

THE FIRST YEAR OF CLINICAL EXPERIENCE WITH  
CONCURRENT POST ABORTAL INSERTION OF  
COPPER "T" 200

by

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Fear of increased complications associated with postabortal insertion of IUDs, including perforation of the uterus and a much higher expulsion rate, has prevented more frequent use of this expedient time for insertion. With the belief that this traditional taboo might not pertain to modern medicine, and since there is an increased use of elective abortions and a growing need and demand for contraception, many authors have preferred to insert the IUD concomitant with the abortion procedure. (Veil and Lucero, 1970; Goldsmith *et al* 1972; Tatum, 1972; Nygren and Johanson; 1973; Purandare and Kulkarni, 1975 and Rajan and John, 1978). The generally favourable results of their studies indicate that concurrent postabortal insertion of an IUD can indeed be recommended more confidently as a routine procedure.

In our earlier study with immediate postabortal insertion of Copper "T" 200, we have carefully compared two groups of women, one of which received immediate postabortal CuT 200 insertion while the other group had no IUD insert-

ed. The results showed only trivial difference between the two groups within all the parameters investigated (Rajan and John, 1978). Based on the conclusion that the postabortal period may properly be utilised to IUD insertion, we applied T Cu 200 on a larger scale, following first trimester abortions. There was a 3 per cent incidence of IUD displacement and 5 per cent incidence of IUD removals for bleeding, and both these events are attributable to incomplete abortion. (Rajan *et al* 1978). This postabortal event rate is somewhat higher than intermenstrual event rates. But the greater number of women reached and thus protected against the risk of another pregnancy more than justified the slight increase in cumulative event rates.

We have also observed that during the first 3 months of use of T Cu 200, the menstrual flow is altered in 32 per cent of women (25 per cent having menorrhagia and 7 per cent having irregular bleeding). However, after the first 3 months of use there is a significant decline in the incidence of such complications. These figures suggest that if there is no complication in the immediate postabortal period, concurrent postabortal insertion of T Cu 200 behaves in the same way as the interpregnancy inserton.

In this report we are presenting the

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data collected from the women who have used the Copper T for one complete year. The events are compared with the data of 7 days, 3 months and 6 months follow-up visits.

#### Materials and Methods

During the last 2 years, from October, 1975 to September, 1977, 427 Copper T insertions were made as a concurrent postabortal procedure, following early abortions. The age group of these patients ranged from 18 to 48 years, with majority in the 20 to 30 years range. Para 1 and 2 constituted 71 per cent of the acceptors, and we have not inserted the device for nulliparous women. Majority (75%) had school education and the rest (25%) had college education.

Following IUD insertion, they were regularly followed-up at intervals of 7 days, 3 months, 6 months and one year. Data related to IUD removal for bleeding, partial or complete expulsion, incidence of pelvic infection and menstrual abnormalities were collected. In those cases where the IUD was removed after one year of use a careful scrutiny was made for evidence of any change in the copper wire. Those who wished to conceive following IUD removal were advised to report after the first missed period. This was to evaluate the time taken for conception following IUD removal.

#### Observations

As can be seen from Table I, there were no traumatic complications such as perforation or cervical injuries in this series. The total event rate excluding the IUD removals for planning pregnancy and other personal reasons, was 11.25 per cent. The major indications for removal of the IUD were bleeding (5.39 per cent) and incomplete expulsion (2.58 per cent). Two patients developed pelvic

TABLE I  
Cumulative Event Rate per 100 Women at the end of one Year

	No. of women	Percentage
Pregnancy	3	0.70
Expulsion:		
Incomplete	11	2.58
Complete	9	2.11
Removal:		
Bleeding	23	5.39
Infection	2	0.47
Planning pregnancy	19	4.45
Other personal	15	3.51
Total Event Rate:		19.20
Continuation rate:		80.80

inflammatory masses (0.47 per cent) and 3 women conceived with the IUD in situ (0.70 per cent).

