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ORIGINAL RESEARH

Epidemiologic Evaluation of Cervical Smear Findings in West Bank/ Palestine: A Retrospective Study

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تقـييم وبـائي لموجـودات مسـحات عنق الرحـم في الضفة الغربية/ فلسـطين: دراسـة استرجـاعية

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الملخص: تستخدم فحوصات عنق الرحم بشكل واسع كاختبار مسحي عند النساء اللواتي لا يشكين أية أعراض وكذلك لمتابعة المرضى اللواتي تم تشخيص وجود سرطان عنق الرحم لديهن. **الهـدف** مـن الدراسة كان لـتقييم الموجـودات المرضيـة في مسحات عنق الرحم في الضفـة الغربيـة وتحديد الحاجـة لإجراء برامـج الكشف المسحي لعنق الرحم في فلسطين.

الكلمة المفتاحية: مسحة عنـق الرحم، الدراسة الخلوية لآفات عنـق الرحم، فلسطين.

ABSTRACT: Background: Pap test is widely used both as a screening test in asymptomatic population and in the follow-up of patients with cervical carcinomas. **The objective** of the study was to evaluate cervical smear findings in the West Bank and to assess the need for cervical screening program in Palestine. **Methods:** This retrospective study was performed at two private laboratories in Nablus and Ramallah, in the West Bank/ Palestine. Cervical smears over a period of 5 years (2003-2007) taken from 239 women referred either for a check-up or with vaginal discharge were reviewed at two Pathology laboratories in the West Bank. All smears were fixed with 96% alcohol, stained with Papanicolaou stain and screened microscopically by a pathologist. Bethesda system definition of morphology was used. **Results:** Of the 239 smears, the majority of cases (59%) showed non- specific inflammation while cervical dysplastic changes were uncommon; 11 cases (4.60%) were classified as Atypical Squamous Cells of Undetermined Significance (ASCUS), 1 case (0.42%) was Low-grade Squamous Intraepithelial Lesion (LGSIL), however High-grade Squamous

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Intraepithelial Lesion (HGSIL) and cervical carcinoma were not found. **Conclusion:** Our findings are in agreement with Jordanian study which reveals low incidence of cervical precursor lesions, there aggressive screening program is not a priority or recommended in Palestine at this time. We should concentrate on education and awareness of Palestinian women to risk factors for cervical cancer.

Keywords: Pap smear, Cervical Cytology, Palestine

INTRODUCTION:

Pap Tests can exhibit a wide variety of nonneoplastic findings that do not increase risk for future development of squamous intraepithelial lesions (SILs) or carcinoma.[1] In some instances, these relate to infectious diseases that may be symptomatic and are amenable to specific therapy.[2] Some are iatrogenic, and still others are associated with disease processes that primarily affect other tissues (Pemphigus or Behcet's disease.[3] Several alterations are important to recognize with confidence, so that a false positive interpretation of SIL or malignancy can be avoided.[4]

The broadest and most successful application of clinical cytology has been in the diagnosis of invasive carcinoma of the uterine cervix and precursor lesion through this technique.[5] Today, Pap test is widely used both as a screening test in asymptomatic population and in the follow–up of patients with cervical carcinomas treated by either conservative surgery or irradiation.[6] Mass cytologic screening has shifted the presentation of cervical carcinoma from the clinical to the preclinical stage. This is an established fact, the statement that the incidence of cervical carcinoma was already declining prior to the introduction of this diagnostic method notwithstanding.[7]

Globally, cancer of the cervix is the second most common cancer in women after breast cancer, and is the most common cancer of women in developing countries, where it is estimated that only about 5% of women have been screened for the disease with Pap smear, compared to 40-50% in developed countries. In Palestine, limited information is available on the incidence of cervical cancer in the West Bank and Gaza strip, and the mortality resulting from it. One review shows that the incidence of cervical cancer for 1991-1992 in the West Bank and Gaza was 2.3/ 100.000 females.[8]

The aim of this study is to evaluate cervical smear findings in the West Bank and to assess the need for cervical screening program in Palestine.

MATERIALS AND METHODS:

This is a retrospective study performed at two private laboratories in the West Bank/ Palestine. These pathology labs follow Bethesda system 2001 for reporting pap smear results which adopts descriptive diagnosis.

The Bethesda system 2001 is the preferred diagnostic language for pap test reporting in the United States.[9]

The current categories of this system include: ASCUS (A typical Squamous Cells of Unknown Significance), ASC-H (A typical squamous cannot exclude high-grade squamous intraepithelial lesion), LGSIL (Low-grade squamous intraepithelial lesion), and HGSIL (High-grade squamous intraepithelial lesion).[9]

After obtaining approval from directors of both pathology labs (Medicare-Medipal and Al-Isra`) in the West Bank, cervical smear results of 239 women obtained over 5 years (2003-2007) were reviewed. Pap smear was done either as part

of a check-up or as part of work up for vaginal discharge. All files for women who were referred to the two pathology labs were reviewed. Most of their tests are usually referred to the lab by gynecologist in private practice. All pap tests at their labs are read by certified pathologist; results are typed by a secretary and signed after being reviewed by the pathologist. Reports are usually filed electronically and can be reviewed any time.

