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ORIGINAL ARTICLE

THE SPECTRUM OF CERVICAL CYTOLOGICAL ABNORMALITIES IN KUWAIT USING THE REVISED 2001 BETHESDA SYSTEM

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ABSTRACT: Cervical carcinoma is one of the most common female malignancies in developing countries. There are few reports describing the profile of abnormal Pap smears from countries in the Middle East. The pattern of cervical intraepithelial lesions and carcinoma detected in Pap smears of women in Kuwait is reported. A total of 12800 cervical smears reported in the department of Pathology, Maternity Hospital, and ministry of Health were studied from January 2010 to December 2012. There were 523(4.12%) abnormal Pap smears. They were further classified as Atypical Squamous cells of undetermined significance (ASCUS) (118 cases, 0.93%), Atypical Squamous cells cannot exclude a HSIL (ASC-H) (24 cases, 0.19%), Low Grade Squamous Intraepithelial Lesion (LSIL) (172 cases, 1.35%), High Grade Squamous Intraepithelial Lesion (HSIL) (91 cases, 0.72%) Squamous cell carcinoma (21cases, 0.17%) Atypical Glandular Cells (AGC-NOS) (53cases, 0.42%) Atypical Glandular Cells - favor neoplastic (23 cases, 0.18%) Endocervical adenocarcinoma in situ (01 case, 0.01%) Endocervical adenocarcinoma (01 case, 0.01%) Endometrial adenocarcinoma (19 cases, 0.15%). This study reveals the wide range of cervical epithelial cell abnormalities present in the population. The information provided in this study emphasizes the need for a national cervical screening program to estimate the actual magnitude of the problem, identify 'at risk 'women and decrease the mortality from cervical cancer.

KEYWORDS: Adenocarcinoma; Cervical Cytology; Pap smears; Squamous cell carcinoma.

INTRODUCTION: Cervical carcinoma is one of the most common female malignancies with high mortality rates in developing countries.[1] The histogenesis and progression of cervical carcinoma is well documented. The efficacy of Pap smear in cervical screening was established following the introduction of vaginal cytology by George N Papanicolaou in 1928 and the Ayer spatula by J Ernest Ayer in 1947.[2] The impact of cervical cytology screening has been demonstrated by steadily reduced rates of incidence and mortality due to invasive cervical cancer in developed countries over the last decades.

In the past 60 years, the mortality form cervical cancer has decreased 70-80% in developed countries. The incidence has decreased from 32/100 000 in 1940's to 8.3/100 000 in 1980. The Pap smear is a simple, non-invasive and cost effective method for the diagnosis of cervical precancerous lesions.[1] There are few reports describing the profile of abnormal Pap smears from countries in the Middle East. Cervical intraepithelial lesions and invasive cervical carcinoma are less common in the Kingdom of Saudi Arabia as compared to western countries.[3]

The incidence of abnormal Pap smears in Saudi Arabia was 5%.[4] In the United Kingdom, the age standardized incidence and mortality rates for cervical cancer were 9 and 3.7 per 100, 000 respectively.[5] Cervical intraepithelial lesions and invasive cervical carcinoma are less common in the

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Kingdom of Saudi Arabia as compared to western countries.[3] The purpose of this study is to document the pattern of abnormal Pap smears prevalent in Kuwait using the revised 2001 Bethesda system.

MATERIALS AND METHODS: A total of 12800 cervical smears reported at the Maternity Hospital, Ministry of Health, and Kuwait from January 2010 to December 2012 were studied and classified according to the revised 2001 Bethesda system. The samples were collected and processed using the liquid based cytology – The Thinprep Pap test.

RESULTS: A total of 12800 cervical smears reported in the department of Pathology, Maternity Hospital, and Ministry of Health were studied from January 2010 to December 2012. The mean age of the patients were 39 years (age range from 22-56 years). Cytological report of the smear adequacy are listed in Table 1. The cytological findings are presented in Table 2. There were 523(4.12%) abnormal Pap smears. They were further classified as (Figure 1 to 7)) Atypical Squamous cells of undetermined significance (ASCUS) (n=118/0.93%).

