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VAGINAL AND CERVICAL CYTOLOGY IN CERVICAL EVERSION (CERVICAL EROSION) AND SUSPICIOUS CERVIX

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INTRODUCTION

Exfoliative cytology plays an important role in the diagnosis of cervical malignancy, being of particular value in the detection of pre-invasive lesions of the cervix (Soost et al., 1981).

The incidence of cervical intraepithelial neoplasia is increased among the chronically infected lacerated cervixes with benign lesions like polypi and cervices that bleed on touch, such cervices are known as unhealthy looking or suspicious cervices.

The frequent occurrence of specific infections like viral, monilial and trichomonal infections are initially related to such neoplastic lesions, if cases diagnosed by cytopathological examination as intraepithelial neoplasia are

submitted for colposcopic examination and colposcopic guided biopsy to ensure the diagnosis, this will change the prognosis as far as the future outlook of the patient is concerned (Jones, 1983) .

The aim of this work is to carryout a cytodiagnostic screening for women attending the gynaecologic outpatient clinic of Mansoura University Hospital and suffering from cervical erosions (eversions) or suspicious cervices for detection of cellular abnormalities in the form of dysplasias and for early diagnosis of malignancy .

MATERIAL AND METHODS

This work was carried out on 200 non pregnant women with ages ranges from 18 up to 48 years classified as

follows

1. 120 women diagnosed as cervical erosion.

2. 30 women diagnosed as suspicious cervix.

3. 50 women with apparently healthy cervixes as control.

All were cases attending Mansoura University Hospital at Gynaecology clinic. For every patient a full history was recorded together with general, abdominal, and pelvic examination.

Vaginal and cervical smears were taken with the following precautions :

1. The patient should not have any medication prior to smear taking.

2. The patient should refrain from sexual intercourse and vaginal douching for at least 24 hours before smear taking.

3. No lubricants were employed on any instrument used to obtain the specimen since they interfere with staining reaction.

4. The glass slides and other instruments used in collecting the specimen were dry and clean.

The first smear was prepared from the posterior vaginal pool, the second smear was obtained by scraping the ectocervix and the squamo-columnar junction. Each collected cellular specimen was spread immediately over the slides in a thin film. the prepared wet smears were fixed immediately in 95% ethyl alcohol, in order to avoid its dryness in the air. The slides were left in the fixative for at least 15-30 minutes, and were put back to back to prevent the cells from being dislodged from one slide and reach another one .

All the smears were stained according to the standard papanicolaou stain (Papanicolaou, 1942). The slides were first examined by the low power to obtain a general impression about the smear. Then the abnormal cells were examined in details by the high power. The various fields of the slides were examined in a transverse or vertical manner, with overlapping of their edges to avoid missing of any abnormal cells.

Each vaginal or cervical smear was examined for :

1. The back ground of the smear whether clean or dirty by bacteria, blood, or cellular debris.

2. The normal epithelial and non

epithelial cells which were present in the normal vaginal cytology.

3. Any abnormal cells (dyskaryotic or malignant cells).

Only the well preserved cells with intact cytoplasm and nuclei were examined. These were examined as regards their type, (squamous or glandular), number and cellular arrangement. The cells were examined for irregularity in size, shape. Any abnormal shape as tadpole or fibre cells and increased nucleocytoplasmic ratio were noticed. The nuclei were looked for irregularity in size, shape and hyperchromasia. Angulation and multinucleation of the nuclei are important features. Cytoplasmic criteria were noticed as regards the staining reaction, amount and vacuolization.

Each slide took about 15-30 minutes to be examined. The smear were classified according to Spriggs et al. (1978).

RESULTS

The parity distribution and the age among the study group were shown in Table (1) and (2). From which we conclude that 94 women (47%) are in between 20-30 years.

Table (5,6) showed that the highest incidence of cervical erosion was in the group aged 20-30 years with the mean age (28.5 ± 0.2 years) while in cases of suspicious cervix was in the group aged more than 40 years with the mean age (42.1 ± 0.3 years). The relation between the cytological findings and the local examination was shown in table (3) where 79 women (66%) with cervical erosions showed normal cytological findings, 27 women (22.5%) mild dysplasia, 13 women (10.7%) moderate dysplasia and only one women (0.8%) showed severe dysplasia.

The relationship between the complaint and the local examination was shown in table (4) from which we can find that 51% of the cervical erosion group were presented by excessive vaginal discharge, 57% of the suspicious cervix by contact bleeding, while 50% of the control group were presented by different complaints.

The sensitivity and specificity of the clinical examination as ascreening test for detection of dysplasia and neoplasia compared to cytological examination was shown in table (7).

