

STUDY OF VAGINAL CYTOLOGY IN EROSION OF CERVIX AND CERVICITIS*

by

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The role of vaginal cytology in early detection of cancer is well established even in the absence of symptoms. However, its role is not very well established in cases of inflammatory and other chronic lesions of the cervix, like chronic cervicitis, erosion of cervix, unhealthy cervix and cervical polyp. These lesions are presumed to be precancerous. The role of cytology in cases of long standing infection and erosion of the cervix, therefore is important. In the absence of grossly visible cervical lesion, cytology is quite accurate in diagnosing cervical epithelial abnormalities.

Material and Method

The 100 cases under study were selected from the gynaecological outpatient department of the Patna Medical College Hospital, Patna. The smears were collected from the cervix and posterior fornix of the vagina. The smears were stained according to Papanicolaou method (1946) and were classified as:

Class I: Normal smear (absence of atypical or abnormal cells).

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Class II: Abnormal smear of inflammatory pattern but only benign cells present (mild dysplasia).

Class III: Abnormal smear though falling short of malignant cells but the cells deviate sufficiently from normal (cytology suggestive but not conclusive for malignancy (moderate dysplasia).

Class IV: Abnormal smears with a few malignant cells (cytology strongly suggestive of malignancy) severe dysplasia.

Class V: Abnormal smears with a large number of malignant cells (cytology conclusive of malignancy).

Results

The cases were analysed according to age, parity, type of lesions socio-economic status and their relationship with the type of smear. The results are detailed in Table I to V.

It is apparent from Table I that the maximum number of abnormal smears were present in cases of erosion with hypertrophy of the cervix.

It is apparent from Table II that out of 100 cases only 3 had moderate dysplasia and 1 had severe dysplasia. 76% of the smears were normal.

TABLE I

Distribution According to Types of Lesions and Their Relationship With Abnormal Smear

Nature of cervical lesions	Total No. of cases	Abnormal smear				
		No. of cases	Percentage	Mild dysplasia	Moderate dysplasia	Severe dysplasia
Erosion cervix without associated pathology	50	9	18	9	—	—
Erosion with chronic cervicitis	30	2	6.6	2	—	—
Erosion with bilateral cervical tear	10	—	—	—	—	—
Erosion with hypertrophy of cervix	10	8	80	4	3	1

TABLE II

Type of smear	Total No. of cases	Percentage
Class I Normal smear	76	76
Class II Mild dysplasia	15	15
Class III Moderate dysplasia	3	3
Class IV Severe dysplasia	1	1
Inflammatory smear	5	5

TABLE III

Incidence of Abnormal Smears According to Age Groups

Age group in years	Total No. of cases	Abnormal smear				
		No. of abnormal smear	Percentage	Mild dysplasia	Moderate dysplasia	Severe dysplasia
16-20	3	—	—	—	—	—
21-25	7	1	14.2	1	—	—
26-30	33	5	15.1	5	—	—
31-35	22	3	13.6	2	1	—
36-40	26	9	34.6	7	2	—
41-45	7	1	14.2	—	—	1
46-55	—	—	—	—	—	—
56 & above	2	—	—	—	—	—

It is apparent from Table III the maximum number of abnormal smears were encountered in the age group of 36 to 40 years. Severe dysplasia was found in the age group of 41 to 45 years.

TABLE IV
Distribution of Abnormal Smears According to Parity

Parity	Total No. of cases	Abnormal smear				
		No. of abnormal smears	Percentage	Mild dysplasia	Moderate dysplasia	Severe dysplasia
0	9	—	—	—	—	—
1-4	57	8	14.2	7	1	—
5 and above	34	11	32	8	2	1

Table IV shows maximum incidence of abnormal smears in para 5 or more (32%). One case had severe dysplasia.

TABLE V
Distribution of Abnormal Smears According to Socio-economic Condition of the Patients

Socio-economic condition	Total No. of cases	Abnormal smear				
		No. of cases	Percentage	Mild dysplasia	Moderate dysplasia	Severe dysplasia
Low (Monthly income less than Rs. 150)	42	13	30	10	2	1
Middle (Monthly income Rs. 150 to 350)	39	4	10	3	1	—
High (Monthly income above Rs. 350)	19	2	10	2	—	—

It is apparent from table V that abnormal smear was mostly encountered in low income group (30%).

Discussion

Cytological examination of one hundred cases of cervical erosion and cervicitis was done with a view to detect dysplasia and malignancy in an early stage.

Maximum number of abnormal smear was encountered in the age group of 36 to 40 years (34.6%). Regan *et al* (1955) reported a mean age group of 34.0 years in 1261 women with dysplasia and a mean age group of 42.3 years in 55 women with carcinoma-in-situ.

It is further observed in the present study that the incidence of abnormal smears increased with high parity and

(32%) of the patients were para 5 or more. The simple explanation is trauma to the cervix with repeated childbirth. The incidence of abnormal smears was high to the extent of 42% in low socio-economic group.

Among the 100 cases studied maximum number of abnormal smears were observed in cases of erosion cervix with cervicitis (6.6%) and erosion with hypertrophy of the cervix (80%). Detailed study of vaginal smears revealed class I smear in 76%, class II in 15%, class III in 3%, class IV in 1% and inflammatory smear in 5% of the cases. According to Rao *et al* (1973) a total of 12,517 smears were studied and the number of dysplasia of all grades of severity worked out to be 7.5% as against varying incid-

ence of 2.3% to 3.1% reported by different authors, Mackey *et al* (1959); Wahi *et al* (1969); Leighton *et al* (1975) studied 45,110 cervical smears between 1964 and 1971, of which 1,290 were reported as abnormal that is class III, IV and V according to Papanicolaou classification. This gave an incidence of 28 abnormal smears per 1,100 smears examined not surprisingly higher than would be anticipated from a group of apparently normal women.

Regarding the inflammatory smear in the present series in general inflammatory cells were present in 70% of the cases, but they were present in abundance in only 5% of them. According to Dikshit and Virkar (1971) inflammatory cells were present in 70.2% of the cases but inflammatory cells were present in abundance in 2.9% of the cases only. According to Hughes and Dodds (1968) in cases of erosion of the cervix, the smear shows the evidence of inflammation in both squamous and endothelial cells in addition to increased number of inflammatory cells.

Study of the smear in the present series revealed that parabasal cells were present in 49% and modified endocervical cells in 27% of the cases. Modified endocervical cells resembled parabasal cells but they were more vacuolated with the lightly stained cytoplasm and fine reticular nucleus, Dikshit and Virkar (1971) found endocervical cells 5.2% of the cases and parabasal cells in 37.5% of the cases. They described that some of the cells had typical appearance of normal or dysplastic parabasal cells also described by Wahi and Chandra (1955).

Among the 100 cases studied 3 smears were suggestive and 1 was strongly suggestive of malignancy. Biopsy, however, confirmed epithelial dysplasia in 3 and

carcinoma-in-situ in 1 which was cytologically strongly suggestive of malignancy.

Summary

1. One hundred cases of cervical erosion and cervicitis were subjected to cytological examination.
2. Detailed study of vaginal smear revealed class I smear in 76%, class II in 15%, class III in 3% and class IV in 1% and inflammatory smear in 5% of the cases.
3. Incidence of dysplasia increased with the age parity and in low socio-economic group in the present series.
4. Among the 100 cases moderate dysplasia was found in three and severe in one case.
5. Biopsy confirmed carcinoma-in-situ in one which showed severe dysplasia.

It is worth studying vaginal cytology in erosion of cervix and cervicitis in order to detect early malignancy and prevent malignancy by follow up of moderate dysplasia cases.

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