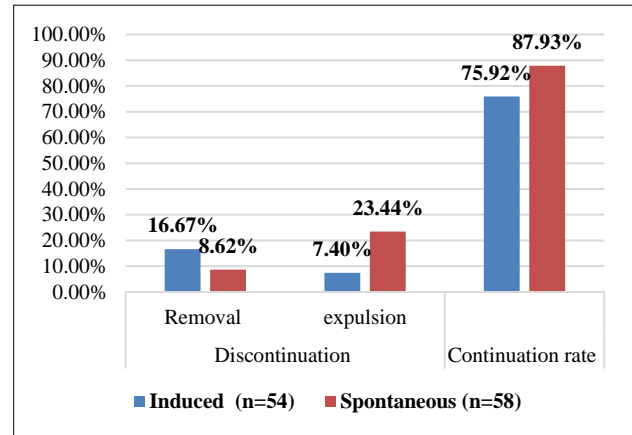


Figure 2: Association of method of abortion and continuation rate.

Out of 112, 92 (82.14%) were satisfied. There was no statistically significant difference in continuation and satisfaction rate by device type.

Table 1: Studies on immediate post-abortion IUCD insertion.

Study	Type of abortion M TOP*/STOP**	Percentage				Continuation rate
		Expulsion	PID	Pregnancy	Perforation	
Gillett et al ³	STOP	15.4	NR	2.3	NR	NR
Bednarek et al ⁴	STOP	5	1.9	0.4	0	92.3
WHO ⁵	STOP	4.4	NR	NR	NR	61
Drey et al ⁶	STOP	0.8	NR	NR	NR	93.5
Shimoni et al ⁷	M TOP	12	NR	NR	NR	69
Saav et al ⁸	M TOP	9.7	0	0	0	67.7
		7.4	1.8	0	0	72.2
Dewan R et al ⁹	M TOP	6.67	3.3	NR	NR	76.6
Present study	M TOP and STOP	5.3	2.6	1.7	0	82.1

*M TOP: medical termination of pregnancy, **STOP: surgical termination of pregnancy.

DISCUSSION

The intrauterine device is an effective long lasting and reversible method of birth control with cumulative pregnancy rate of less than 1 per 100 women within first year of use. According to WHO (2015) insertion of IUCD

can be done if abortion is complete. GOI has recently introduced promoted PAIUCD in National Family Planning Program. Irregular bleeding and pain are the most common reasons stated for the discontinuation of IUD use. The higher expulsion and lower continuation rates after medical abortion, compared to the rates after

surgical abortion, may be due to more cramping and bleeding, which occur more often after medical abortion, causing downward displacement of the IUD. Most (53 out of 112) of the women belongs to upper lower socio-economic status and 84 (75%) were housewives.

Socio-demographic profile of women in this study is being representative of the total abortion seeking population catered by tertiary care public hospital of North India HMB were reported by 14 out of 112 women during 6 months follow up. HMB responded to hemostatic agent in all the cases except one in whom IUCD removal was done to relieve symptoms. In this study 5 women requested removal of IUCD due to inter menstrual bleeding not responding to medical management. Clinical outcome of various studies listed below (Table1).

According to Arowojolu et al heavy bleeding during menstruation was more common in CuT 380A as compare to CuT375 users (5% and 4% respectively).¹⁰ Celen S et al showed the main side effect of IUD usage are prolonged or excessive bleeding and abdominal pain during menstruation and reported rate of removal due to bleeding/pain was 3.3 per 100 women per year. This rate was higher than the majority of previously reported studies.¹¹

PID was observed in 2 case at 3rd month follow up and in 1 case at 6 months follow-up visit. They were treated with antibiotic on an outpatient basis and one woman had IUD removal. The trial of IUCD insertion by Stanwood et al, immediately following induced abortion reported lower pelvic inflammatory disease rate (0.4 per 100 woman-years).¹² In present study at 6 months follow-up visits, there were no case of perforation found. Pohjoranta et al also reported no case of uterine perforation after IUD insertion.¹³

Failure rate after first was 0.96% and second trimester abortion was 12.5% but the difference is insignificant. Failure rate not differ on the basis of type of IUCD, method of abortion (medical/surgical) and type of abortion (spontaneous/induced). The IUCD is among the most effective reversible contraceptive methods; the failure rate with typical use is 0.1 to 0.8% in the first year, which is similar to the failure rate with female sterilization.¹⁴

In present study the cumulative continuation rate was 82.14% at 6 months follow-up visit. Drey EA also found high rates of continuation and satisfaction among women who had undergone immediate post-abortion IUD insertion; 74.2% women reported continuing the IUD. However, the mean time to follow-up in this study was only 8 weeks 6. In the present study there were total of 6 IUCD expulsions out of 112 insertions, 5 expulsions out of 104 insertions following 1st trimester (4.80%) abortion and 1 expulsion out of 8 insertions (12.5%) following 2nd trimester abortion.

A recent study from California showed 2.1% expulsions with mean time of 9.5 months. Drey EA et al, found one (0.8%) after a first trimester and four (3%) after second-trimester abortions.⁶ Bednarek et al, found 3.2% expulsion rate of CuT380A after first-trimester uterine aspiration at 6 months follow-up.⁴ WHO study were conducted related to immediate IUD insertion after first - trimester surgical termination of pregnancy found expulsion rate at 24 months varied from 4.4% to 13.2%.⁵ Women satisfaction with the CuT380A and CuT375 insertion were 82.14%. On statistical analysis the difference in level of satisfaction with IUCD use was not statistically significant ($p=1.00$) by Fisher's exact test. Our findings support prior studies that show high rates of continuation and satisfaction with immediate post abortion IUD insertion.

McNicholas et al, also found high rates of continuation and satisfaction among women who had undergone immediate post abortion IUD insertion; 74.2% women reported continuing the IUD and 93.8% of those women reported being satisfied. The safety and efficacy of IUDs, as well as high rates of satisfaction and continuation, have been clearly demonstrated.¹⁵

CONCLUSION

- Early insertion of IUCD after abortion is safe, effective and well tolerated by the women. Immediate post abortion IUCD insertion provides a good opportunity to achieve long term contraception with minimal discomfort to the women.
- Clinical outcome of post abortion IUCD is not affected by type of copper containing IUCD i.e. Cu380 A and Cu375.
- Intrauterine device expulsion rates are not affected by type of abortion, method of abortion and period of gestation. IUCD expulsion rates are higher in copper 380A IUCD as compared to copper 375 IUCD.
- There is high rates of continuation and satisfaction among women who had undergone immediate post abortion IUD insertion.

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