DISCUSSION

Exfoliative cytology is generally ac-

also Ahmed (1984) found that the majority of women with CIN and invasive carcinoma were grand multipara. These results were possibly due to repeated cervical tears during labour, chronic specific and non-specific cervicitis, early age of marriage and long duration of sexual activity and more exposure to spermatozoa which may be the predisposing factors of cervical dysplasia and neoplasia (Ory et al., 1975).

The relationship between cytological findings and local examination showed that 79 women (66%) with cervical erosions revealed normal cytological findings, 27 women (22.5%) mild dysplasia, 13 women (10.7%) moderate dysplasia and only one woman (0.8%) showed severe dysplasia. The total incidence of dysplasia among cases with cervical erosions in our study is high (34%). Other studies varies from 1.2% (McKay, 1959) to 8% (Mahgoub et al., 1971).

However, other studies showed a higher incidence of CIN (60.9%) among general population in a screening program at Zagazig General Hospital (Gobran, 1982). This can be explained by the fact that 61 women (51%) in our study showed infections which was manifested by discharge results go parallel with this finding.

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and showed marked leucocytosis on cytological examination of their smears. The importance of chronic inflammation as a predisposing factor to dysplasia is stated by many authors (Kuafman and Ober, 1970; Naib, 1976 and Koss, 1979). The incidence of severe dysplasia in cervical erosion group is 0.8% which is lower than that reported by many authors. Bibbo and his Co-workers (1971) 1.71%; Sadeghi et al. (1984) 2.3%, Soat (1981) 2.9% Baram (1985) 1.7% .

The low incidence of severe dysplasia among the study cases of cervical erosion could be explained on the basis of different social, religious and other epidemiologic factors as parity, and lower incidence of extramarital sexual relationship. Also the religious habit of male circumcision and the lower incidence of prostitution and venereal diseases. It was found that the incidence of moderate and severe dysplasia among the "suspicious cervix" groups (41%) was higher and statistically significant compared to that of cervical erosion group. This higher incidence may be explained on the basis of severe infection found in cases, of suspicious cervixes and proved cytologically by marked leucocytosis .

However, in a cytological study of suspicious cervix at Zagazig showed a lower incidence of dysplasia (mild degree (16%), moderate degree (9.3%) and severe degree (4%). (Ahmed, 1984). While Lutz et al., (1977) who studied 230 cases of suspicious cervix reported that 80 cases (34.8%) were diagnosed as intraepithelial neoplasia.

It is also evident that 3 cases of invasive carcinoma were detected among the group of suspicious cervix and proved by histopathological examination. The incidence of dysplasia among the control group was Zero. This may be attributed to the small number of cases in our study. The sensitivity and specificity of the clinical examination as a screening test for detection of dysplasia and neoplasia of the cervix uteri compared to the cytological examination as a reference test showed that the sensitivity was 29.31% this means that clinical examination alone is not a sufficient test.

The results of this study confirm the importance of cytological screening to detect premalignant lesions which when treated will diminish the incidence of invasive carcinoma of the cervix uteri.

SUMMARY

This study was carried out on 200 non-pregnant women, with ages ranging from 18 up to 48 years. They attended the gynaecologic outpatient clinic, at Mansoura University Hospital. They includes 150 women with cervical eversion and suspicious cervix and 50 women with clinically healthy cervixes as controls. A posterior vaginal pool and cervical scrapes smears were obtained from each woman using the plastic spatula and stained by Papanicolaou stain. There was an increased incidence of dysplasia among parous women than nulliparous women. Also we found 3 cases of invasive carcinoma of the cervix among the suspicious cervix group and this was proved histopathologically, the chief complaint of cases with cervical erosion was excessive vaginal discharge (51%) while that of cases with suspicious cervix was contact bleeding (57%). the incidence of dysplasia among cervical erosion groups was 34% (41 out of 120 cases), while the incidence in the suspicious cervix group 52% (14 out of 27 cases). No cases of dysplasia had been found in the control group. We can recommend that each woman during her reproductive period must be checked up by routine cervico-vaginal cytology every 6 months to detect an early lesion which could be easily dealt with as early as possible and abort it before it grows up.

Table (1) : Parity distribution of the study group.

Parity	No. of cases	%
P0	19	9.5 %
- P2	70	35.0 %
- P4	61	30.5 %
P5 +	50	25.0 %
Total	200	100 %

Table (2) : Age distribution of the study group

Parity	No. of cases	%
- 20 year	8	4 %
- 30 year	94	47 %
- 40 year	58	29 %
40 + year	40	20 %
Total	200	100 %

Table (3) : Relationship between cytological findings and local examination.

Local Examination	Cytological findings		Normal		Mild Dysplasia		Moderate and severe dysplasia		Total
	No.	%	No.	%	No.	%	No.	%	
Cervical erosion.	79	66	27	22.5	14	11.5			120
Suspicious cervix	13	48	3	11.0	11	41.0			27
Total	92	63	30	20.0	25	17.0			147

$\chi^2 = 11.4$ significant $P < 0.01$.