In 19 women who wished to conceive after one year of use of copper T, the IUD was removed and scrutinised for evidence any change in the copper wire. In none of the cases there was any fragmentation of the copper wire. There was no difficulty in removal of the IUD after 1 year of use. In this group 10 women had reported with early pregnancy, pregnancy occurring within 1 to 4 months of IUD removal.

#### Copper T Removal for Bleeding:

There was a comparatively high incidence of removals for bleeding at 7 days follow-up and 3 months follow-up. In the former group it was due to incomplete abortion and in the latter due to excessive bleeding during periods. However, after 3 months of use the removal rate for bleeding had fallen by less than 2 per cent, which is the same even after one year of use (Table II).

TABLE II  
Copper 'T' 200 Removal for Bleeding as Related to Duration of Use

	7 days (132 cases) %	3 mths. (187 cases) %	6 mths. (145 cases) %	1 year (115 cases) %
IUD removed for bleeding	3.40	3.74	1.38	1.74

**Expulsion of Copper T:** The expulsion rate was high within the first 7 days of insertion (4.26 per cent), and it is reasonable to believe that abortion complications were responsible for this high expulsion rate. A low expulsion rate experienced in the subsequent visits suggest that when the uterus is accustomed to the IUD then there is no danger of the IUD being expelled and at the end of 1 year of use the expulsion rate was less than 2 per cent (Table III).

**Cumulative Event Rate:** As shown in Table IV, the event rate is as high as 6.79 per cent at the first follow-up after 7 days, and this is attributable to complications of abortion. However, the event rate is only 2 to 3 per cent on an average in the subsequent visits at third and sixth month. After 1 year of use the high event rate that is presented is mainly due to the removal of IUD for planning pregnancy and for other personal reasons, and complications leading to IUD removal are minimal.

Of the 3 pregnancies reported with IUD *in situ*, 2 were within 3 months of use, and 1 was between 3 and 6 months of IUD insertion. Of those who reported after 1 year, there was no incidence of pregnancy. Similarly, the inflammatory masses have developed within 3 to 6 months of use of IUD in the two patients, and no patient using the IUD for 1 year and more had this problem.

TABLE III  
Expulsion of Copper 'T' and Duration of Use

	7 days (352 cases)		3 months (187 cases)		6 months (148 cases)		1 year (115 cases)	
	No.	%	No.	%	No.	%	No.	%
Complete Expulsion	7	1.99	1	0.53	1	0.69	2	1.74
Partial Expulsion (cervical displacement)	8	2.27	1	0.53	nil		nil	

TABLE IV  
Cumulative Continuation Rate of Copper 'T'

	At 7 days %	End of 3 months %	End of 6 months %	At the end of 1 yr. %
Event Rate	6.79	9.60	11.70	19.20
Continuation rate	93.21	90.40	88.30	80.80

**Menstrual Irregularity:** Apart from the 5.39 per cent removals for excessive bleeding during periods, there was a percentage of patients who had menstrual irregularities but did not require removal of the device (Table V). At the end of

first follow-up visit (7 days) and are mainly due to the inadequacy of the abortion procedure, such as incomplete abortion. Of the 352 patients who had reported for check-up, 3.40 per cent had the IUD removed for bleeding, and 2.27

TABLE V  
\*Duration of Use of Copper T and Menstrual Irregularity

	3 months use		6 months use		1 year of use	
	No.	%	No.	%	No.	%
Women having menstrual irregularity	51	27.27	26	17.93	17	14.28

\* IUD removal not required.

3 months, 27.77 per cent of IUD users had menstrual irregularities, which declined by 17.93 per cent at the end of 6 months, and by 14.28 per cent after 1 year of use. This gradual improvement in menstrual cycles of IUD users indicate that a fair trial of at least 3 months should be given before the device is removed for menstrual irregularities. However, about 15 per cent of patients are bound to have menstrual irregularities even after 1 year of use.

