



Association of Family History of Cancer with Premalignant Disease and Cancer of Cervix in Iraqi Women

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KEY WORDS

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Abstract: Cervical cancer is the third most common cancer and fourth leading cause of death in women worldwide. Infection with Human Papillomavirus (HPV) is one of the most important risk factors for developing cervical cancer. However, other factors has been speculated to increase woman risk of cervical cancer. Is to determine the association of a family history of cancer and the presence of premalignant disease of the cervix through pap smear test in a group of Iraqi women. This retrospective cross sectional study was carried out during the period of January 2020 to March 2021. Ninety nine women with abnormal pap smear were included in the study. Women's data were collected from the Iraqi national cancer research center in Baghdad. All data regarding pap smear result, family history of cancer, type of family cancer, degree of relatives affected by a cancer were registered. For those women with abnormal cytology result, colposcopy and punch biopsy results were recorded. The relation between pap smear results and family history of cancer were analyzed. From the 99 pap smear test studied, 27% with mild, moderate and severe dyskaryosis found to have a positive family history of cancer. Breast cancer in 23.2% (23), endometrial cancer in 6.1% (6) and lung cancer in 4% were the frequent family cancers associated with abnormal pap smear. This study also showed that 37.4% (37) women having a positive family history of cancer from a first degree relative and only 10.1% (10) cases were having abnormal pap smear result from a second degree relatives (the grandfather and the grandmother).

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INTRODUCTION

Cervical cancer is the fourth most frequent cancer in women with an estimated 5770,000 new cases in 2018

representing 6.6% of all female cancers. Approximately 90% of deaths from cervical cancer occurred in low and middle income countries. Cervical cancer is usually a slow

growing cancer that may not have symptoms but can be found with regular pap tests. Cervical cancer is almost always caused by Human Papillomavirus (HPV) infection. HPV is a group of more than 150 related viruses. Two HPV types (16 and 18) cause 70% of cervical cancers and precancerous cervical lesions^[1].

Other factors that can increase risk of cervical cancer are: having HIV, smoking, obesity, using birth control pills for a long time (five or more years), having given birth to three or more children^[2]. Having a family history of cervical cancer is a risk factor, this is, especially true if a direct relative such as a first degree relative has had cervical cancer^[3].

Most forms of cancer develop sporadically. When cancer occurs sporadically, it is usually because of aging and other factors besides genetics. With sporadic cancer, there is a single occurrence of that form of cancer in the family and the affected person is usually older (often >60 years old). Sometimes, cancer is familial. This means that two or more first-degree relatives have the same type of cancer.

Hereditary Breast and Ovarian Cancer (HBOC) syndrome is an inherited cancer-predisposition syndrome. Affected individuals have a significantly greater risk of developing certain cancers, particularly breast cancer, in both men and women and ovarian cancer in women. Also an increased risk of developing other types of cancer including prostate cancer, melanoma and pancreatic cancer, melanoma, cervical and uterine cancer have all been reported as having higher rates in affected individuals^[4].

Family history of cancer is positively associated with pap smear changes in a recent national study^[5]. Compared to other cancers, less is known about the role of family history of cancer as a contributing factor on cervical cancer screening, may be because Human

Papillomavirus (HPV) infection as the primary etiologic cause of most cervical cancers, rather than a family history.

The aim of this study is to identify the presence of a family history of cervical or other cancer in women with premalignant or malignant disease of the cervix through pap smear test.

MATERIALS AND METHODS

This retrospective study was designed to involve 99 women's data which were collected from Iraqi national cancer research center in Baghdad for the period Jan 2020 to March 2021. All data regarding pap smear result of the first and the repeated one, family history of cancer, type of family cancer, degree of relatives affected by a cancer were registered. For those women with abnormal cytology result colposcopy used and punch biopsy were sent for histopathological examination. The relation between pap smear result and family history of cancer were analyzed using SPSS Version 23.

RESULTS

The results of pap smear for the 99 women included in the study showed that from the 44.4%(45) of those with Mild, Moderate and severe dysplasia result 27.3%(27) having a positive family history of cancer and 17.2%(17) with negative history. 7.1%(7) with ASCUS and AGUS were having positive family history of cancer. As shown in Table 1.

