

Efficacy of Intrauterine Copper T-380A Contraceptive Device in Postpartum Period

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Abstract

Objective: To determine the efficacy of post placental intrauterine copper t-380A contraceptive device in terms of reduced expulsion rate and improved continuity in Pakistan.

Methodology: This descriptive study was carried out at Railway General Hospital from January 2013 to July 2013. All those patients aged 25-45 years delivered vaginally or by caesarean section were offered to enroll in the study provided they met the inclusion and exclusion criteria. CuT380A Intrauterine contraceptive device was inserted in the uterine cavity within 10 minutes after delivery of placenta and presence of threads in vagina coupled with the desire to continue this method was assessed for the efficacy.

Results: In our study, majority of the patients i.e. 61.33%(n=92) were between 36-45 years of age, mean \pm SD was calculated as 37.54 \pm 4.32 years, 43.33%(n=65) between 1-5 paras while 56.67%(n=85) had >5 paras. Regarding frequency of efficacy of post placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity; it was found efficacious in 82.67%(n=124) of cases.

Conclusion: The results depict significantly higher efficacy of post placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity and it can be employed in our country to avoid the termination of unplanned pregnancies by trained/untrained professionals as this is considered illegal in Pakistan.

Keywords: Post placental intrauterine copper T-380A contraceptive device, efficacy, expulsion rate, continuity.

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Introduction

The Intrauterine Contraceptive Device (IUD) is considered as a long-term effective contraceptive method whose rate of effectiveness for IUDs is above 99%. (Wikipedia)

In our country most of women lost postnatal follow up which is very necessary for their birth spacing as it is

time when women decide for contraception. Due to this loss of follow up most of women again become pregnant within a period of 3-4 months and most of them are not wanting pregnancies. As a result, most women go for termination by untrained professionals, that is illegal in Pakistan and results in complications

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and even if she continues pregnancy she will be at high risk for adverse outcomes like abortions, premature labour, postpartum hemorrhage, low birth weight babies and fetal and maternal deaths.

This study is primarily conducted to evaluate the efficacy of immediate insertion of IUD to deploy this contraceptive method in our settings to improve reproductive health in the population and decrease the maternal mortality or morbidity rate.

The prevalence of contraception in an early 21st century is high. Only 4% of sexually active, potentially fertile women who were not wishing to conceive reported not using any method of contraception.¹

The cu-IUD is most widely used reversible method of contraception. It is used by more than 150 million women around the world. Around 50% of women continue to use this method of contraception even after 5 years. Cu T is T shaped frameless device placed within uterine cavity near uterine fundus. Amongst Cu T devices, the Copper T-380A, named for the 380 mm² of copper surface is widely used.

This device prevents fertilization by a specific mechanism of inflammation that is spermicidal as well as it causes significant changes at endometrium thus inhibits fertilization.

In our country especially in post-partum women, there is a high rate of unintended pregnancy so we need a reliable and long-term contraception method and cuT 380 A intrauterine device is one of them having expulsion rate at the end of 6 months is 10.68 percent.

For several reasons Insertion of an intrauterine device (IUD) immediately after delivery is very appealing. The woman is highly motivated for contraception and the setting may be convenient for both woman and her provider.^{4, 6}

During antenatal visits the health care providers must counsel the patient regarding contraception and especially Cu T 380 A in postpartum period. So that lot of women gives consent for insertion at time of delivery thus increasing contraceptive use at 6 months postpartum.⁵

In our country most of the women don't come for postnatal follow up which is very necessary for their birth spacing as it is time when women decide for contraception. Due to this lack of follow up most of the women again become pregnant within a period of 3-4 months and most of them are unwanted pregnancies.

As a result most women go for terminations by untrained professionals which is illegal in Pakistan and results in complications and even if she continues pregnancy she will be at high risk for adverse outcomes like abortions, premature labour, postpartum hemorrhage, low birth weight babies and fetal and maternal deaths. The rationale of our study was to see efficacy of intrauterine Cu T inserted within 10 minutes after delivery of placenta which is not yet practiced locally to account for this lack of follow up and to decrease maternal mortality and morbidity associated with this.

Methodology

This descriptive cross-sectional study was carried out at Railway General Hospital from January 2013 to July 2013. Ethical approval was taken from IRB prior to commencing the study. Non-Probability consecutive sampling technique was used. Sample size calculated by using WHO sample size calculator taking Confidence level 95%, Anticipated population 10.68%,³ Absolute precision= 0.05, Sample size came out to be 150. All patients aged 25-45 years delivered vaginally or by caesarean were offered to enroll in the study excluding those with postpartum hemorrhage, premature rupture of membranes, anemia during pregnancy with Hb < 8 gm/dl and those with distorted endometrium. Informed written consent was taken by explaining to the patient the risks and benefits of the study.

Operational definition: By efficacy, it is meant that a patient is able to control her reproductive functions and she is satisfied to continue this contraceptive method.

CuT380A Intrauterine contraceptive device was inserted in the uterine cavity within 10 minutes after delivery of the placenta and the patient was advised to come for follow up on 7 days of insertion and then at 6 weeks of insertion. For efficacy, we checked for the presence of threads in the vagina and if threads were not visualized we followed for ultrasonography and for continuity we asked the patient whether she could continue the method in future. Relevant entries for each patient in both groups were made in already prepared Performa by the researcher. All data was entered and analyzed using the SPSS version 10. For quantitative variables (age, parity, gestational age) mean \pm S.D. was presented and for qualitative

variable like efficacy (continuity and expulsion) frequency and percentage were calculated.

