

CLINICO PATHOLOGICAL STUDY OF CERVICAL LESIONS

by

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Vaginal cytology today is widely used by gynaecologists for early detection of cancer as well as for the hormonal evaluation, chromosomal make up, sex determination and determination of host sensitivity response to radiation therapy. The realisation that invasive cancer of the cervix is preceded by recognisable precancerous histological and cytological changes was one of the most basic contribution that aroused greater interest in the possibility of preventing cancer by early cytological detection. The importance of cytology in early detection of cervical carcinoma is very well known. However, its role is less well understood as far as the inflammatory lesions of the Cervix are concerned (Domadia and Vaidya, 1974). It has been observed that invasive carcinoma is preceded by carcinoma in situ. Changes occurring in the epithelium prior to development of in situ carcinoma, although morphologically recognizable are not universally accepted. In spite of accumulating evidence in support of proposition that cervical atypia is a phase in the development of cervical carcinoma, direct proof

is still not available. Lesions of the cervix like chronic cervicitis, erosion, unhealthy cervix and laceration are the commonest benign conditions showing typical cellular changes (Bechtold and Reichner, 1952; Lerch *et al*, 1963; Kaufman *et al*, 1967; Mali *et al*, 1969; Langley, 1975). Hence it is of paramount importance to detect these lesions early enough and treat them adequately if the cancer of the cervix is to be warded off (Wahi *et al*, 1969).

In India, like many developing countries in the world majority of women do not have protection of an annual 'Pap' test. In western countries the 'Pap' test has become a household word and thousands of young women are being saved by early detection of cancer of cervix. In view of this a study was undertaken to detect the incidence of precancerous lesions so that early preventive treatment may be possible for susceptible cases.

Material and Methods

One hundred and twenty-five cases attending gynaecology department of Medical College, Aurangabad, from different age groups, parity and socioeconomic conditions were included in the present study. The complete clinical history recording and general and systemic examinations were undertaken. Speculum and

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vaginal examinations were done, cervical smears were taken with cotton swab method as described by Koss (1968). Smears were fixed in 50:50 ether alcohol mixture for a minimum of 15 minutes and then stained by Papanicolaou stain (Papanicolaou, 1942).

Out of 125 cases of cervical erosion in non-pregnant women only 50 cases were coupled with cervical biopsy. The cytological criteria used for diagnosis of normal and abnormal smears were that of W.H.O. (1973). Histological lesions were diagnosed according to the criteria of Novak (1967).

Observations

Cytology smears of 125 cases of cervical erosion in non-pregnant women were analysed. In 75 cases only cytology was done, whereas in 50 cases biopsies were also done. Out of 50 cases, in 17 cases histopathologically cervical epithelium was not observed, therefore histopathological correlation was possible only in 33 cases.

Cervical erosion was common in the age group 26 to 40 years. Peak (27.2%) was observed in 31 to 35 years age group.

Cervical erosion was frequent in multiparous women. Maximum cases (28.8%) belonged to the group of women having history of 3 full term normal deliveries. In the majority of cases (73.6%) there was no history of menstrual abnormalities. Incidence of clinical varieties of cervical erosion is shown in Table I.

Leucorrhoea alone was found in 27.2% and leucorrhoea + backache in 45.6%

Intermittent bleeding was found in 19.2% of the cases.

Cytologically all smears except 6 showed inflammation (Figs. 1, 2, 3). Chronic cervicitis was observed in 41.6% of the cases, whereas 50.2% cases showed dysplasia (Table II, III). In situ carcinoma was observed in 2.4% cases (Fig. 4). Only 1 case revealed invasive carcinoma.

