Clinicopathological profile of cervical cancer patients attending at tertiary level hospital in Dhaka, Bangladesh

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Abstract

Cervical cancer is the fourth most common cancer occurring among women worldwide, with almost more than half a million new cases each year. In Bangladesh, cervical cancer is the second leading cancer (17.9%) after breast cancer (27.4%) in women. Despite of the overburdened situation, there are very few data about clinical profile, staging, histopathological status of the disease. This study aimed to evaluate the relationship of clinical profile of cervical cancer patients with clinical staging and pathological grading. This cross-sectional study was conducted in the department of gynecological oncology of Bangabandhu Sheikh Mujib Medical University (BSMMU) and National Institute of Cancer Research & Hospital (NICRH), Dhaka. The Study was carried out over a period of six month from March 2024 to September 2024. 100 patients were enrolled in this study according to the histopathology report proven cervical cancer. Sample was selected by purposive sampling technique. Demographic characteristics of the study subjects show that 70% were of age 50 or >50 years with mean age of the subjects being 51.8 ± 7.7 years. Rural patients were a bit higher 58% (n=58) than the urban ones 42% (n=42). The highest 39% of respondents were from middle class (10,001-20,000 BDT/month income). Cervical growth seen in 90% of the cases and most of the growths bleed on touch (86%) and fornix were involved in 90% of the cases. Based on post-menopausal bleeding, 47% of the carcinoma cervix patients were having advanced disease (Stage III), majorities 74% were having squamous cell carcinoma. 66% of the carcinoma cervix patients were having Stage II disease, majorities 56% were having histopathologically grade II and 58% were having histopathologically grade III. The result of this study can be a ground for further analytical type of study to show the correlation between clinical presentation and FIGO staging with histopathological grading and this information can also be utilized while making public health policies and implementation of cervical cancer control programs.

INTRODUCTION

Cervical cancer is the fourth most common cancer occurring among women worldwide, with almost more than half a million new cases each year. It is responsible for 3,48,840 deaths of female cancer mortality. In Europe the crude mortality rate is 5.9 per 100,000 women per year but the mortality rate is higher in developing countries [1]. The incidence of cancer appears to change from one locality to another; however, from various studies there is no doubt that it is the most common gynecological cancer in many developing countries. The incidence of cervical carcinoma in India varies from 20–35 per 100,000 women, ages between 35 years to 64 years. In the developed countries the incidence is as low as 1–8 per 100,000 women [2].

Cervical cancer is the 2nd most common female cancer and 77% of all gynecological malignancies in Bangladesh. According to cancer registry report of National Institute of Cancer Research and Hospital, Dhaka in 2018-2020, cervical cancer was the second leading cancer (17.9%) after breast cancer (27.4%) in women [3]. This registry also showed that among these patients about 91.1% had squamous cell

carcinoma and 8.2% had adenocarcinoma . Majority of the patients presents with stage IIB at first detection; least number of patients are found in stage IV, and no patients found in stage IA [5].

Cervical cancer has different histopathological types like squamous cell carcinoma (SCC) accounts for 75-80% of cervical cancers, adenocarcinoma 15-25% and adenosquamous carcinoma 3-5%. In addition, neuroendocrine or small cell carcinoma can originate in the cervix in women but are infrequent. Rhabdomyosarcoma of the cervix is rare; it occurs in adolescent and young women [6,7]. Adenocarcinoma has been rising in incidence since 1970; especially in women younger than 35 years of age. Part of this increase may be attributable to an increasing prevalence of HPV infection [8] and part to improvements in screening and prevention of squamous intraepithelial neoplasia, thus leading to a histologic shift towards adenocarcinoma [9]. Several studies have established HPV infection as necessary cause (99.7%) for development of cervical intraepithelial neoplasia (CIN) and invasive cervical cancer [10,11]. In addition to HPV, there are various risk factors associated with cervical cancer such as early age at marriage, early age at first sexual intercourse, multiple number of sexual partners, high parity, long term use of OCP, poor socio-economic and poor hygienic condition [11].