Regarding the type of cancer and pap smear result, it was shown that mild, moderate and severe dysplasia smear result were associated with positive family history of breast cancer in 23.2%(23), endometrial cancer in 6.1%(6) and lung cancer in 4%(4). For cases with carcinoma in situ 4%(4) were associated with positive family history of breast cancer and 2%(2) with lung cancer (Table 2).

Table 1: Pap smear result and family history of cancer

Pap smear result	Family history of cancer		Total	p<0.05
	Positive	Negative		
Non specific				
Count	14.0	31.0	45.0	0.006
Total (%)	14.1	31.3	45.5	
Mild, Moderate and severe dysplasia				
Count	27.0	17.0	44.0	
Total (%)	27.3	17.2	44.4	
ASCUS, AGUS				
Count	7.0	3.0	10.0	
Total (%)	7.1	3.0	10.1	
Total				
Count	48.0	51.0	99.0	
Total (%)	48.5	51.5	100.0	

Statistically significant at p<0.05

Table 2: Type of cancer and pap smear result

TypeS of cancer	Groups of repeated pap smear			Total	p<0.05
	Non specific	Mild, moderate and severe dysplasia	ca in situ		
Colon					
Count	0.0	3.0	0.0	3.0	0.000
Total (%)	0.0	3.0	0.0	3.0	
Breast					
Count	3.0	23.0	4.0	30.0	
Total (*)	3.0	23.2	4.0	30.3	
Lung					
Count	1.0	4.0	2.0	7.0	
Total (%)	1.0	4.0	2.0	7.1	
Endom					
Count	0.0	6.0	0.0	6.0	
Total (%)	0.0	6.1	0.0	6.1	
Skin					
Count	0.0	0.0	1.0	1.0	
Total (%)	0.0	0.0	1.0	1.0	
OV					
Count	1.0	0.0	0.0	1.0	

Table 3: Relative degree and family history of cancer

Parameters	Family history of cancer		Total	p<0.05
	Positive	Negative		
Grandfather and mother				
Count	10.0	0.0	10.0	0.000
Total (%)	10.1	0.0	10.1	
Mother, father, brothers and sisters				
Count	37.0	0.0	37.0	
Total (%)	37.4	0.0	37.4	
Uncle				
Count	1.0	0.0	1.0	
Total (%)	1.0	0.0	1.0	
N				
Count	0.0	51.0	51.0	
Total (%)	0.0	51.5	51.5	
Total				
Count	48.0	51.0	99.0	
Total (%)	48.5	51.5	100.0	

Statistically significant at p<0.05

Table 3 shows that 37.4%(37) women having a positive family history of cancer from a first degree relative and 10.1%(10) cases were having from a second degree relatives (the grandfather and the grandmother).

DISCUSSION

Cervical cancer is the most common gynecologic cancer in women worldwide. Higher incidence are found in developing countries. Most communities using cervical cancer screening program have documented decreased incidences of this cancer^[6].

In this study a family history of cancers as a risk factor for premalignant disease of the cervix was studied in order to see if this risk factor is of some importance to add it to the rest of the risk criteria for selecting women for pap smear in Iraq. As in Iraq there is no routine

screening program for cervical cancer till now, pap smear is done for women with complaint and only women who attend private clinics or outpatient clinics in government hospital with a complaint.

HPV is the primary etiologic infectious agent associated with cervical cancer^[7]. Other factors that increase cervical cancer risk are: high parity, obesity, smoking, long term use of combined oral contraceptive^[8].

This study showed that the presence of positive family history of cancer increase the patient chance of having an abnormal pap smear results, mostly the mild, moderate and severe dyskaryosis. In families with an inherited faulty gene there may be a pattern of specific types of cancer running in the family^[9]. In this study, the common type of cancer registered from family history in

those with abnormal pap smear results were in order of frequency breast cancer, then endometrial cancer and lastly colon cancer. Studies that evaluated the association between cervical cancer and a family history of cancers other than cervical cancer were suggestive of associations for various cancers^[10].

Several hereditary conditions can raise a chance of getting cancer. Two of the most common are Hereditary Breast and Ovarian Cancer (HBOC) syndrome and Lynch syndrome^[11].

The more relatives who have had the same or related types of cancer, the stronger someone's family history is^[9]. As this study showed that the more close the relative with certain type of cancer is the more the risk of having an abnormal pap smear result for the women.

CONCLUSION

There is significant correlation between presence of abnormal pap smear results and a family history of cancer.

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