Types and Risk Factors of Cervical Cancer

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ABSTRACT

Objective: To determine the types of cervical cancer and risk factors among women and the possible relationship between the risk factors and each specific type of cervical cancer.

Setting: Salmaniya Medical Center, Bahrain.

Design: A Retrospective, Descriptive Cross-Sectional Study.

Method: All patients who were diagnosed with cervical cancer by positive cytology test during 2006 to 2010 were included. Data were collected from the patients' record and from various investigation reports using a predefined questionnaire.

Result: The total number of women with cervical cancer from 2006 to 2010 was 34. The highest prevalence rate was in 2006 (4 per 100,000), age ranged from 31 to 84 years; 25 (74 %) were Bahrainis. Nineteen (56%) had squamous cell carcinoma and 11 (32%) had adenocarcinoma including one case of adenosquamous carcinoma. Thirteen (38.2%) patients with squamous cell carcinoma were older than 50 years. Six (17.6%) patients with adenocarcinoma and adenosquamous carcinoma were younger than 50 years.

Conclusion: There is a low but rising prevalence of cervical cancer in Bahrain (from 0.6 to 4 per 100,000) from 2006 to 2010. It is recommended that attending physicians should take proper detailed history from all cancer cases that include all possible risk factors. Since half of the sample population were found to have positive family history of any cancer, screening of the first-degree relatives for cervical cancer is important.

A future study with a larger sample and a control group is recommended to be carried out to establish causality between cervical cancer and their possible risk factors.

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INTRODUCTION

Cervical cancer is the second most prevalent cancer in women worldwide, with about 470,000 incipient cases and 230,000 deaths each year. About 80% of such cases occur in the developing countries[1].

Risk factors include smoking, immunosuppressant, patients' age, number of pregnancies, human papilloma virus and associated STD[1-8].

Such information is not widely present in the Kingdom of Bahrain, although it is considered important in establishing cancer prevention policy by incrementing public education about preventable risk factors.

The aim of this study is to determine the types of cervical cancer and its risk factors among women and the possible relationship between the risk factors and each specific type of cervical cancer.

METHOD

This is a retrospective, descriptive cross-sectional study, which included 34 cases of positive Pap smears cytology who were diagnosed to have cervical carcinoma during the years 2006 to 2010. Data were collected from the patients' medical record and from the pathological reports.

The sample was grouped into adenocarcinoma and squamous cell carcinoma. Since there was only one case of adenosquamous carcinoma, it was added up to the adenocarcinoma group similar to another study[9]. Classifications according to the site of cancer and the year of positive smear were made.

Patients' personal characteristics and all the anticipated cervical cancer risk factors such as the presence of venereal diseases, menses, smoking habits, family history of cancer, DM, hypertension, hypercholesterolemia and other diseases were recorded.

SPSS version 16 was used for statistical analysis. Frequencies, cross tabulation and regression analysis were done. P-value was considered significant at <0.05.

RESULT

Thirty-four patients with positive cervical cancer smear during a five-year period were included in the study, 25 (73.5%) were Bahrainis. The age ranged between 31 to 84 years with a mean of 53.6. Twenty (59%) were above the age of 50 years.

Two (5.9%) had venereal diseases. The pathology reports showed that 19 (56%) patients developed squamous cell carcinoma and 11 (32%) had adenocarcinoma including one case of adenosquamous carcinoma. Only four (12%) patients had an undetermined type of cervical carcinoma. No significant relationship between hypertension, hypercholesterolemia, diabetes mellitus, other diseases and the presence of cervical cancer was found.

Table 1 shows the frequency of cancer cases in relation to age. It was found that the majority of squamous cell carcinoma group were older than 50 years, while the majority of adenocarcinoma and adenosquamous carcinomas were found in the younger age group.

Table 1: Cancer Type, Age Group

		Age Group		Total
		<50	**>50**	
CA Type	**Adenocarcinoma & Adenosquamous Carcinoma**	6 (55%)	5 (45%)	11 (100%)
	Squamous Cell Carcinoma	6 (32%)	13 (68%)	19 (100%)
	Undetermined	2 (50%)	2 (50%)	4 (100%)
Total		14	20	34

Table 2 shows that only two (18%) of the eleven cases of patients with adenocarcinoma and adenosquamous carcinoma had history of venereal diseases.

Table 2: Cancer Type and Venereal Diseases

		Venereal Diseases		Total
		None	**Yes**	
CA Type	**Adenocarcinoma & Adenosquamous Carcinoma**	9 (82%)	2 (18%)	11 (100%)
	Squamous Cell Carcinoma	19 (100%)	0	19 (100%)
	Undetermined	4 (100%)	0	4 (100%)
Total		32	2	34

DISCUSSION

The majority of cases were found to have squamous cell carcinomas, a finding which coincides with a previous reported study in 2005[9].

Cervical cancer commonly occurs in women between 35-65 years; other studies revealed that it is more frequent in females older than 50 years[6,7]. Moreover, most of the cervical cancer patients were found to be in their postmenopausal period; Jemal et al reported similar findings[9].

Studies found an association between sexually transmitted disease and cervical carcinoma; in Southern Mozambique, it was reported that 80% of cervical cancer cases had history of sexually transmitted diseases[8]. In the present study, although the number was small, it showed that there is a significant relationship between adenocarcinoma and the presence of venereal diseases (p<0.05).

Smoking was identified as a risk factor for cervical cancer in some studies[10,11]. In this study, only few women could reveal history of smoking. Social and cultural differences between the population in the developed and developing nations could have determined this finding.

Studies reported that women having more than three children had more chances of developing cervical cancer[6].

Diabetes Mellitus was also reported to be another risk factor for developing cervical cancer. International Collaboration of Epidemiological Studies of Cervical Cancer found that diabetes is a risk factor for cancer of the uterine corpus and documented positive association between it and cancer of the vulva and vagina[12]. Although many patients in the existing study were found to have DM, such relation was not statistically significant.

More patients with adenocarcinoma had family history of cancer than those with squamous cell carcinoma; such finding was not statistically significant. However, two studies reported that history of first-degree relative cancer was associated with an increased risk of developing squamous cell cervical cancer but not with adenocarcinoma[13].

CONCLUSION

There is a rising tendency of cervical cancer in Bahrain (from 0.6 to 4 per 100,000) from 2006 to 2010. Many of the possible risk factors have not been documented; it is recommended that attending physicians should take proper detailed history from all cancer cases that include all possible risk factors. Since half of the sample population were found to have positive family history of any cancer, screening of the first-degree relatives for cervical cancer is important.

This study could be the first step on the road for setting policies for cancer prevention programs that will help in protecting females from acquiring the illness. Due to the small number of the sample size, the results should be carefully interpreted and further study with larger sample and control groups is recommended.

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