In this study, we categorized our results in accordance to above mentioned Bethesda system and also we have used clinico-pathological diagnostic interpretation of the results.

RESULTS:

In general, our results show common nonspecific inflammation. Table 1 shows that 141 cases (59%) of pap smear results were nonspecific inflammation, normal pap smear was the second frequent type (29.7), other specific types of inflammation (infection) like actinomycosis, candida were infrequent; and finally there were some results showing atrophy (3.7%). When all abnormal morphology results were categorized according to Bethesda system (Table 2), it was found that majority of abnormal morphology reported pap results were of ASCUS type (11 cases, 4.6%). Only one case (0.4%) was of LGSIL, and there were no cases of HGSIL or invasive squamous cell carcinoma.

DISCUSSION:

A satisfactory smear should show well-preserved and well-visualized squamous cells covering at least one third of the area of regular glass slide surface. If fewer than these are seen due to paucity of cells, poor fixation, air-drying artifact, thick smearing, or covering of blood, inflammatory exudates or other contaminants, the smear is considered unsatisfactory.[10]

In our study, only one out of 239 smears (0.42%) was considered unsatisfactory specimen due to scant squamous cellularity which correlates with the percent of unsatisfactory specimens on the neighboring countries and worldwide.[11]

Normal Pap smear (Negative for malignant cells) category includes those in which cells showing reactive changes are present, and also those in which micro-organisms are identified.

The majority of cases (59%) showed nonspecific inflammation while (29.7%) showed normal cytological findings. The percent of actinomycosis with Candida albicans was very low (0.42%, each). In comparison with the incidence of Candida albicans in the pap smears done in Jordan which was (7.60%),[12] the incidence is much lower in our study may be because of small sample size.

Diagnosis	Morphology	No.	%
1. Suboptimal	Unsatisfactory specimen due to scant squamous cellularity	1	0.42%
2. Normal pap smear	Cells large, well differentiated, small N/C ratio	71	29.7%
3. Non-specific inflammation	Inflammatory cells mainly neutrophils	141	59%
4. Actinomycosis	Clumps of filamentous organisms, showing irregular wooly appearance	1	0.42%
5. Candida albicans	Pseudohyphae formed by elongated budding yeast	1	0.42%
6. Parabasal atrophy	Parabasal cells with pyknotic degenerated cells	9	3.77%
7. Endometrial cells	Cells occur in small clusters in women ≥ 40	3	1.27%

Table 1: Percent of Morphology and Diagnosis of Pap Smears in the West Bank Between 2003-2007

Diagnosis	Morphology	No.	%
1. Atypical squamous cells of undetermined significance (ASCUS)	Enlarged hyperchromatic nucleus versus binucleation	11	4.6%
2. Low-grade squamous intraepithelial lesion (LSIL)	Mild dysplasia, CIN I	1	0.42%
3. High-grade squamous intraepithelial lesion (HSIL)	Moderate dysplasia, CIN II Severe dysplasia, CIN III	0	0.00%
4. Invasion squamous cell carcinoma	Undifferentiated cells, high N/C ratio, multinucleated hyperchromatic nuclei	0	0.00%

Table 2: Percent of Abnormal Morphology of Pap Smears in the West Bank Between 2003-2007

Most cases taken in our study were from young and middle-aged women and this explains the low incidence of parabasal atrophy (3.77%), a finding that correlates with the incidence of this category in the neighboring countries such as Jordan, Syria and Lebanon.[12]

The percent of the presence of endometrial cells in pap smears was (1.27%) which also nearly equals the percent worldwide.[12] Although infrequent, this finding should aware the physicican of possible endometrial hyperplasia which requires doing endometrial curettage.[13]

Cervical dyspalstic changes were uncommon in our study. Only one case (0.42%) showed low-grade squamous intraepithelial lesion (LGSIL) while no cases showed high-grade squamous intraepithelial lesion or invasive carcinoma.

This very low incidence compared to Western countries can be explained by the low risk factor for HPV because of religious and cultural beliefs for sexual practice.

CONCLUSION:

Given the fact of a very low incidence of LGSIL or HGSIL and the absence of cervical cancer in our study, a national cervical cancer aggressive screening program is not recommended in Palestine at this time. A cervical screening program would not be a cost effective in our population. We should concentrate on education and awareness of Palestinian women to risk factors for cervical cancer.

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