

EVALUATION OF CYTOLOGICAL CHANGES BEFORE AND FOLLOWING THE USE OF COPPER T

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SUMMARY

Pap smears were studied in 200 women. 100 women had come for CuT insertions and smears were taken before insertion and after 3 & 6 months of insertion. Another 100 women had come for removal of CuT after a period of 2½ - 3 yrs. 60% of the women had inflammatory smears. Mild dysplasia was observed in 16% cases whereas moderate and marked dysplasia was seen in 6% and 1% respectively. One patient had progressive dysplasia leading to carcinoma of the cervix.

INTRODUCTION

CuT is a reversible, effective, safe and economical method of contraception and is a good alternative to surgery where the couple wants to defer surgical sterilisation. Keeping in view the popularity of CuT, its long term effects on the genital tract especially the oncogenic potential warrant a careful evaluation. Vaginal cytology is now universally employed to detect cancer in its early stages. Among the different staining methods, Papanicolaou's (1942)

technique has proved to be the best (Mansukhani et al 1960). The present study was planned and aimed at detecting dysplastic or neoplastic changes occurring in CuT users.

MATERIAL AND METHODS

One hundred female patients who came for CuT insertion to the Out Patient Department of Post Partum Unit, Govt. Hospital for Women, Medical College, Amritsar, were studied. These patients were followed up after three & six months of CuT insertion (Group I). Another hundred female patients who came for

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CuT removal or change after 2½ - 3 years of use were also studied (Group II).

Secretions from the posterior vaginal fornix were aspirated with the help of a glass pipette and smears were prepared. Cervical scrapings were taken with the help of a diagonally cut wooden spatula and another smear made. The wet smears were in the fixative solution for 2-4 hours and then stained by Papanicolaous staining technique. The stained smears were then examined under low and high power for normal and abnormal cells. The smears were graded according to W.H.O. classification (1963) viz. mild, moderate, severe dysplasias and carcinoma in situ.

OBSERVATIONS

77% of the patients in our study were between 21-30 years of age. Majority of

the women were from urban area and belonged to middle income group.

In 100 patients of group I, smears were taken at the time of CuT insertion, 3 months and then 6 months after insertion. In 100 women of group II, smears were taken at the time of CuT removal. In spite of our best efforts, out of 100 women who came for CuT insertion only 64 and 58 reported for 3 and 6 months follow up respectively.

Out of 31 women who had normal smears at the time of insertion, 8 developed inflammation at subsequent follow ups. Inflammatory changes persisted in all the smears in 22 women and they were advised to get CuT removed and given adequate medical treatment. Many inflammatory smears had some degree of dysplasia alongwith. Out of 17 women having mild dysplasia at the time of insertion, it

Table I

Cytological changes in Group I insertion women

Sr. No.	Type of smears	Percentage at the time of CuT insertion	Percentage at 3 months follow up	Percentage at 6 months follow up
1.	Normal	31	25	24
2.	Inflammatory	65	59.5	53.5
3.	Mild dysplasia	17	20	20
4.	Moderate dysplasia	10	6	3
5.	Marked dysplasia	1	3	1.5
6.	Basal cell hyperplasia	1	Nil	Nil
7.	Endocervical cellular atypia	4	6	5
8.	Squamous metaplasia	4	6	6.5
9.	Reserve cell hyperplasia	1	Nil	Nil

persisted in 7 cases in further follow ups and in 1 case progressed to moderate degree. She was advised to get it removed and have treatment. However, the incidence of moderate dysplasia decreased from 10% to 6% and then to 3% in subsequent follow ups. This might be due to the presence of inflammation before CuT insertion and then it got reversed because of the treatment given. In 1 patient, it got intensified to marked dysplasia with evidence of malignancy. The incidence of squamous metaplasia and endocervical cellular atypia remained same in all the three smears (Table I).

The table II shows that CuT is not responsible for any marked inflammatory or dysplastic changes. The incidence of mild dysplasia is almost similar in both groups. Interestingly, the incidence of moderate dysplasia is 5 times more in group I than in group II. It might be due to inflammation which is quite com-

mon in young age. There was no difference in the incidence of marked dysplasia in both groups.

DISCUSSION

In our series, majority of the cases (77%) belonged to the third decade of their life. The incidence of inflammation and dysplasia were noted increasingly in cases with high parity and low social class. This corresponds to the study of Wahi et al (1969). 65% of patients in group I revealed inflammatory smears, whereas inflammatory smears were seen in 56% of patients of group II.

The incidence of dysplasia found in group I (28%) was more than that found in group II (19%). Out of 28 patients showing dysplasia, 24 had associated inflammatory changes and it was believed that this inflammatory reaction was responsible for a higher incidence of dysplasia in these women. This fact has

Table II

Comparative incidence of dysplasia at the time of CuT insertion and CuT removal

Sr. No.	Type of smears	Percentage of Group I	Percentage of Group II
1.	Inflammatory	65	56
2.	Mild dysplasia	17	16
3.	Moderate dysplasia	10	2
4.	Marked dysplasia	1	1
5.	Basal cell hyperplasia	1	Nil
6.	Endocervical cellular atypia	4	3
7.	Squamous metaplasia	4	1
8.	Reserve cell hyperplasia	1	Nil

been supported by the evidence that the number of patients showing dysplasia decreased from 28 to 19 at first follow up and to 14 at 2nd follow up. Out of 19 patients who showed dysplasia in group II, 16 had mild dysplasia, two moderate and one marked dysplasia. All of them had inflammatory changes along with. This comparative evaluation of both groups revealed that CuT does not cause significant dysplasia and it is the infection as a result of poor personal hygiene which is responsible for dysplasia in child bearing age.

Rastogi et al (1988) have found that there is no significant risk of an increased incidence of cervical dysplasia or carcinoma in women using IUD for 6 years in their study on 200 women. Deshmukh et al (1985) have not revealed any smear showing severe dysplasia, carcinoma in situ or invasive carcinoma in their study in 160 women using CuT. Other workers have also reported that there are no significant cytological changes in cervical epithelium after the use of CuT. (Hagenfeldt et al 1972; Misra et al 1977; Affandi et al 1976; Luthra et al 1978).

The persistence of moderate dysplasia and the presence of marked dysplasia should be taken as an alarming signal. CuT has to be removed and cervical biopsy becomes mandatory. One of our case had

moderate dysplasia at the time of CuT insertion which became aggravated to marked dysplasia with evidence of malignancy in subsequent follow up. She was 43 years old and was married for 25 years. Cervical biopsy proved it to be squamous cell carcinoma in situ. Abdominal pan hysterectomy was performed.

Keeping in view the comparative incidence of dysplasia in Group I and II, it can be very well emphasized that CuT is a very safe device. Pap smear study is recommended even at the time of CuT insertion. Also, it should be a regular feature at least once a year. Any progression or persistence in dysplasia warrants cervical biopsy.

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