Prevalence of abnormal cervical smears in outpatient gynecology clinic at National Guard Hospital Al-Hasa

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ABSTRACT

Background: Reports describing the frequency and pattern of abnormal Pap smears in developing countries using the revised Bethesda system for Pap smear are few. We studied the pattern of cervical intraepithelial lesions and carcinoma detected in Pap smears of Saudi females in the eastern region of Saudi Arabia using the revised system.

Methods: All cervical Pap smears were done in outpatient department in King Abdulaziz hospital for National Guard, Al-Hasa , from 1 January 2011 to 31 December 2011 were reclassified according to the revised system with age ranges identified.

RESULTS: Of 579 smears, 39 (6.7%) were identified as abnormal and were further classified as atypical squamous cells of undetermined significance (ASC-US) (20 cases, 51.2%), atypical squamous cells of high grade (3 cases, 7.6%), low-grade squamous intraepithelial lesions (LSIL) (9cases, 23%), high-grade squamous intraepithelial lesions (HSIL) (4 cases, 10.2%), glandular cell abnormalities (1 case, 2.5 %) and squamous cell carcinoma in situ(1 case, 2.5%).and one case of endometrioid carcinoma 2.5% .

Conclusion: this study showed a prevalence of cervical epithelial cell abnormalities like others published internationally, the results emphasize the need for a well-organized cervical screening program supplemented by larger national studies on the pattern of cervical abnormalities in this country. The information provided in this study will encourage use of the Pap smear as a screening method for cervical cancer in developing countries.

1. OBJECTIVES

-Detect the prevalence of abnormal smears in gynecology clinic king Abdulaziz hospital, al Ahsa. In the entire patient who attended the OPD over the last year from January 2011 until December 2011.

-Assess the prevalence of cervical intraepithelial lesions (grad I,IIor III) in the local populations.

-Possible assessment of the associated incidence of HPV virus infection if possible.

-Alert to the significance of the local availability of Colposcopy clinic in KAH, its significance and care provided through it to the patient.

-Providing the figure of abnormal smears can help to figure the possible local incidence of cervical cancer in Al-Ahsa city.

2. SIGNIFICANCE OF THE STUDY

Encourage the recent implementation of the colposcopy clinic in KAH Al-Ahsa,

To highlight the offered management for abnormal smears.

Possible implementation of cervical screening program in KAH Al-Ahsa.

Assess the risk factors for abnormal smears and cervical cancer.

Provide health education program in the outpatient department about cancer cervix, incidence and risk factors.

3. INTRODUCTION

Cervical cancer is the most common gynecologic malignancy in the world, and the second most frequently diagnosed cancer in women worldwide after breast cancer. The majority of cases occur in developing countries. (1)

There are numerous risk factors for cervical cancer include early age at first coitus, multiple sexual partners, multiparity, cigarette smoking, immunosuppressed women, lower socioeconomic state, and history of sexually transmitted infections. High-risk HPV types 16, 18, 31, 33, 35, 45, 52, and 58 associated with 95%of squamous cell carcinoma of the cervix. (2,3,4,5,6,7,8)

The progression from high grade lesion to invasive cancer takes approximately 8-12 years, yielding a long preinvasive state with multiple opportunities for detection.

Cervical pap smear is the screening test for cervical cancer and according to (Bethesda system for cytology), potentially pre-malignant fall into three categories:

-Atypical squamous cells(ASC).
-Low grade squamous intraepithelial lesion(LSIL).
-High grade squamous intraepithelial lesion(HSIL). (9)

The Papanicolaou (Pap) smear screening test for cervical cancer was introduced in the United States in 1941, and led to the first systematic effort to detect early cancer. It has been associated with a sustained reduction in cervical cancer incidence and mortality. (10)

It has been estimated that only about 5 percent of women in developing countries have been screened for cervical dysplasia in the past 5 years compared with 40 to 50 percent of women in developed countries. (11)

In the US in 2011 there are estimated to be 12,710 new cases of invasive cervical cancer and 4,290 cancer related death; this represents approximately 1.5% of cancer death in women. approximately half of cervical cancers diagnosed in the US correlate with lack of screening. (12)

In the UK cervical cancer mortality rate is 2.4 per 100,000 females. (13)

Of 274,000 deaths due to cervical cancer each year more than 80% occur in developing countries and this proportion is expected to increase to 95% by 2030.
This discrepancy is largely due to the widespread institution of cervical cancer prevention programs in developed countries, which are essentially non-existent in many developing countries. (14)