* There is no dysplasia among the control group.

* There is evident increase in the incidence of dysplasia in "Suspicious cervix" group.

* Three cases were diagnosed clinically as suspicious cervixes were invasive carcinoma.

$\chi^2 = 63.9$ Significant $P < 0.01$.

erosion and the parity, age and complaint.

* One case was diagnosed as severe dysplasia. Vol. 20, No. 3 & 4 July, & Oct., 1990

Table (6) : Relationship between the cytological findings in cases of suspicious cervix and the parity, age and complaint.

Cytological findings	Normal	Mild dysplasia	Moderate and severe dysplasia
<u>Parity :</u>			
PO	-	-	-
- P2	2	1	-
- P4	8	1	3
P5 +	3	1	8
<u>Age in years :</u>			
- 20 Y	-	-	-
- 30 Y	3	1	1
- 40 Y	4	1	1
40 Y+	6	1	9
<u>Complaint :</u>			
Bleeding.	4	2	8
Discharge.	7	1	2
Pain.	1	-	1
Infertility	-	-	-
Others.	1	-	-

* Three cases were diagnosed as invasive carcinoma and were proved by histopathological examination.

Table (7) : Sensitivity and specificity tests of clinical examination as a screening test for detection of dysplasia.

Clinical Examination	Cytological findings	Normal		Dysplasia		Total
		No.	%	No.	%	
Cervical erosion.		79	66	41	34	120
Suspicious cervix		13	43	17	57	30
Total		92	61	58	39	150

Sensitivity = 29.31 %.

Specificity = 85.87 %.

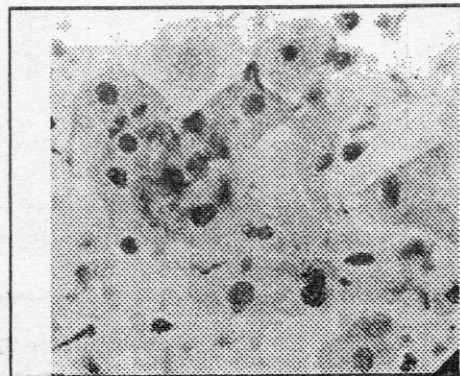


Fig. (1) : Normal intermediate cells. This group of cells shows the vesicular nuclei and transparent, abundant cytoplasm. Many of the cells show folding of the cytoplasm (Pap. stain X 400) .

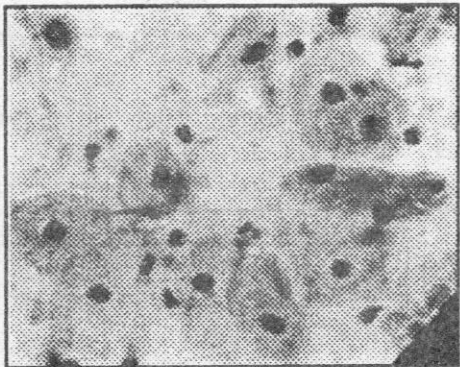


Fig. (2) : Normal intermediate and superficial cells. The superficial cells are large, polyhedral with abundant pyknotic nuclei and abundant transparent cytoplasm (P.p. Stain X 400) .

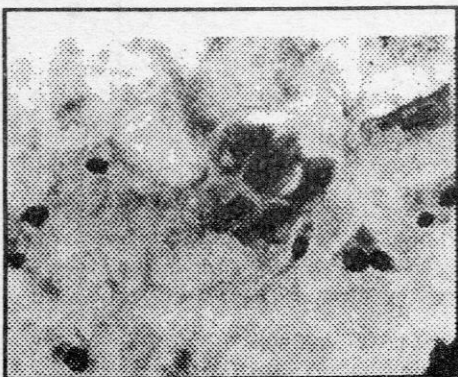


Fig. (3) : Group of cells shows mild dysplasia with moderate hyperchromasia of the nucleus, however the cytoplasm is abundant (Pap. stain X 400).

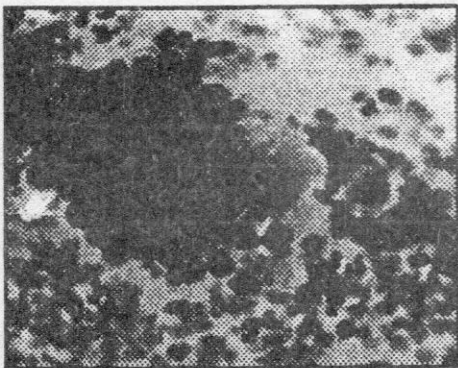


Fig. (4) : Moderate dysplasia with hyperchromatic nuclei and the nucleocytoplasmic ratio is altered, but the cytoplasmic width exceeds the diameter of the nucleus (Pap. stain X 400).