In Bangladesh, huge section of the population is from below poverty line who are neither aware nor have access to cervical cancer screening, diagnosis, and treatment facilities. Study of the sociodemographic profile, additional comorbidities, patient presentation, clinical staging and histopathological documentation are the first steps in planning for control measures and treatment facilities. Hence, in light of the above, the present study was done to demonstrate the clinical profile, staging, histopathological types and grading of cervical cancer patients visiting tertiary care hospital in Dhaka, Bangladesh.

Methods:

This cross-sectional study was conducted in the department of gynecological oncology of Bangabandhu Sheikh Mujib Medical University (BSMMU) and National Institute of Cancer Research & Hospital (NICRH), Dhaka. The Study was carried out over a period of six month from March 2019 to September 2019. 100 patients were enrolled in this study according to the histopathology report proven cervical carcinoma and were included after fulfilling the inclusion & exclusion criteria. Sample was selected by purposive sampling technique. Data analysis was done according to the objectives of the study by using the SPSS (Statistical Package for Social Science) software program for windows, version 25.0 available in the institute.

Result:

Table 1: Distribution of respondents according to their socio-demographic variables (n = 100)

Table 1 resembles distribution of respondents according to their socio-demographic variables. Demographic characteristics of the study subjects show that 70% were of age 50 or >50 years with mean age of the subjects being 51.8 ± 7.7 years. Rural patients were a bit higher 58%(n=58) than

the urban ones 42%(n=42). The highest 39% of respondents were from middle class (10,001-20,000 BDT/month income) whereas 28% of respondents were categorized as lower class (<10,000 BDT/month income).

Demographic variables	Percentage	Mean ± SD
Age (years)		
< 50	30%	51.8 ± 7.7
≥ 50	70%	
Residence		
Rural	58%	-
Urban	42%	
Socioeconomic Status (Income per month in BDT)		
1000-10,000	28%	-
10,001-20,000	39%	
20,001- 40,000	21%	
>40,000	12%	

Table 2: Distribution of respondents by per-vaginal examination findings (N=100)

Table 2 showed distribution of respondents by per-vaginal examination findings. Cervical growth seen in 90% of the cases and most of the growths bleed on touch (86%) and fornix were involved in 90% of the cases but extension of growth was observed in only 04% of the cases.

Per-vaginal examination	Frequency (%)
Growth seen in the cervix	90 (90%)
Bleed on touch	86 (86%)
Fornix -	-
Involve	90 (90%)
Free	10 (10%)
Extension of growth to surrounding structures	04 (4%)

Figure 1: Distribution of respondents by their stage of the disease (n = 100)
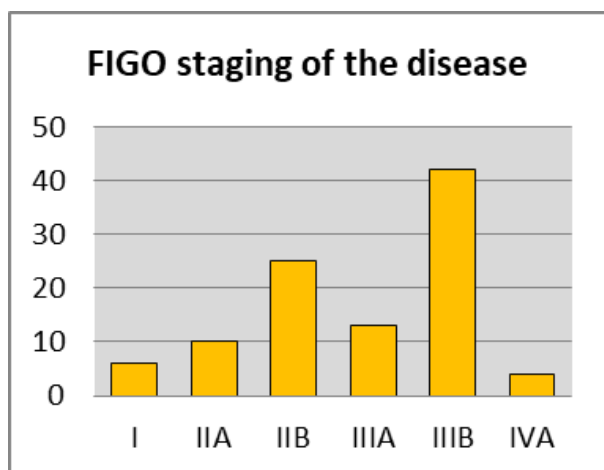
Figure 1 showed distribution of respondents by their stage of the disease. 6% of cases were clinically staged as stage I, IIA (10%), IIB (25%), IIIA (14%), IIIB (42%), IVA (6%).

