

CLINICO-CYTOLOGICAL CORRELATION OF ABNORMAL UTERINE BLEEDING AMONG COPPER-T USERS

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SUMMARY

Two hundred cases using Copper-T and 75 cases taken as control were studied. 91 cases (45.5%) in the study group and 24 cases (32%) in the control group had abnormal bleeding. The incidence of abnormal bleeding with Copper-T was higher in the age group of 36-40 years and showed an increase with increasing parity but this was not found to be statistically significant when compared with the control. Incidence of abnormal bleeding was higher after 2 years of use and was 100% in cases using Copper-T for more than 6 years.

The incidence of normal cytology in cases not using Copper-T was 75% and it was 38.4% in cases using Copper-T. The difference was statistically significant. Incidence of endometritis (56.04%) hyperplasia (23.03%) squamous metaplasia (21.9%) and atypical cells (20.9%) was higher in cases using Copper-T.

Endometrial cytology in Copper-T cases having normal and abnormal bleeding was compared. The cytological changes in the two groups were not significantly different except the incidence of endometritis which was higher in the cases having normal bleeding. Hence though Copper-T produces significant changes in the endometrium the abnormal bleeding associated with Copper-T may not be related to these cytological changes.

Introduction

Copper-T is a widely accepted method of contraception but has the side effects like abnormal bleeding, infection, abdominal pain etc. The incidence of removal of I.U.D. is 15% for medical reason mainly bleeding and pain (Mishell 1984).

This study was undertaken to find out whether there is actually an increase in symptoms following Copper-T insertion and also to find out the correlation of abnormal bleeding with cytomorphological studies of endometrial aspirate.

Material and Methods

Two hundred cases using Copper-T for a varying period and 75 cases matching in age and parity but not using IUD, were studied. 91 cases having Copper-T and

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24 cases in the control group had abnormal bleeding and these cases were evaluated clinically and endometrial aspirate was taken from these for cytological studies.

Results

Clinical symptoms (Table I)

Out of the 200 cases in the study group 67% cases were symptomatic and the most common symptom was abnormal uterine bleeding (45.5%). All these cases gave the history of normal periods before insertion. In three cases bleeding was severe enough to warrant removal of Copper-T. As against this in the control group 24 cases out of 75 cases (32%) had abnormal bleeding. Thus, the pro-

portion of cases with abnormal bleeding were more among Copper-T users as compared to the control group.

Type of menstrual abnormality (Table II)

Out of 91 cases with abnormal bleeding in study group, 46 cases (50.5%) had increased amount of menstrual blood flow, 46 cases (50.5%) had increased duration of menstrual flow, 4 cases (4.4%) had intermenstrual bleeding. Among 24 controls 15 (62.5%) had increased amount of bleeding and 10 (41.7%) had increased duration of bleeding. It is important to mention here that some cases had more than one type of bleeding hence there is discrepancy in the total number.

TABLE I
Showing Clinical Symptoms in the Study Group and the Control Group

Clinical Presentation	Study Group N = 200		Control Group N = 15	
	No.	%	No.	%
Abnormal Bleeding	91*	45.5	24	32
Vaginal Discharge	61	30.5	19	25.3
Pain in Abdomen	51	25.5	12	16
P.I.D.	7	3.5	0	0
No complaints	66*	33	50	66.6

* P > .05

TABLE II
Distribution of Cases According to Type of Menstrual Bleeding

Total No. of cases	Intermenstrual Bleeding		Increased Amount of Bleeding		Increased Duration of Bleeding		
	No.	%	No.	%	No.	%	
Study Group	91	4	4.4	46*	50.5	46*	50.5
Control Group	24	0	0	15	62.5	10	41.7

* P .05

Correlation of abnormal bleeding with age
(Table III)

Incidence of abnormal bleeding in cases using Copper-T was highest in the age group of 36-40 years (72.2%) but this high incidence was not statistically significant when compared with the controls having abnormal bleeding in the same age group ($P > 0.05$).

TABLE III
Age Distribution of Cases with Abnormal Bleeding

Age group (years)	No. of Cases	Cases with Abnormal Bleeding	
		No.	%
20 - 25	S	62	40.3
	C	30	30
26 - 30	S	86	46.5
	C	33	27.2
31 - 35	S	34	38.2
	C	6	50
36 - 40	S	18	72.2
	C	6	50

S—Study Group. C—Control Group

Correlation of abnormal bleeding with parity
(Table IV)

Though there was a slight increase in the incidence of abnormal bleeding with increasing parity, this was not found to be statistically significant, when compared with cases in control group with abnormal bleeding.

