

# The efficacy of immediate post-abortion intrauterine device insertion

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## Summary

Ovulation returns soon after abortion, with half of the women ovulating by 21 days after the procedure. Immediate post-abortion insertion provides immediate contraceptive protection. Clinicians have feared that rates of uterine perforation due to intrauterine devices (IUDs) and expulsion of IUDs may be higher in the post-abortal uterus due to its softness and enlargement.

This study was carried out to assess the safety and efficacy of IUD insertion immediately after induced abortion compared with insertion during the first menstrual cycle after abortion. All women were counseled about a method of contraception, particularly copper T-380A, and divided into two groups: Group 1 included 226 women who preferred immediate IUD insertion, and Group 2 included 100 women who opted for interval-IUD insertion during the first menstrual cycle after abortion. All women were followed-up at two and eight weeks after insertion of the IUDs. Severe bleeding was observed 10.62% in Group 1 and 6% in Group 2. Expulsion rate was 7.08% and 8% in Groups 1 and 2, respectively, which was not statistically significant.

Pelvic inflammatory disease (PID) was observed in one case in Group 1. However uterine perforation was not noted in either group.

In conclusion, insertion of an IUD immediately after an induced abortion is safe and if a woman asks for a modern contraceptive method it could be offered.

**Key words:** Abortion; IUD; Post-abortal contraception; Expulsion; Immediate insertion.

## Introduction

Abortion is still an important maternal morbidity and mortality event in almost all developing countries. Repeated abortion procedures have an important risk for pregnant women. Still, an estimated 46 million women throughout the world, lacking adequate, effective contraception, have induced abortion each year [1].

Similarly, despite a 35-year-old family planning program with increased levels of contraceptive use, nearly 300,000 abortions are performed each year in

Turkey [2]. Abortion is usually the result of contraceptive method failure or of inadequacies in the family planning service. For this reason, it is of paramount importance to use modern contraceptive technology for fertility regulation to avoid unplanned pregnancies and their devastating consequences. After abortion, both the client and health-care personnel are highly motivated to start contraceptive use. Therefore, post-abortion contraception provides a unique opportunity for couples to be enrolled into family planning services. It is important to start a modern contraceptive method at the time of abortion because in about half of the women ovulation occurs within 2-3 weeks after first trimester pregnancy termination [3]. In addition, not all women return for post-abortion control and people are not in the habit of visiting health facilities if there is no apparent problem. Immediate post-abortion contraception seems to be acceptable, with 80% of the women continuing to use their method at the end of six months [4].

Intrauterine devices (IUDs) are safe, highly effective, long acting, and reversible contraceptives. IUDs may be

inserted in any phase of the menstrual cycle and after termination of pregnancy, whether delivery, a spontaneous abortion, or an induced abortion.

The aim of the present study was to assess the safety and efficacy of IUD (Copper T-380A) insertion immediately after an induced abortion compared with insertion during the first menstrual cycle after abortion.

## Materials and Methods

This study was carried out at the Family Planning Center of the Maternity Hospital of Kayseri, Turkey.

At the clinic, all women applying for an abortion received pre-abortion counseling, which includes information about the procedure as well as post-abortion contraception. Before the abortion procedure, pelvic and ultrasonographic examinations were performed and gestational age was determined. Pregnant women were randomly divided into two groups.

Group 1: 226 participants who were scheduled for immediate post-abortion IUD insertion

Group 2: 100 participants who were programmed for IUD insertion during the first menstrual cycle after abortion.

All women presenting with an unwanted pregnancy of eight weeks (which is the cut-off point for voluntary termination of pregnancy with the menstrual regulation (MR) procedure by Carman Canula) or less had a counseling session during which they received information about both procedures. Standard checklists were used for recruitment to exclude women with contraindications such as a known allergy to copper, anemia, history of heavy menstrual flow, systemic disease or genital tract problems, such as pelvic inflammatory disease, since the last pregnancy or existence of uterine fibroids, or congenital abnormalities of the uterus.

All participants who were eligible signed a written informed consent in Turkish or had a thumb print in cases of illiteracy.

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The local Ethical Committee of the research institution approved the study. Abortion procedures were performed by manual vacuum aspiration under local anesthesia.

Three investigators conducted all the procedures. The copper T-380 was inserted just after the evacuation of the uterus in Group I. Group II was advised to come back during their first menstrual cycle after the abortion.

Participants were told to use analgesics whenever they needed to, however antibiotics were not prescribed. Women were advised to abstain from vaginal intercourse for two weeks. The expected side-effects and the signs of possible complications of abortion (such as fever, excessive bleeding, abnormal vaginal discharge) were explained, and women were told to return immediately to the clinic if any one of them occurred. Participants in Group I was asked to return at two and eight weeks after abortion.

Copper T 380 was inserted in participants in Group II during the first menstrual cycle after abortion and they were asked to return at two and eight weeks after the IUD insertion. All women were supplied with a special follow-up card. Bleeding pattern and inability to feel the threads were noted.