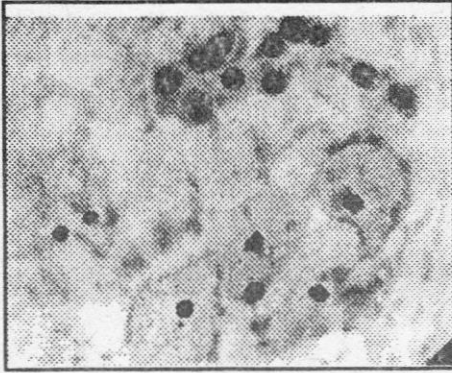
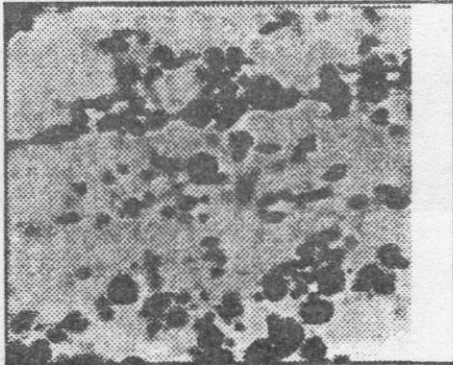


Fig. (5) Sever dysplasia. The nuclei are large in proportion to the overall cell size. Few have narrow rim of cytoplasm around them. The chromatin is hyperchromatic and irregularly distrib-

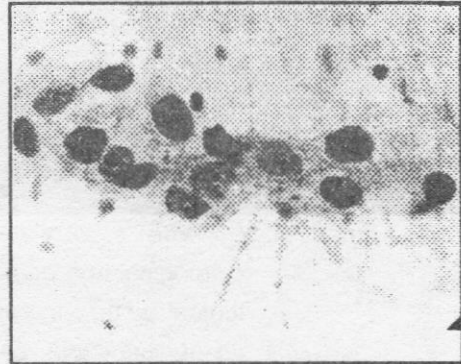


uted (Pap. stain X 400).

Fig. (6) : Carcinoma in situ showing groups of small anaplastic cells with aggregated nuclear chromatin and ill defined cell membranes. Most of the nuclei are denuded (Pap. stain X 400).



Fig. (7) : Invasive squamous cell carcinoma of the cervix, against a background of blood and cellular debris. Some of the malignant cells contain elongated nuclei (Fiber cells). (Pap. Stain X



400) .

Fig. (8) : Well preserved adenocarcinoma cells with large nuclei, coarse chromatin, and multiple nucleoli. Cytoplasm is finely vacuolated with indefinite borders (Pap. stain X 400) .

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Fig. (9) : Adenocarcinoma of the cervix. The pseudoacinar arrangement of the cells, the variation in size and shape of the nuclei and their peripheral location in the cell suggest the diagnosis of adenocarcinoma (Pap. stain X 400) .

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وأخذ عينات بأثر رجعي من أجل تأكيد التشخيص وتحديد العلاج المناسب.
المسكن للحالات السرطانية. ويمكن إجراء أبحاث أخرى للمسحات البعيدة قبل المظهر المبكر للمهبل
ومن هذا يتضح أهمية الفحص الخلوي للمسحات البعيدة للرحم وعنق الرحم للمهبل
للمجموعة المتابعة.

بالنسبة لجزء كبير من حالاتها تظهر حالات (ولم تظهر حالات ٨٧ من ١٤) في المجموعة المتابعة (٥٢ ٪)
بالنسبة لمن. نسبة حدوث التغيرات الخلوية في المجموعة المتابعة (١٦ ٪) في ٨٠ من ١٢٠
بالنسبة للفحص التشخيصي تأكيد التشخيص الخلوي في ٨٠ من ١٢٠ حالات عنق الرحم بين
ظهور حالات مسحات لكلى مسحات متقدمة وأخرى من عنق الرحم وصفت
أخذت مسحات لكلى مسحات متقدمة وأخرى من عنق الرحم وصفت

٣- ٥٠ حالة سليمة للمتابعة (مجموعة متابعة) .

٢- ٣٠ حالة اشتباه وجود سرطان عنق الرحم.

١- ١٢٠ حالة تعافى عنق الرحم.

تمت هذه الدراسة على ٢٠٠٠ سيدة قسمت كالتالي :

٥٠. يعنى مسحات حاله ٥٠ امام محمد عامر د. مصطفى الزيات

الرحم واحتمال سرطان عنق الرحم

الدراسة الخلوية لغالب المهبل وعنق الرحم حالات تعافى عنق

المرضى المعنى