Relation of duration of IUD use to abnormal bleeding (Table V)

There was no statistically significant change in the incidence of abnormal bleeding upto 2 years in IUD use ($P > 0.5$). However, after 2 years of use the

TABLE IV
Distribution of Cases of Abnormal Bleeding by Parity

Parity	No. of cases	Cases with Abnormal Bleeding	
		No.	%
1.	S	41	46.3
	C	21	28.5
2.	S	92	39.1
	C	27	33.3
3.	S	41	46.3
	C	15	26.6
4.	S	26	65.3
	C	12	41.6

S—Study Group C—Control Group

incidence of abnormal bleeding was higher. After 6 years of IUD use (that is after two reinsertions at intervals of 3 years each) incidence of abnormal bleeding was 100%.

TABLE V
Distribution of Cases of Abnormal Bleeding by Duration of IUD Use

Duration	Total No. of cases	Cases with abnormal bleeding	
		No.	%
0 - 6 months	35	18	40
½ - 1 year	37	16	43.2
1 - 2 years	34	11	32.3
2 - 3 years	72	35	48.6
3 - 4 years	15	8	53.3
6 - 8 years	4	4	100.0
8 - 10 years	3	3	100.0

Correlation of endometrial cytology to abnormal bleeding in Copper-T users
(Table VI)

Endometritis was found in 56.04% of cases of abnormal uterine bleeding using Copper-T while in cases with abnormal bleeding not using Copper-T, the incidence was only 12.5%.

TABLE VI
Association of Cytologic Findings to Abnormal Bleeding

No. of cases	Cases with normal		Endo- metritis		Hyper- plasia		Sq. Meta- plasia		Atypical cells	
	No.	%	No.	%	No.	%	No.	%	No.	%
S - 91	35*	38.4	51	56.04	21	23.0	20	21.9	19	20.9
C - 24	18	75	3	12.5	3	12.5	0	0	0	0

* $P > .01$ S—Study Group, C—Control Group

Hyperplastic endometrium was observed in 23.0% cases in the study group with abnormal bleeding and 12.5% in the control group with abnormal bleeding.

Squamous metaplasia (21.9%) and atypical cells (20.9%) were seen only in the study group. There was no case of squamous metaplasia and atypical cells in the control group.

The endometrial cytology was found to be normal in 75% cases in control group with abnormal bleeding while it was normal only in 38.4% cases with Copper-T having abnormal bleeding. The difference in the incidence of normal cytology in control group as compared to study group is highly significant statistically ($P < .01$).

Endometrial cytology in Copper-T users with normal and abnormal bleeding (Table VIII)

The endometrial cytology in Copper-T user having normal bleeding was compared with those having abnormal bleed-

ing. The incidence of endometritis was found to be significantly higher (76%) in cases with normal bleeding as compared to cases with abnormal bleeding (56.04%). The difference in the other cytological changes in the two groups were not found to be statistically significant.

Discussion

Incidence of abnormal uterine bleeding in Copper-T users was found to be significantly higher as compared to the control group ($P < .05$) (Table I). All the cases using Copper-T gave the history of normal periods before insertion.

The incidence of abnormal bleeding following Copper-T insertion has been reported to vary from 16.4% (Engineser *et al*, 1983) to 41% (Wilson and Ledger, 1968).

In the present study no significant decrease in the incidence of abnormal bleeding was observed with increasing

TABLE VII
Cytology in Copper-T Users Having Normal and Abnormal Bleeding

No. of cases	Normal cytology		Endo- metritis		Hyper- plasia		Sq. Meta- plasia		Atypical cells	
	No.	%	No.	%	No.	%	No.	%	No.	%
Abnormal bleeding—91	35	38.4	51*	56.4	21	23.0	20	21.9	19	20.9
Normal bleeding—109	46	42.2	76*	69.7	21	19.2	21	19.2	21	19.2

** $P > .05$

duration of use. This is in contrast to some of the studies which state that the amount of bleeding frequently diminishes with time as uterus adjusts to the presence of foreign body (Tatum, 1974), (Huggins, 1981). In our series all the cases using Copper-T for more than 6 years had abnormal bleeding.

Exact mechanism by which IUD causes increased menstrual loss is not completely understood. The etiology may be multifactorial including morphological changes of the endometrium and biochemical mediator substances. Thiery (1983) suggested unharmonious fit of IUD in the uterine cavity. Mishell *et al* (1984) suggested premature and increased rate of release of prostaglandins brought about by the presence of intra-uterine contractions by excessive prostaglandins level may prolong the duration of menstrual flow.

In our study the incidence of endometritis was higher in the study group (36.04%) as compared to the control group. 12.5% squamous metaplasia and atypical cells were found only in the cases using Copper-T. But when endometrial cytology in IUD user having normal and abnormal bleeding was compar-

ed the cytological changes in the two groups were not significantly different except the incidence of endometritis was higher in the cases having normal bleeding. Meyer and Mishell (1971) found no relationship between excessive bleeding and histological findings with or without IUD.

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