Atypical Squamous cells cannot exclude a HSIL (ASC-H) (n=24/0.19%), Low Grade Squamous Intraepithelial Lesion (LSIL) (n=172/1.35%), High Grade Squamous Intraepithelial Lesion (HSIL) (n=91/17.3%) Squamous cell carcinoma (n=21/0.17%) Atypical Glandular Cells (AGC-NOS) (n=53/0.42%) Atypical Glandular Cells - favor neoplastic (n=23/0.18%) Endocervical adenocarcinoma in situ (n=01/ 0.01%) Endocervical adenocarcinoma (n=01/0.01%) Endometrial adenocarcinoma (n=19/0.15%).

Total number of cases	12800	100%
Satisfactory	12698	99.2%
Unsatisfactory	102	0.8%

Table 1: Cytological report of the smear adequacy

Diagnosis	Number of cases	Percentage
NILM	12175	95.88
ASCUS	118	0.93
ASC-H	24	0.19
LSIL	172	1.36
HSIL	91	0.72
SCC	21	0.17
AGC- NOS	53	0.43
AGC Favor neoplastic	23	0.18
Endocervical Adenocarcinoma in situ	01	0.01
Endocervical Adenocarcinoma	01	0.01
Endometrial Adenocarcinoma	19	0.15

Table 2: Cytological findings of 12698 cases

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DISCUSSION: There are several National screening programs focusing on global cervical cancer screening in developed countries which has reduced the incidence of cervical cancer. The highest incidence rates of cervical cancer is now observed in sub – Saharan Africa, Melanesia, Latin America, the Caribbean, south central Asia and Southeast Asia. Studies from countries such as Turkey have reported low incidence rates of 4.5/100 000 population.

Very low rates are also observed in China (6.8/100 000) and Western Asia (5.8/100 000).[1] Cervical cancer is more common among women who do not have regular Pap smear screening. Squamous cell carcinoma is seen 3.9 and 13 times more in a woman screened once in three years and 10 years respectively compared with those screened annually. In developed countries such as USA, 85% of women had at least one Pap test through their lifetime but this rate is only 5% in developing countries.[6]

The percentage of cytological abnormalities [4.12%] seen in the present study is comparable to that observed by Abdullah in Saudi Arabia with 5%.[4] However Jamal reported lower prevalence rates of 1.66% in Saudi Arabia.[3] The entire spectrum of Squamous intraepithelial lesions of the cervix was observed in the present study.

The most common abnormality detected was Low Grade Squamous Intraepithelial Lesion. Endocervical adenocarcinoma in situ and Invasive adenocarcinoma of the cervix were the least common. Further studies may be required to assess the role of HPV in endocervical adenocarcinomas. The larger number of Endometrial adenocarcinomas as compared to other studies may be due to better detection using Thinprep cytology.

In conclusion, The prevalence of cervical cytological abnormalities in the present study was 4.12%. The present study shows a wider range of cervical epithelial cell abnormalities than others. The results emphasize the need for a well-organized cervical screening program along with reflex HPV testing.

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Figure 1: Low Grade Squamous Intraepithelial Lesion showing the presence of Koilocytes.

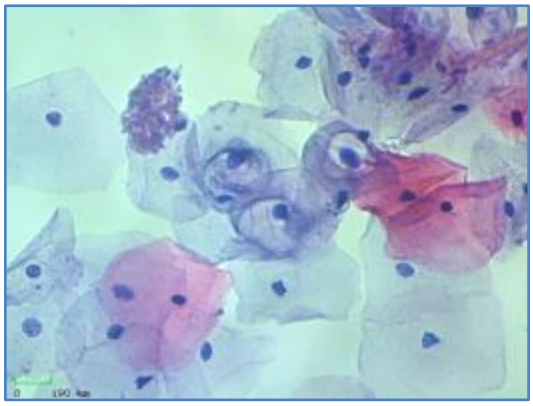

Fig. 1

Figure 2: Atypical Squamous cells of undetermined significance.

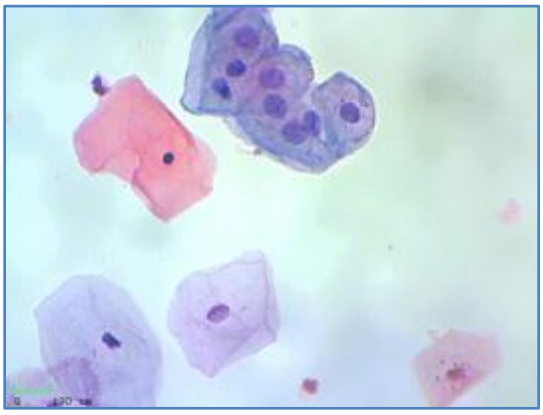

Fig. 2

Figure 3: Low Grade Squamous Intraepithelial Lesion with Dyskeratosis.