TABLE II
Cytological Diagnosis in 125 Cases of Cervical Erosion

Cytological diagnosis	No. of cases	Percentage
1. Chronic cervicitis	52	41.6
2. Inflammation with dysplasia		
(a) Grade I	46	36.8
(b) Grade II	13	10.2
(c) Grade III	4	3.2
3. In Situ carcinoma	3	2.4
4. Invasive carcinoma	1	0.8
5. Non-inflammatory non-dysplastic simple erosion	6	4.8

TABLE III
Histological Diagnosis in 50 Cases of Cervical Erosion

Histology	No. of cases	Percentage
1. Epithelium not observed	17	34.0
2. Chronic cervicitis	7	14.0
3. Dysplasia grade I	19	38.0
4. Dysplasia grade II	2	4.0
5. Dysplasia grade III	2	4.0
6. In situ carcinoma	2	4.0
7. Invasive carcinoma	1	2.0

TABLE I
Clinical Varieties of Cervical Erosion

Small		Moderate		Large		Total
No. of cases	Percentage	No. of cases	Percentage	No. of cases	Percentage	
32	25.6	69	55.2	24	19.2	125

invasive carcinoma belonged to multiparous women. This once again emphasizes the importance of multiparity in contributing to pathogenesis of dysplasia and other premalignant or malignant lesions of cervix.

There is no specific cytological picture diagnostic of erosion. However, erosion may be suspected if large numbers of endocervical cells are recovered from scraping taken direct from erosion. The other findings consist of mainly an overall pattern of inflammation (Watchel, 1969). The greatest value of cytology in the study of erosion is to assess the presence of premalignant or malignant changes in the cervical epithelium. Cytological findings of cervical erosion by other authors are shown in Table VI.

Dixit and Virkar (1971) have not reported even a single case of carcinoma in situ or invasive carcinoma in their series. However, Joshi (1972) has reported carcinoma in situ in 2% cases of cervical erosion and invasive carcinoma in 1% of cervical erosion in her series. Chakravarty *et al* (1974) have reported 73 cases of dysplasia from a total of 1949 cases of cervical erosion; they encountered however only 7 cases of carcinoma in situ and 24 cases of invasive carcinoma in their series. Domadia and Vaidya (1974) encountered 39 cases of dysplasia, 34 cases of suspicious malignancy and 20 cases positive for malignancy in a total of 463 cases. Kroll (1970) has reported an incidence of 3.7% malignancy in cervical erosion.

In most of the cases cytological finding correlated with histological findings. Disparity was however observed in 2 cases of inflammation and 1 case of moderate dysplasia. Two cases cytologically belonging to inflammatory group showed mild dysplasia from histological studies and one case of moderate dysplasia diagnosed cyto-

logically showed on histological examination only mild dysplasia. The only possible explanation for such a lack of correlation seems to be the error of sampling which can occur in cytological smear as well as in removal of tissue for biopsy. Collecting material for cytology while visualizing directly the erosion of cervix may avoid sampling error. Similarly, choice of tissue removed for biopsy may not necessarily show the severest cytological change possible in histological slide. A cone biopsy may be a solution to this and must therefore be advocated whenever possible. An alternative solution to this problem may be employing colposcopy for obtaining biopsy material so as to enhance the accuracy of cytological correlation (Odell *et al*, 1968; Ortiz *et al*, 1969).

According to Chandra (1971) severe dysplasia may be mistaken as carcinoma in situ, however, in the present series cytological correlation for the cases of severe dysplasia, carcinoma in situ and invasive carcinoma was 100%, nevertheless, the number of cases in this group was rather small. Thus cytology can help to predict the histopathological changes in the cervix and play its more useful role during follow up of cases under necessary treatment. Cytology also helps in selecting cases for special biopsies, especially for cone biopsy.

Summary

One hundred and twenty-five cases of cervical erosion in non-pregnant women were analysed for incidence of dysplasia, carcinoma in situ and invasive carcinoma, and for correlation with clinical findings. Leucorrhoea and backache were the commonest presenting symptoms (72.8% of cases). Highest incidence was found in age group 31-35 years. Erosion was more common in multiparous women especially having 3 or more deliveries. Incidence of

severe dysplasia, carcinoma in situ and invasive carcinoma was 3.2%, 2.4% and 0.8% respectively. In majority of cases correlation was possible between cytology and histopathology. In minor group of cases where correlation may be lacking, repeated cytological examination and use of special biopsy procedures such as cone biopsy and use of colposcopy to obtain the biopsy material should obtain total correlation between the two.

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See Figs. on Art Paper III-IV