#### Discussion

Since 1975, Copper T 200 is the commonest type of intrauterine device to be used in our family planning clinic. We (Rajan and Kaimal, 1977) have observed that women coming for early first trimester abortions prefer to have concomitant contraceptive protection. It has been observed that concurrent post-abortion contraception with T Cu 200 neither influences the course of early abortion, nor alters the pattern of somatic complications of abortion.

However, immediate postabortal insertion of copper T carries a greater incidence of expulsions and removals. These complications are usually observed at the

per cent for partial expulsion. In 1.99 per cent the IUD was spontaneously expelled. This high events rate is attributable to abortion complications. But, as feared by many, this concomitant insertion has not produced any fundal or cervical perforations, nor was it instrumental for sepsis in the immediate post-abortion period.

Considering the greater number of women reached and given contraceptive protection, a slight increase in the event rate is justifiable. But for this approach, many of them might not have reported for an IUD insertion. When the IUD expulsion/removals within the first 7 days are excluded, the event rate is very low in the subsequent visit at the third month (about 3 per cent). This indicates that if the IUD is not rejected in the immediate postabortal period, chance of further rejection is less, and the clinical course from the 3rd month of insertion is similar to interval insertion.

After 3 months of IUD use, there is a considerable fall in the event rate, which is more obvious relating to displacement and expulsions (0.53 per cent each). The main indication for removal of IUD at this period was menorrhagia

3.74 per cent). In addition, another 27.27 per cent of patients had menstrual irregularities which did not warrant removal of the device.

After the first 3 months there was a considerable reduction in the incidence of menstrual irregularities. This coupled with a low incidence of expulsions and removals for complications makes the copper T highly acceptable.

There were no major complications such as uterine or cervical perforation in the entire series. Even the 0.70 per cent of failures and 0.47 per cent of inflammatory masses reported have resulted between the third and sixth month of IUD application. Among those who have used the device for one complete year none of these complications were recorded, and moreover the incidence of IUD removals for bleeding and IUD displacements were minimal. However, about 15 per cent incidence of menstrual irregularities continued to be present even after one year of use. From these observations we infer that the clinical effectiveness gradually increases with the increased duration of use of copper T and is at its maximum after one year of application. Similar observations have been made by Tatum (1973) in interval insertions, Mishell *et al* (1973) in nulliparous women and by Timonen and Luukkainen (1974) in concurrent post-abortion insertions.

Embedding of copper T described by Zipper *et al* (1969) is probably contributing to retention of the IUD in the uterine cavity. Since the uterus gets accustomed to the device gradually, the complications are also minimal with increased duration of use. However, the embedding of the device did not interfere with the extraction of the device after 1 year of use. In all those cases where pregnancy was

planned, the IUD was removed without any difficulty. Ten women who had reported with early pregnancy had conceived within 4 months of removal of the device. In all the IUDs removed, the copper wire was intact and there was no evidence of any fragmentation.

#### Summary

Termination of a pregnancy by abortion is a strategic time for introducing a patient to contraception. One can be reasonably safe in assuming that copper T 200 may be used with comparable degrees of clinical effectiveness in such situations. A higher incidence of IUD removals for bleeding and IUD displacements in the postabortal insertions is justifiable when one considers the greater number of women reached and thus protected against the risks of an unwanted pregnancy. After 1 year of use, post-abortion insertion of copper T carries a failure rate of 0.70 per cent and infection (T.O. mass) of 0.47 per cent. Major problems such as cervical or uterine perforations were not associated with this type of insertion. IUD removal was effected in 5.39 per cent for bleeding, and in 4.69 per cent of cases there was either complete or incomplete expulsion of the device. Even though IUD removal was not required, about 15 per cent of the patients had menstrual irregularities at the end of 1 year of use. Embedding of the copper device did not pose any problem for removal of the device after one year of use. There was no fragmentation of copper wire in those IUDs removed after one year. In those who have planned a pregnancy, conception had occurred within 4 months of removal of the device. The analysis of the follow-up data of the copper T users suggests that the use effectiveness of the device gradually increases with the duration of

use and is found to be highest after 1 year of use.

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