CAN IUCD INDUCE UTERINE MALIGNANCY?

By

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SUMMARY

Two hundred IUCD removals were studied for evidence of Pathological changes over the Uterine cervix, endometrium and smears prepared from the removed IUCDs. 36.7% cervical smears were positive for inflammatory cells and 6.7% showed mild dysplasia, Endometrium showed chronic endometritis (25%), cystoglandular hyperplasia (4%) and adenomyosis (1%). IUCD smears showed inflammatory reaction in 54.7% cases.

The possible consequences of these pathological changes are discussed.

Introduction

Intrauterine contraceptive devices (IUCD) are considered to be highly effective and widely used, especially as a spacer after the first child birth in our national family welfare programme. But are they safe?

This study is a part of a comprehensive evaluation of the current usage of IUCD. As most of our patients are being provided with copper-T, the deductions here apply to only one type of IUCD, and extrapolation of the results to other IUCDs is doubtful.

Material and Methods

The present study material consisted of 200 women attending the Family Welfare OPD of Government General Hospital, Kurnool for IUCD removal during the period April 1984 to April 1986.

After careful history taking, examination and IUCD removal, the following investigations were done.

1. With the help of Ayre's spatula, cervical surface biopsy was taken and the slides were immediately fixed in 95% alcohol in 30 cases.
2. Endometrial biopsy done in 100 cases.
3. IUCD smear — The recovered IUCD was smeared on a clean slide and immediately fixed in 95% alcohol in 75 cases.

Results

The age group which used IUCD as a contraceptive method of choice was 20-29 years. But there were also women above 40 years using IUCDs (Table I).

Table II shows the cytological response of the cervix among IUCD users. Significantly dysplastic changes were found in two cases.

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TABLE I
Age Distribution Among IUCD Users

Age in years	No. of cases	Percentage
⩽19	45	22.5
20-29	108	54
30-39	34	17
⩾40	13	6.5
Total	200	100

TABLE II
Cytological Changes in Cervical Smears

Changes	No. of cases	Percentage
Negative for inflammation	17	56.6
Inflammatory cells present	11	36.7
Mild dysplasia	2	6.7
Total	30	100

Table III shows microscopic appearances of the cervix. The 3 women who had cervix flushed with the vault were of perimenopanal age group.

TABLE III
Gross Lesions of Cervix Among IUCD Users

Type of lesion	No. of cases	Percentage
Healthy cervix	130	65
Erosion cervix	46	23
Hypertrophied cervix	18	9
Cervical polyp	2	1
Flushed with vault	3	1.5
Ectropion	1	0.5
Total	200	100

In the cases where endometrial biopsy was done, the results are shown in Table IV. IUCD smears show the cellular response in Table V.

TABLE IV
Histopathological Changes in the Endometrium

Type of endometrium	No. of cases	Percentage
Proliferative phase	47	47
Secretory phase	16	16
Chronic non-specific endometritis	25	25
Cystoglandular hyperplasia	4	4
Adenomatous polyp	2	2
Endometrial stroma	2	2
Chorionicvilli	2	2
Adenomyosis	1	1
Papillary hyperplasia of endometrial glands	1	1
Total	100	100

TABLE V
Cytological Changes in IUCD Smear

Cytopathological picture	No. of cases	Percentage
Acute inflammatory cells	19	25.4
Chronic inflammatory cells i.e., mononuclear cells	22	29.3
Epithelial cells	10	13.3
R.B.C.s	9	12.0
No tissue seen	15	20.0
Total	75	100

Discussion

Some women continue to have IUCD in situ for long periods and are not aware of the complications. In our study one woman had the IUCD for 15 years. There is no doubt that complication rate is higher with the duration of IUCD in situ. It is also stated that the number of reinsertions also predisposes to higher incidence of complications.

Cervical Cytopathology

The inflammatory reaction in 36.7% of cases consisted mostly of mononuclear

cells. It could be due to foreign body reaction due to the presence of IUCD itself and/or ascending infection along the threads. In the earlier studies also similar results were shown (Table VI). There were no malignant cells at any time.

TABLE VI

Authors Name	Cases with cervical inflammatory smears
Mali and Lahuri (1968)	37.2%
Present study	36.7%

Endometrial Histoppathology

Tamada (1967) had discovered a generalised premature decidualization of endometrium at mid cycle. Similar change was observed in our study also (Fig. 1). It is generally believed that IUCD leads to decidualisation several days prematurely.

In the present study chronic endometritis (25%) cystoglandular hyperplasia (4%) and papillary hyperplasia (17%) (Fig. 2)) were seen. These are comparable with those of Mali in the ICMR studies which had 13% cases of chronic endometritis and 8% cases of Endometrial hyperplasia.

The high incidence of chronic endometritis could be due to the selection of cases as most of our cases had malnutrition. One case had adenomyosis.

ICUD smears

B. Casslein *et al* observed mononuclear phagyocytic cells adherent to the devices. Mononuclear cells were in highest numbers on the device at the time of menstruation and at midcycle. This cellular response is associated with both the antifertility effect and side effects of the devices.

In our cases, chronic inflammatory cells were seen in 29.3% cases and acute inflammatory cells in 25.4% cases.

While no actual malignancy was observed in the present study, premalignant changes in the form of dysplasia and adenomyosis were seen in 2 cases and 1 case respectively.

Recently Yang *et al* had reported uterine malignancy developing after a long term use of IUCD. It was endometrial stromal sarcoma associated with IUCD.

While the IUCD continues to be highly effective and "generally" safe, the uterine effects in the long run cast some doubts and further larger studies are required to exclude such apprehensions.

References

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See Figs. on Art Paper II