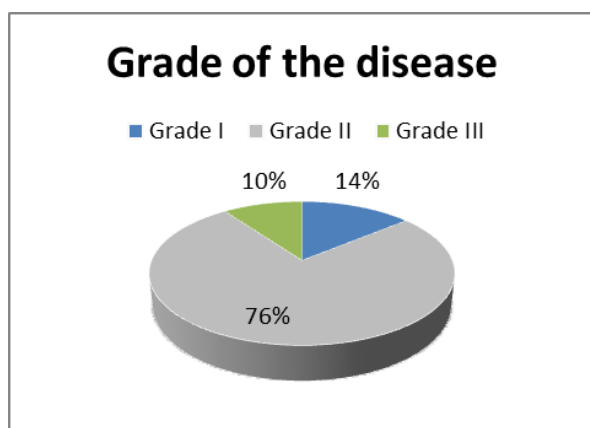**Figure2: Histo-pathological grading of carcinoma cervix patients (n = 100)**

Figure 2 illustrated histo-pathological grading of carcinoma cervix. It is evident that, 76% of the cervical cancer was ranked as Grade-II,14% Grade-I and 10% Grade-III.

Figure 3: Distribution of patients by histopathological type (n = 100)
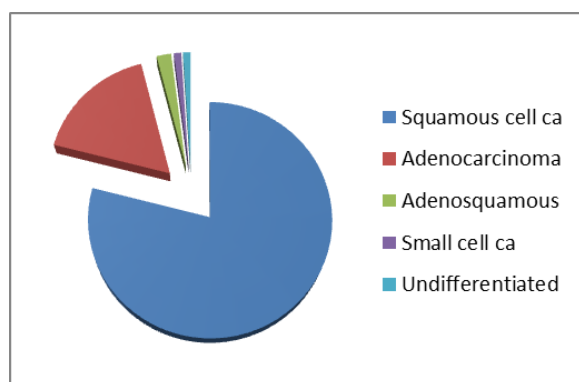

Figure 3 illustrated distribution of patients by histopathological type of carcinoma. It shows that 79% were squamous cell carcinoma, 17% were adenocarcinoma, 2% were adenosquamous, 1% Small cell ca and 1% Undifferentiated.

Table 3: Correlation of post-menopausal bleeding with FIGO staging, histopathological type and grading (n=61):
Table 3 showed correlation of post-menopausal bleeding with FIGO staging, histopathological type and grading. Based on post-menopausal bleeding, 47% of the carcinoma cervix patients were having advanced disease (Stage III), majorities 74% were having squamous cell carcinoma and 64% were having histopathologically grade II.

Trait	Frequency (%)
FIGO	
I	7 (11.5%)
II	19 (31.1%)
III	29 (47.5%)
IV	4 (6.5%)
Histopathological type	
Squamous cell carcinoma	45 (73.8%)
Adenocarcinoma & Others	16 (26.2%)
Histopathological grading	
Grade-I	13 (21.3%)
Grade-II	39 (63.9%)
Grade-III	9 (14.8%)

Table 4: Correlation of inter menstrual bleeding with FIGO staging, histopathological type and grading (n=37):
Table 4 illustrated correlation of inter menstrual bleeding with FIGO staging, histopathological type and grading. Based on inter menstrual bleeding, 48% of the carcinoma cervix patients were having advanced disease (Stage III), majorities 67% were having squamous cell carcinoma and 64% were having histopathologically grade II.

Trait	Frequency (%)
FIGO	
I	5 (13.5%)
II	11 (29.7%)
III	18 (48.6%)
IV	3 (8.1%)
Histopathological type	
Squamous cell carcinoma	25 (67.6%)
Adenocarcinoma & Others	12 (32.4%)

Histopathological grading	
Grade-I	5 (13.5%)
Grade-II	24 (64.9%)
Grade-III	8 (21.6%)

Table 5: Correlation of per vaginal foul-smelling discharge with FIGO staging, histopathological type and grading (n=39):

Table 5 showed correlation of per vaginal foul-smelling discharge with FIGO staging histopathological type and grading. Based on per vaginal foul-smelling discharge, 66% of the carcinoma cervix patients were having Stage II disease, majorities 56% were having histopathologically grade II and 58% were having histopathologically grade III.

