

CYTOLOGY IN Cu-T USERS

(A Prospective Study)

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SUMMARY

A prospective study was carried out on 168 women accepting CuT in the postnatal clinic. Cervical cytology smears were taken (a) at the time of CuT insertion, (b) after 6 weeks, and (c) after 6 months of insertion. When these cytology findings were statistically analysed, following results were obtained. There was borderline significant decrease in the number of non-specific inflammatory smears after 6 weeks of CuT insertion (b) as compared to non-specific inflammatory smears at insertion (a). After 6 months, inflammatory smears increased in number. There was significant increase ($p < 0.05$) in the number of *Trichomonas vaginalis* smears after 6 weeks (b) and 6 months (c) of insertion. The incidence of non-specific inflammatory smears and *T. vaginalis* smears was higher in CuT users compared to all other groups of women viz. women attending rural and urban-slum diagnostic camps and the gynaec OPD at N.W.M. Hospital.

Introduction

The relationship of IUD to the incidence and progression of dysplasia has been variously reported. Some workers have reported high incidence of suspicious smears in IUD users (Ayre, 1965). In a retrospective study, cytology smears of 160 women using Cu-T were studied at the time of removal and compared with the non-users of same age group. These smears were collected from posterior fornix of vagina, cervix and from Cu-T itself. There was no difference in incid-

ence of dysplasia in both the groups. However, incidence of inflammation was higher in Cu-T users. The most interesting finding was observed in the smears collected directly from CuT- device after removal. In 4 smears, large round to oval cells were seen. They were single, showed abundant vacuolated cytoplasm and an eccentric, large hyperchromatic nucleus. Chromatin clumping and multiple round nucleoli were seen. These smears were classified as "Atypical smears". These atypical smears which require follow up were present only in Cu-T users and were not found in the non-users (Deshmukh *et al*, 1985; Gupta, 1982). Other workers have reported that there are no

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significant cytological changes in cervical epithelium after the use of Cu-T (Luthra, 1978; Affandi, 1976; Tatum, 1972). In view of this controversy a prospective study was carried out on cervical cytology in women accepting Cu-T as a temporary contraceptive method in the year 1986-87.

Material and Methods

One hundred and sixty-eight consecutive women accepting Cu-T in the post-natal clinic were studied. After taking complete history, women were examined clinically; cervical cytology smears were collected from ectocervix and endocervix with the help of Ayre's spatula. Cu-T was inserted in all the women within 3 months of delivery. These women were asked to come for follow up after 6 weeks and again after 6 months of insertion whether they had any complaints or not. At the follow up visits they were interrogated about any complaints due to IUCD. They were examined and repeat smears were collected. Necessary treatment was given when required.

(1) The smears at insertion (a), after 6 weeks of insertion (b), and after 6 months of insertion (c) were studied, analysed and compared.

(2) The cytological findings obtained

after 6 months of insertion were compared with those obtained in various other groups of women viz. women attending a rural diagnostic camp (Gr. 1), an urban-slum diagnostic camp (Gr. 2) and the gynaec. OPD at N.W. Maternity Hospital in the year 1986 (Gr. 3).

Results and Discussion

Table I shows cervical cytology findings at the time of Cu-T insertion— (Group a). The incidence of non-specific inflammatory smears was high i.e. 73.8% followed by normal smears i.e. 17.3% in these 168 women accepting Cu-T (Gr. a). *T. vaginalis* was found in 6.5%. The inflammatory smears revealed a background of large number of red blood cells, white blood cells, histiocytes, mucus with many postpartum parabasal and intermediate cells but the morphology otherwise was normal. Papanicolaou described a special type of parabasal cell found in large numbers in the puerperium which he called the post partum cell. These cells exist for short periods and are replaced by normal parabasal cells which persist for variable periods, independent of the duration of lactation. There was no case of dysplasia or carcinoma in these 168 women.

Out of these 168 women, 63 came for

TABLE I

Cytology Findings (Gr. a)	No.	%
Normal	29	17.3
Inflammatory		
— Non-specific	124	73.8
— <i>T. vaginalis</i>	11	6.5
— Endocervicitis	1	0.6
— Inflammation with metaplasia	3	1.8
Dysplasia	0	0
Ca. in situ	0	0
Total	168	100.0

6 weeks follow up. 21 had complaints like leucorrhoea, menstrual problems, pain in abdomen, backache etc. A comparative analysis of the cytological findings in these 63 women at insertion (a-1) and after 6 weeks of insertion (b) is shown in Table II. Normal smears increased from 15.9% to 20.6%. Non-specific inflammatory smears decreased from 73% to 57.1%. This means that statistically there was borderline significant decrease in the number of inflammatory smears. *T. vaginalis* smears increased from 7.9% to 20.6%. This increase is statistically significant ($p < 0.05$). No smears showed evidence of dysplasia or malignancy. Although 20.6% women had *T. vaginalis*,

only 6.3% women complained of leucorrhoea or vulval itching and clinically only 7.9% were found to have leucorrhoea or vaginitis.