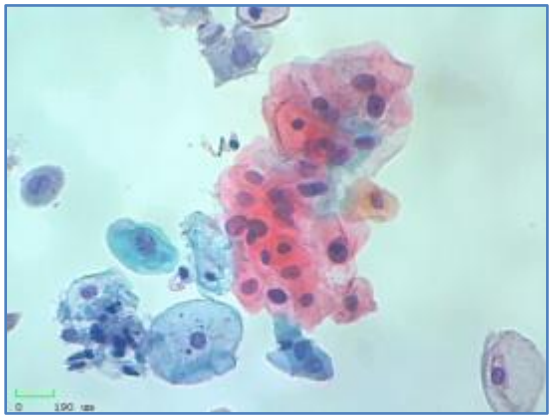

Fig. 3

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Figure 4: High Grade Squamous Intraepithelial Lesion.

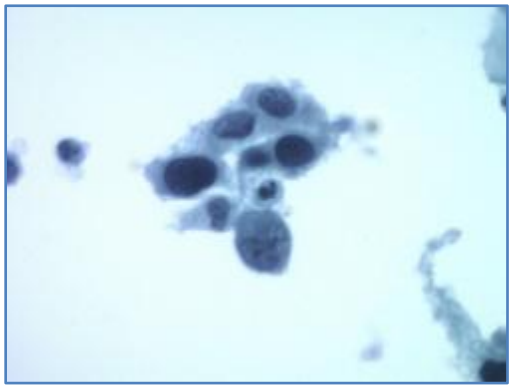

Fig. 4

Figure 5: Squamous cell carcinoma showing tadpole cells.

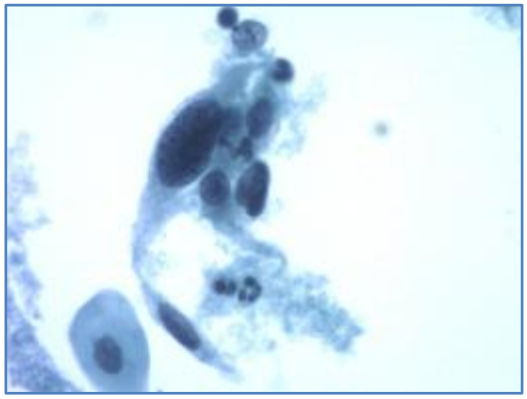

Fig. 5

Figure 6: Endocervical Adenocarcinoma in situ showing bird tailing.

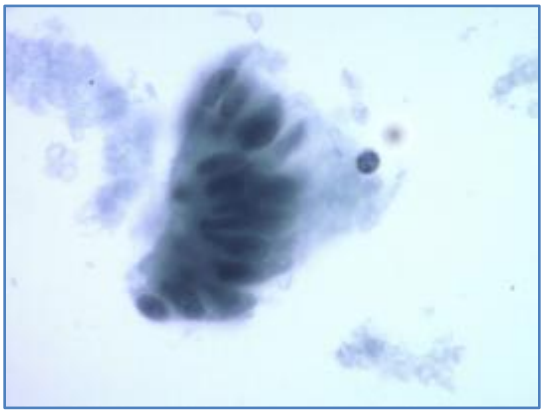

Fig. 6

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Figure 7: Endometrial adenocarcinoma showing intracytoplasmic polymorphs.

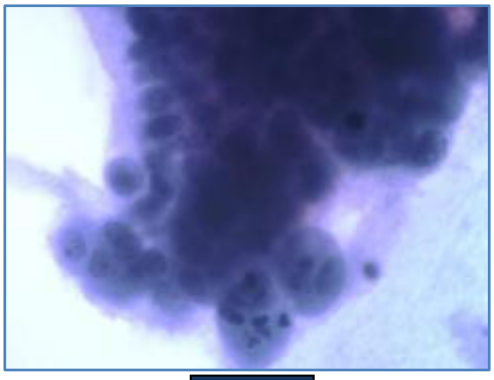

Fig. 7

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