Results

A total of 150 cases fulfilling the inclusion/exclusion criteria were enrolled to determine the efficacy of post-placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity.

Age distribution of the patients was done which shows that majority of the patients i.e. 61.33% (n=92) were between 36-45 years of age while 38.67%(n=58) were between 25-35 years of age, mean \pm SD was calculated as 37.54 \pm 4.32 years. (Table I)

Table I: Age distribution (n=150)

Age (in years)	No. of patients	Percentage
25-35	58	38.67
36-45	92	61.33
Total	150	100

Mean and SD: 37.54 \pm 4.32

Gestational age of the subjects was also recorded, it shows that 62.67% (n=94) had 38-41 weeks of gestation while 37.33%(n=56) had \geq 42 weeks of gestation. (Table II)

Table II: Gestational Age (n=150)

Gestational age (in weeks)	No. of patients	Percentage
38-41	94	62.67
\geq 42	56	37.33
Total	150	100

Parity distribution of the patients was recorded as 43.33% (n=65) between 1-5 paras while 56.67%(n=85) had $>$ 5 paras. (Table III)

Table III: Parity Distribution (n=150)

Parity	No. of patients	%
1-5	65	43.33
$>$ 5	85	56.67
Total	150	100

Regarding frequency of efficacy of post-placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity it reveals 82.67%(n=124) while 17.33%(n=26) did not recorded as an effective method of contraception. (Table IV)

Table IV: Frequency of efficacy of post placental intrauterine copper t-380a contraceptive device in terms of expulsion rate and continuity (n=150)

Efficacy	No. of patients	%
Yes	124	82.67
No	26	17.33
Total	150	100

Discussion

For several reasons Insertion of an intrauterine device (IUD) 380A in immediate post-placental period is very appealing woman is very motivated for any reliable method of contraception for restoration of her health and for sake of her new baby. In country like our women has very limited access to health care centers, so delivery by trained birth attendants is very good opportunity to address her regarding need for contraception. It is very difficult for women to return for contraception resulting in unintended pregnancy.

A study was conducted in Colombia, 95% of women expressed their desire for immediate post-partum IUD insertion. In those opted for later insertion, only 45% came back for insertion while rest find it very difficult to come back for insertion of the device.

However, we planned this study to determine the efficacy of intrauterine CuT inserted within 10 minutes after delivery of placenta which is not yet practiced locally to prevent this loss of follow up and to decrease maternal mortality and morbidity associated with this.

In our study, majority of the patients i.e. 61.33%(n=92) were between 36-45 years of age, mean \pm SD was calculated as 37.54 \pm 4.32 years, 43.33%(n=65) between 1-5 paras while 56.67%(n=85) had $>$ 5 paras, regarding frequency of efficacy of post placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity it reveals 82.67%(n=124) and only 17.33%(n=26) were not recorded an effective method of contraception.

The findings of the study are in agreement with Shukla M and colleagues³ and recorded its cumulative expulsion rate at the end of 6 months is 10.68 percent.

Nathalie Kapp and co-workers⁷ determined the efficacy of intrauterine device insertion during the postpartum period and recorded that immediate IUD insertion within 10 min of placental delivery was quite safe and showed lower expulsion rates when compared with delayed postpartum insertion but with

higher rates when compared with interval insertion. This is in agreement with the results of the current study, while the difference is that we only determined efficacy in immediate IUD insertion and not in delayed postpartum insertion.

In different studies that expulsion rates were more during the first 3 months as compared to later time periods.⁸⁻¹¹ The adverse effects of pain, bleeding, infection and perforation were same except for low rate of perforations in the postpartum period as compare to other methods of contraception.

Another study¹² conducted at Allied Hospital, Faisalabad during 1994 to 1995 and reported in 2002 to determine the safety and efficacy of IUCD (copper T380) as a contraceptive device recorded that IUCD especially the last copper T380 A, is a highly effective method of contraception in our country in terms of patient acceptability and compliance.

In study conducted by Çelen Ş and others¹³ it was concluded that immediate post-placental IUD insertion during cesarean section is not associated with serious complications. The cumulative rates of expulsion, removal for bleeding/pain and other medical reasons were 17.6, 8.2 and 2.4 per 100 women per year, respectively. if inserted during caesarean section it seems to be very effective measure of contraception making continuation rates of about 81.6% and 62% at 6 and 12 months respectively. Unfortunately, about one-fourth of patients discontinued IUD due to spontaneous expulsion or other medical reasons.

However, we are of the view that insertion of an IUD immediately after delivery is convenient for both the woman and health care provider. an IUD provides highly effective contraception during the puerperium as the resumption of ovulation can be unpredictable after delivery and different Studies shows that IUDs do not interfere with lactation.¹⁴⁻¹⁵

Conclusion

The results of the study are in accordance with other studies and depict significantly higher efficacy of post-placental intrauterine copper t-380A contraceptive device in terms of expulsion rate and continuity; moreover, it can be employed in our country for the purpose of avoidance of terminations of unplanned pregnancies by trained/untrained professionals which is considered illegal in Pakistan.

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