Seventy three women out of 168 reported for follow-up after 6 months of insertion. Cervical cytology findings in these 73 women at insertion (Gr. a-2) and after 6 months of insertion (Gr. C) were as follows. Normal smears decreased from 16.4% to 5.5%. *T. vaginalis* smears increased from 4.1% to 20.5%. This increase in the incidence of *T. vaginalis* is statistically significant ($p < 0.05$). There were no dysplasia smears or carcinoma smears. 16.9% women complained of leucorrhoea or vulval itching

TABLE II

Cytology Findings	At Insertion (Gr. a-1)		After 6 wks. (Gr. b)	
	No.	%	No.	%
Normal	10	15.9	13	20.6
Inflammatory—				
— Non-specific	46	73.00	36	57.1
— <i>T. vaginalis</i>	5	7.9	13	20.6
— Endocervicitis	0	0	0	0
— Inflammation with metaplasia	2	3.2	1	1.6
Dysplasia	0	0	0	0
Ca. in situ	0	0	0	0
Total	63	100	63	100

TABLE III

Cytology Findings	At insertion (Gr. a-2)		After 6 mths. (Gr. c)	
	No.	%	No.	%
Normal	12	16.4	4	5.5
Inflammatory—				
— Non-specific	57	78.1	53	72.6
— <i>T. vaginalis</i>	3	4.1	15	20.5
— Endocervicitis	1	1.4	1	1.4
— Inflammatory with metaplasia	0	0	0	0
Dysplasia	0	0	0	0
Ca. in situ	0	0	0	0
Total	73	100	73	100

and clinically 23% women were found to have leucorrhoea or vaginitis.

When the results shown in Tables II and III were statistically analysed, it was found that, there was borderline significant decrease in the number of non-specific inflammatory smears after 6 weeks of Cu-T insertion (b) as compared to non-specific inflammatory smears at insertion (a). After 6 months, inflammatory smears increased reaching the value almost equal to preinsertion. There was significant increase ($p < 0.05$) in the number of *Trichomonas vaginalis* smears after 6 weeks (b) and 6 months (c) of insertion.

Table IV shows the cytological findings of 4 different groups comprising 4667 cases viz.

Group c: Present study—cytology of 73 women after 6 months of Cu-T insertion.

Group 1: 85 women attending the rural diagnostic camp at Udwarda organized in the school building. (Udwarda is a village situated near Palghar).

Group 2: 67 women attending the urban-slum diagnostic camp organized in the Health centre at Malavani. (Malavani is situated near Malad, a Bombay Suburb and is an urban slum area).

Group 3: 4442 women attending the gynaec OPD at N.W. Maternity Hospital in the year 1986.

It is clearly seen from the Table IV that the incidence of non-specific inflammatory smears and *T. vaginalis* smears is higher in Cu-T users (c) compared to all other groups of women (Gr. 1, 2, and 3). The incidence of normal smears is also very less in Cu-T users compared to all other groups.

The possible causes leading to increased incidence of inflammatory and *T.*

TABLE IV

Cytology Findings	Women attending Diagnostic Camps		Women attending Gynaec. OPD (Pathological Gr.) (Gr. 3)	Cu T users (after 6 mths of insertion) (Gr. c)
	Rural camp at Udwarda (Gr. 1)	Urban-slum camp at Malavani (Gr. 2)		
Normal	62.4	53.8	18.6	5.5
Inflammatory	27.1	34.3	53.1	72.6
	4.7	4.5	10.4	20.5
	0	0	10.1	1.4
	4.7	7.5	0.9	0
Dysplasia	1.2	0	0.6	0
CIN	0	0	0.02	0
Invasive Ca.	0	0	1.3	0
Others	0	0	5.0	0
Total	100	100	100	100

— Nonspecific
— *T. vaginalis*
— Endocervicitis
— Inflammation with metaplasia

vaginalis smears in Cu-T users could be as follows:

(i) Inflammatory response is brought forth by many conditions and stimuli including irritation, infection, radiation, trauma, endocrine status, vitamin deficiencies and neoplasia (Novak, 1974).

IUD being a foreign body can induce inflammatory reaction.

(ii) Introduction of *T. vaginalis* infection at the time of Cu-T insertion itself due to inadequate aseptic precautions.

(iii) Acceptance of Cu-T leads to decreased fear of unwanted conception which in turn leads to increase in frequency of intercourse providing more opportunities to contract *T. vaginalis* infection.

(iv) This *Trichomonas vaginalis* infection may be perpetuated by Cu-T threads hanging in the vagina.

Trichomoniasis has been associated with cervical dysplasia and may be a marker for cervical carcinoma. Although a causal relationship is doubtful, it may be advisable for this reason, to treat even asymptomatic women who have *Trichomonas* present in the vagina (Kistner, 1986). In view of this, following steps should be undertaken to prevent and treat *T. vaginalis* infection in Cu-T users—

(i) Strict aseptic precautions should be taken at the time of IUCD insertion and follow up.

(ii) Cu-T users should maintain high standard of personal hygiene.

(iii) Pap smears and hanging drop preparations should be taken at each follow up visit irrespective of complaints of leucorrhoea to rule out subclinical infection.

(iv) If evidence of *T. vaginalis* infection is present, simultaneous treatment should be given to the women as well as her husband.

(v) Regular cytology follow up should be undertaken to rule out dysplasia, atypical smears and carcinoma in situ smears.

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