	Frequency (%)
FIGO	
I	3 (7.7%)
II	26 (66.7%)
III	9 (23.1%)
IV	01 (2.6%)
Histopathological type	
Squamous cell carcinoma	22 (56.4%)
Adenocarcinoma & Others	17 (43.6%)
Histopathological grading	
Grade-I	2 (5.1%)
Grade-II	14 (35.9%)
Grade-III	23 (59%)

Discussion

Our study design raises a number of important methodological issues, including patient selection, sample size and the prospective assessment of clinical profile of cervical cancer patients with clinical staging and pathological grading, all of which may exert a powerful influence on the results. This study was conducted at tertiary level of hospital over six months of duration. These types of studies have a range of different designs; furthermore, methods of patient selection, diagnostic criteria, timing, and duration of follow-up vary considerably between studies, and therefore it is hardly surprising that the reported frequencies of specific complications in these studies also varied.

It appears from the findings of the study that over two-thirds (70%) of the patients were of age 50 or >50 years with mean age being 51.8 ± 7.7 years indicating that carcinoma cervix is disease of elderly women. Rural patients were a bit higher (58%) than the urban ones (42%). In a study conducted at BSMMU in 2013, majority of the patients suffering from cervical carcinoma had mean age of 45.21 ± 9.75 years,

(range 26-80 years) and frequency of rural patients were a bit higher (58%) than the urban ones (42%) [4]. In that study more than 45% of the patients were within the age range of 36-45 years.

Based on per vaginal foul-smelling discharge, 66% of the carcinoma cervix patients were having Stage II disease, majorities 56% were having histopathologically grade II and 58% were having histopathologically grade III. Boyle P. *et al.* (2008) found in their study in Switzerland that, most of the patients presented with post coital bleeding with intermittent foul-smelling discharge. In their study, 58% of patients came with visible growth among which 90% cases growths were bleed on touch. Majority of the patients found having growth confined within the cervix (54%) where disease incidence extended to other structure was low (5%) [12]. Wentzensen N. et al. (2009) conducted a study in Oklahoma, USA regarding histopathology, grading and other profiles of cervical cancer patients and concluded as majority of histopathology were squamous cell carcinoma (72%) followed by adenocarcinoma (21%), majority of the tumor grade was grade II (55%) and grade III (31%). In this current study, histopathologically grade-I were 14%, majority of the cases was ranked as Grade II (76%) and grade III were 10%. Regarding histopathological type 79% (n=79) were squamous cell carcinoma, 17% (n=17) were adenocarcinoma, 2% were adenosquamous type, 1% Small cell carcinoma and 1% Undifferentiated.

The above mentioned data indicated that clinical profile well correlates with FIGO staging that is abnormal types of vaginal bleeding due to cervical cancer associated with advanced disease (Stage III) whereas unusual per vaginal discharge mainly associated with early disease (Stage II). Similarly histopathologically grade II is majorly associated with advanced disease and unusual per vaginal bleeding whereas grade I is mainly associated with early disease and unusual per vaginal discharge. Literatures suggest that advanced stage of the disease usually presents with post-coital bleeding whereas early stage usually presented unusual vaginal discharge. Ferdous et al [4] in a similar study also reported that clinical profiles of the disease are comparable with clinical staging and histologic grading of the disease.

In resource challenged country like ours, cervical cancer is an increasing burden with poor prognosis due to mainly late detection and inadequate knowledge about symptoms. In this study it is clear that clinical profiles are worsen with advancement of the disease. This knowledge can be helpful for our health care provider to prompt early and planning for effective screening program at the national level.

Conclusion

The status of the cervical cancer patients in tertiary centers of Bangladesh reflects late presentation of the disease and advanced stage of disease at presentation. Given the current socioeconomic status, it is unlikely that there will be an appreciable decline in the incidence of cervical cancer in Bangladesh in near future. Hence, the need is to educate the women about the symptoms of cervical cancer, cervical cancer screening and primary prevention of cervical cancer by

HPV vaccination so that the disease could be identified in a pre-invasive or early stage and mortality and morbidity from cervical cancer could be declined.

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