

## CYTOLOGICAL FOLLOW-UP OF IUD CASES OF 5 YEARS OR MORE DURATION

by

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### Abstract

Seventy women who retained the intrauterine device (IUD) i.e. Lippes Loop, Margulies spiral and Soonawala 'S' shaped device for 5 years or more were studied for clinical and cytological evaluation. Thirty-six (51.4%) women used the device for more than 8 years. The initial and the follow up smears of these cases were analysed. No malignant changes were seen in the follow up smears. Only one case whose initial smear was negative showed severe dysplasia after 7 years follow-up. Cytologically an inflammatory picture was predominantly seen in the follow-up smears of these cases.

### Introduction

Cytodiagnosis is extensively used for detection of cancerous lesions though, less frequently, for recognition of precancerous lesions. One of the important developments in recent years is the realization that cancer is preceded by recognizable precancerous cytomorphological alterations or dysplasia. The possibility of detection of precancerous lesions by cytology strongly supports the need

for screening the population at risk. Varied reports have appeared in the literature from time to time as to the nature of cervical epithelial changes, associated with the use of intrauterine contraceptive device. This paper presents the results of 70 cases with insertions of loop for a prolonged period of 5 years or more.

### Material and Methods

Seventy women who were inserted with intrauterine contraceptive device (IUD) and retained them for 5 years or more have been included in the study. Majority of the women studied were of the older group belonging to 31-40 age group. Patients using IUD were of high parity, 64.3 per cent being multiparous with 4-8 children.

Cervical and endocervical smears were studied before insertions. At the yearly follow-up visits besides ectocervix, smears from endocervix and endometrium were also obtained. The smears were studied by Pastakia's (1955) modified method of Papanicolaou. IUD used in this study were Lippes Loop, Margulies spiral and Soonawala 'S' shaped device. Only those cases who had retained the device continuously for more than 5 years have been included, though there were those who had the device changed on the same day. Fifty per cent

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of them retained their IUD for more than 8 years (Table I).

TABLE I  
Years of IUD Use

Years of use	Total No. of cases	Percentage
5	9	12.8
6	13	18.5
7	12	17.1
8	17	24.2
9	8	11.4
10	8	11.4
11	3	4.3

As they had very few symptoms only reasons for removal of IUD are analysed (Table II).

TABLE II  
Reasons for Closure of Cases

Reasons for removal	No. of cases
Pregnancy desired	0
Accidental pregnancy	1
Infection	6
Bleeding and/or cramps	4
Menopause	5
Cervical polyp.	1
Severe dysplasia	1
Separated/Sterilized	13
Others (Non-medical causes)	6

From Table II it is evident that most of these patients used IUD's for limiting the family rather than spacing.

At the time of change or removal of IUD the smears were taken from the loop. Five cases who did not have any clinical symptoms or complaints and did not show any cytological changes were allowed to retain the device till they reached menopause.

The smears were classified as negative, inflammation, mild or moderate and severe dysplasia according to Riotton and Christopherson 1973. In this study 430 exocervical, 361 endocervical, 307 endometrial and 80 loop smears were studied.

### Results

The yearly follow-up report of the 70 cases is given in Table IV. The cases of mild dysplasia were associated with infection and inflammation. These cases did not show any dysplasia on repeat smears after treatment of infection. At the end of our study, the analysis of the follow up smear (Table IV) shows out of 71.4% initial negative smears, 52.8% remained negative. 31.4% showed inflammation and only 1 case i.e. 1.4% progressed to severe dysplasia which on four quadrant punch biopsy showed carcinoma in situ. As the patient refused an operation she was followed up cytologically and the smears were normal. This could be due to the removal of a small focus of cancer cells by the biopsy. Of the 25.6% which showed initially inflammation at the end of the study, 21.4% regressed to normal and 4.2% persisted as inflammation. One case, i.e. 1.4% of the initial mild dysplasia was treated and it regressed and showed negative smears at the end of our study. One case i.e. 1.4% cases of moderate dysplasia regressed to inflammation.

Out of the 80 smears taken directly from the loop, foreign body reaction was seen in 28 smears and 21 smears showed the presence of multinucleate foreign body giant cells. No changes were seen in 307 endometrial smears which showed presence of histiocytes and degenerated endometrial cells.

TABLE IV  
Analysis of Smears with Yearly Cytology Follow-Up

Type	Initial	1	2	3	4	5	6	7	8	9	10	11
Negative	50/71.4	73.7	57.4	64.5	70.1	57.4	67.5	67.8	71.4	61.5	87.5	100
Inflammation	18/25.7	22.9	38.8	30.6	26.3	39.3	32.4	32.1	28.5	30.7	12.5	—
Mild	1/1.4	3.2	3.7	4.8	3.5	3.0	—	—	—	7.6	—	—
Moderate	1/1.4	—	—	—	—	—	—	—	—	—	—	—
Severe	—	—	—	—	—	—	—	3.5	—	—	—	—

TABLE V  
Analysis of Last Follow-up Smears According to the Status of Initial Smears

Cytomorphological Initial diagnosis	No. of cases	Negative	Inflammation	Mild	Moderate	Severe
Negative	50	16 =	22 =	11 =	1 =	—
Inflammation	18	—	15 =	3 =	—	—
Mild	1	—	—	—	—	—
Moderate	1	—	—	—	—	—

= Persistence      ..... Regression      — Progression

### Discussion

The cervical cytological studies did not reveal any marked increase in dysplasia except for one case of severe dysplasia in which case the patient failed to come up for regular follow-up. No malignant cytomorphological changes were noticed with long term IUD use. There was 4.8% increase of cases showing mild dysplasia after 3 years follow-up. This increase was due to infection, as the smears after treatment of inflammation did not show any dysplasia. Various reports have been published regarding the long term effect of IUD use. Virkar, (1968, 1971) and Sammour and Iskander (1970) studied the cytohistologic pattern of IUD users for more than 5 years.

The cytology smears predominantly showed infection. Ishihama *et al* (1970) in their series of observation on IUD used for a period of 10 years did not find any positive smears. In a prospective study of Richard and Baron (1967) it was evident that there was no evidence that IUD increased the rate of progression from dysplasia to carcinoma *in situ*. Similar reports that inert IUD have no influence in genesis of servical carcinoma was given by Davies (1972) and Debancens *et al* (1970). Positive findings were reported by Ayer (1965) who reported 3 cases of transformative cell structure from benign to highly abnormal or dysplastic. Tietze (1966) has reported the appearance of carcinoma *in situ* in 4 out of 4800 women examined. Wahi *et al* (1968) reported progression of dysplasia and brought forward evidence of associated inflammation in large number of cases. Moyer and Mishell (1971) showed the development of chronic endometritis but no cytological changes in women using IUD for long period of time. The evidence of foreign body reaction seen in the loopal smears has also been

described By Kelkar and Virkar (1968) and Sagioglu and Sagirolu (1970). Foreign body reaction was seen in most of the smears, suggesting that the plastic device is not inert.

Since neither dysplasia nor carcinoma of cervix is rare in general population, the reports have to be substantiated with initial smears and regular follow-up smears. We believe that with careful selection of women and follow-up examination and timely treatment of infection the IUD can be used safely for a number of years.

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