Cervical cancer for the Saudi nationals represented 33.5% of all genital cancers. Current estimates indicate that every year, 271 Saudi women are diagnosed with cervical cancer, with 68 (25.1%) cases occurring in women of child-bearing age. Of these 271 women, 143 (52.8%) will die due to the disease, including 27 (39.7%) at the child-bearing age. (15,16)

The age standardized rate per 100,000 for cervical cancers among countries of Gulf Cooperation Council (GCC) was 2.1, 2.3, 4.4 and 7 in Saudi Arabia, Kuwait, Bahrain and Oman, respectively. (17)

An important reason for the sharply higher cervical cancer incidence in developing countries is the lack of effective screening programs aimed at detecting pre-cancerous conditions (dysplasia) and treating them before they progress to invasive cancer.
Based on a recent meta-analysis of process of care failures in the prevention of cervical cancer, poor screening history was the primary factor: 54 percent of invasive cervical cancer patients had inadequate screening histories and 42 percent were never screened. (18)

To introduce screening program in Saudi Arabia, we have to identify the magnitude of the problem; which is the prevalence of abnormal smears and incidence if cervical cancer. Some studies were carried out in this region one in eastern region and the others in western and south-western region. And this study will help us to add further information about this problem. (19,20,21,22,23,24)

4.   METHODS AND MATERIALS

This study is a retrospective study will be conducted in Obstetric and gynecology OPD, King Abdulaziz Hospital for National Guard in Al-ALAhsa, Kingdom of Saudi Arabia.
This hospital has around 12187 patients attending the outpatient clinic in the last year, these includes around 40 % as GYNECOLOGY patient.
A retrospective study will be done from January 2011 until December 2011, we collected the total number of pap smear was done in that period, analyze and categorize the abnormal one. This will study the prevalence of abnormal pap smears in our population. Comparing our numbers with the international figures. And to evaluate the need of introducing the world-wide screening program for cervical cancer in closed community like Al-Ahsa region.
Every patient who did PAP smear in that time, and found to be abnormal will be approached. With review of the file, assess her risk factors; follow up her management which was done in the colposcopy clinic.

5.   RESULTS

In a total of 626 PAP smears were done in the year 2011, we found the prevalence of abnormal smears were 6.7 %. That prevalence was found after exclusion of repeated smears in the same year.
The prevalence of ASCUS, ASC-H, AGUS, LGIL, HGIL, SCC were 3.6%,0.5%, 0.17%, 1.5%, 0.6%, 0.17% respectively.

6.   DISCUSSION

In Saudi Arabia, cervical carcinoma ranks as the eighth most common cancer accounting for 3.6% of all cancers in females, with a mean age of 53 years. (25)
Although many risk factors have been studied as etiologic factors leading to cervical cancer, recently published international epidemiologic and molecular studies confirm beyond a doubt the strong causal relationship between human papilloma virus (HPV) and cervical intraepithelial lesions and carcinoma independent of other risk factors. Over 100 HPV types have been isolated with more than 15 considered oncogenic (such as type 16, 18, 31, 33, 35, and others) based on their association with malignant lesions. (26)

The prevalence of ASC-US, LSIL, HSIL, and AGC in the USA has been reported as 3.9%, 2.1%, 0.5%, and 0.2%, respectively. **(27)** and **(**28)

In our study we collected the file numbers of all patients underwent pap smear in the year of 2011 through the cytology laboratory. The conventional PAP smear was the type of all smears collected. No HPV DNA testing were done by incidental finding of HPV changes in the smears were detected.
The result of pap smears was checked through the computer using our (QuadraMed CPR system). after collecting all results, the abnormal smears which were referred to colposcopy clinic were followed through a colposcopy registry book and were analyzed regarding the management and follow up given.

Total of 626 PAP smears were done in the year 2011, 47 of them were repeated smears in the same year for different reasons: unsatisfactory initial smear, follow up smears after specific management for abnormal ones.
So total number of smears without counting the repeated smears was 579.
Numbers of abnormal smears found were 39 smears giving the prevalence of 6.7%.
In this study the prevalence of ASCUS, ASC-H, AGUS, LGIL, HGIL, SCC in situ were 3.6 %, 0.5%, 0.17%, 1.5%, 0.6%, 0.17% respectively.
In our study, ASCUS accounted for 51.2% (20 cases) of all abnormal smears, ASCUS-H accounted 7.6%(3 cases), AGUS 2.5 %(1 case), LGIL 23% (9cases) , HGIL 10.2 % (4 cases) , SCC in situ 2.5 % (1 case) and endomerioid ca 2.5 % (1 case). As shown in the following table:

ANORMALITY	NO.	%
ASCUS	20	51.2%
ASCUS-H	3	7.6%
AGUS	1	2.5%
LGIL	9	23%
HGIL	4	10.2%
SCC	1	2.5%
ENDOMETIOID CA	1	2.5%
TOTAL	39	

Table (1)
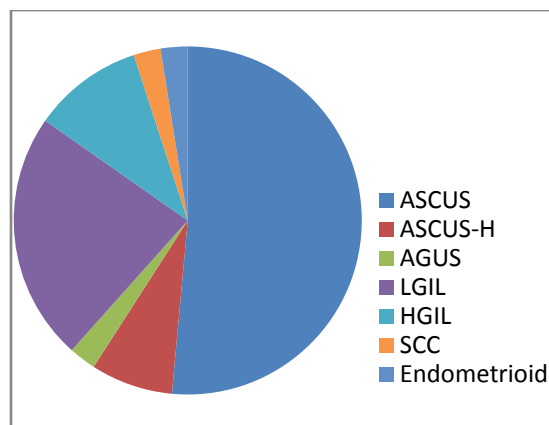
Most of pap smears were done in the age between 41-50year accounting for 38.5 % of total smears. And the highest prevalence of abnormal smears was in the age group between 51-60 accounting for 33.3 % of abnormal smears and the 2 cases of cancerous lesion were found in this age group.

AGE	NO.	%
20 – 30	91	15.7%
31 – 40	124	21.4%
41 – 50	223	38.5%
51 – 60	111	19.7%
>60	30	5.1%

Table (2)

There were 69 cases from the 579 smears representing unsatisfactory smears at time of interpretations, because of either wrong sampling, excessive inflammatory exudates in the smear or blood obscuring the field.
52 of these smears were not repeated accounting for 75% of unsatisfactory smears and the reason could be interrupted to loss of patient follow up. 17(24%) cases of unsatisfactory smears were repeated, 10 (14.4%) of them became negative, one case 1.4% had ASCUS in repetition and the 6 cases (8.6%) again had unsatisfactory smears.

71 cases from the total of 579 cases were referred to colposcopy clinic in the year of 2011,
Accounting for 12.2%.

54% (39 of 71) of cases referred to colposcopy clinic were referred for abnormal uterine bleeding.
26.7% of them were referred for postcoital bleeding (19 cases) and 18.3% (13 cases) for suspicious cervix in examination

The finding of colposcopy clinic shown in table (3). 4 cases underwent LLETZ in colposcopy clinic and 62 cases underwent simple cautery.
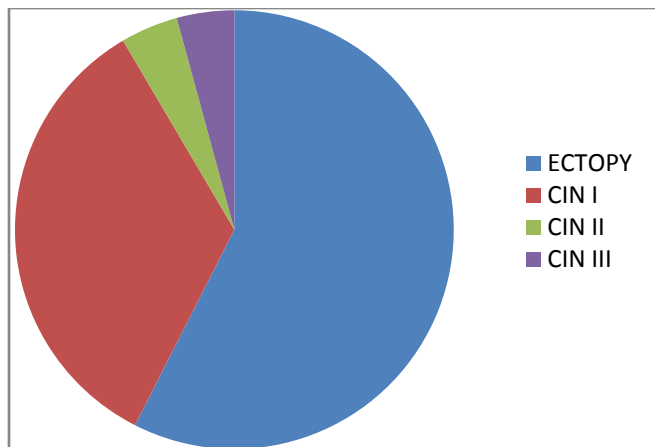
The findings post colposcopy has shown the following results:

FINDINGS	NO.	%
ECTOPY	27	38%
CIN 1	16	22.5%
CIN 11	2	2.8%
CIN 111	2	2.8%
NORMAL	24	33.8%

Table (3)

HPV infection found in 19 cases 26.7% of patients referred for colposcopy.

7. CONCLUSION AND RECOMMENDATIONS

Based on the data regarding the prevalence of abnormal cervical lesions outlined in the present as well as the previously published local studies and
reports, (19,20,21,22,23,24) health and social organizations in this country should cooperate to build a well-organized national cervical screening program. Key elements for the establishment and success of such a program include increased public awareness, especially in young females about the importance of cervical screening in prevention of cervical cancer, the availability of financial coverage as well as standardization of protocols used in diagnosis and management of these lesions by health professionals. It is recommended that different parties including gynecologists, family physicians and midwives as well active community members initiate such programs. These parties should be aware and work hard to overcome several obstacles that may be faced during the implementation of such programs such as poor education among females from rural areas and small villages as well as the presence of some cultural restraints in those places which prohibit full access to the target groups of the population.

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