Both pelvic and ultrasonographic examination were done at each visit focusing on the presence of the threads, any sign of PID, existing of abnormal bleeding and intrauterine localization of the IUD.

The Chi-square test was used for statistical analyses and  $p < 0.05$  was considered significant.

## Results

The socio-demographic characteristics of both groups are presented in Table 1. In both groups, older women and non-working women tended to choose IUD insertion. Women with a high school diploma preferred IUD insertion less than women with a primary school education. There were no significant differences between groups with regard to socio-demographic characteristics.

Table 2 shows the fertility pattern of the two groups. The parity, abortion number and gestational age showed no significant differences between Group 1 and Group 2.

Table 1. — *Socio-demographic characteristics of the study groups.*

	Group 1		Group 2		p value
	n	%	n	%	
Age (years)					
20	10	4.42	10	10	NS
21-29	96	42.48	47	47	NS
30	120	53.10	43	43	NS
Education					
Illiterate	24	10.62	15	15	NS
Read and write	12	5.31	8	8	NS
Primary school	150	66.37	60	60	NS
Middle school	34	15.05	10	10	NS
University	10	4.42	6	6	NS
Occupation					
Working	8	3.54	7	7	NS
Housewife	218	96.46	93	93	NS

NS: Non significant

Table 2. — *Fertility pattern of the groups.*

	Group 1		Group 2		p value
	n	%	n	%	
Parity					
1-2	24	10.62	10	10	NS
3-4	108	47.79	44	44	NS
≥ 5	94	41.59	46	46	NS
Abortions					
1-2	198	87.61	89	89	NS
≥ 3	28	12.39	11	11	NS
Gestational weeks					
4-6	210	92.92	88	88	NS
7-8	16	7.08	12	12	NS

NS: Non significant

Table 3. — *Contraceptive experience at admission.*

	Group 1		Group 2		p value
	n	%	n	%	
Used contraception previous month					
Experienced with oral contraceptive	10	4.42	3	3	NS
Experience with IUDC	12	5.31	4	4	NS
Experience with condoms	24	10.62	13	13	NS
Experience with withdrawal	168	74.34	75	75	NS
Unprotected intercourse	12	5.31	5	5	NS

NS: Non significant

Table 3 shows the contraceptive experience of the groups at admission. Eighty-eight percent of all women said they had practiced contraception during the month they got pregnant. The most widely used method during the month of contraception was coitus interruptus (withdrawal) (74.34%), followed by condoms (10.62%). There were no significant differences between the groups with regard to contraceptive experience at admission. In both groups the control findings were similar at two and eight weeks after insertion of the IUD. There were no significant differences between groups with regard to bleeding, expulsion rate or pelvic inflammatory disease (Table 4).

Table 4. — *Control findings of groups.*

	Group 1		Group 2		p value
	n	%	n	%	
Abnormal bleeding	24	10.62	6	6	NS
At 2 weeks	18	7.96	4	4	NS
At 8 weeks	6	2.66	2	2	NS
Expulsion	16	7.08	8	8	NS
At 2 weeks	10	4.42	5	5	NS
At 8 weeks	6	2.66	3	3	NS
PID	1	0.44	0	0	
Perforation	0	0	0	0	

NS: Non significant

## Discussion

Post-abortion IUD insertion is both safe and effective. The absolute rates of perforation, expulsion, upper genital tract infection, contraceptive failure and method discontinuation were all in low rates [5]. After an abortion, both the client and healthcare personal are highly motivated to start contraceptive use. IUD insertion after abortion ensures effective contraception after ovulation resumes. For those women who choose an IUD as their post-abortion method of contraception, immediate insertion has many benefits compared with later insertion. Ovulation returns soon after abortion, with half of the women ovulating by 21 days after the procedure. Immediate post-abortion insertion provides immediate contraceptive protection. It also eliminates the need for another visit for IUD insertion [6, 7].

In our study, no pregnancy was observed in either group. Although Group 1 women had more days of hemorrhage, this was not statistically significant. This observation is in concordance with the results reported by Moussa and Aral *et al.* [8, 9].

In an interval trial, the gross cumulative discontinuation rates with Multiload-375 at one year were 1-2% for pregnancy and 3.6% for expulsion [10].

Post-abortive IUD insertion is safe because perforation is rare with all devices and expulsion rate is very low. Our study recorded an expulsion rate of 4.42% after two weeks post insertion and 2.66% after eight weeks post insertion in Group 1, which was not significant when compared with Group 2. Uterine perforation did not occur during the termination of pregnancies.

Our results are similar to the results of Moussa [8], Nielson *et al.* [11], and Aral *et al.* [9]. There was one case of reported PID in Group 1. These results conform to those of other studies [12, 13].

In conclusion, IUD insertion immediately after an induced abortion is safe and could be offered to women who have had an induced abortion and want a modern contraceptive method.

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