

Association of clinico-epidemiological features with locally advanced stage of cervical cancer patients presenting at Bangabandhu Sheikh Mujib Medical University, Bangladesh

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Abstract

Cervical cancer is one of the most prevalent gynecological cancers in women in Bangladesh. The objective of this study was to assess the clinico-epidemiological association with the histology of locally advanced cervical cancer. We have done this observational study in the department of Clinical Oncology at Bangabandhu Sheikh Mujib Medical University from July to December 2019. Sixty-six biopsy-proven locally advanced (stage IIB to IVA) squamous cell carcinoma of uterine cervix were included in this study. The mean age of patients at diagnosis was 48.5 (± 8.6) years. Commonly observed epidemiological characteristics of locally advanced carcinoma cervix were illiteracy (46.9%), oral contraceptive use (62.1%), multi para (78.7%) and early marriage (74.2%). Most frequent clinical presentation was post-coital bleeding (37.87%). Most patients presented in stage IIB (65.1%). The association of the stages of the disease with age, parity, oral contraceptive use, age at marriage and clinical presentation were statistically non-significant, whereas illiteracy was statistically significant. Most women had poor awareness regarding their need for routine check-up and screening as indicated by the late medical care seeking. Social stigma might have played some role. Relevant programmes should create awareness among women, especially those with socioeconomic deprivation.

Keywords: Cervical cancer, Squamous cell carcinoma, Clinical feature Epidemiological profile

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Introduction

Cervical cancer is the most common gynecological malignancy and it is a major world health problem for women. It is the 8th most common cancer with an estimated 19,292,789 cases and 9,958,133 deaths in 2020 worldwide¹. In 2020, new cases of cervical cancer in our country were 8,268 (5.3%) and it was ranked 5th (5.3%) among the whole cancer patients group and 2nd (12%) most

common cancer among females². Global incidence and mortality rates depend upon the availability of screening programs which are available in developed countries. Due to these screening programs, there has been 75 percent reduction in incidence and mortality of cervical cancer over past 50 years in developed countries³. The causes for high incidence of cervical cancer in Asia and Africa may be poor socioeconomic condition, early age at

child birth, multi parity and lack of access to screening programs⁴. Early marriage, multiparity, and low socioeconomic condition are risk factors and commonly discovered among our cervical cancer patients⁵. The cervical cancer prevention and screening programs are yet to be observed in our country which is an initial measure for lowering cervical cancer in the western world⁶. Still lack of awareness in mass population united with financial and geographical unavailability for the standard cancer care are the main barriers in our country⁷. The aim of this study was to find out the clinical and epidemiological association of individuals with locally advanced stage of cervical cancer which will be helpful for knowing the prognosis of the disease.

Methods

This observational study was conducted from July to December 2019 in Department of Clinical Oncology, Bangabandhu Sheikh Mujib Medical University (BSMMU). The study was approved by the Institutional Review Board of Bangabandhu Sheikh Mujib Medical University (IRB No. BSMMU/2019/7184). Clinically diagnosed and histopathologically proven 66 cases of locally advanced squamous cell carcinoma of the uterine cervix (Stage IIB-IVA) were included in this study. Prior-chemotherapy and radiotherapy cases, early stages (I-IIA), recurrent disease, distant metastasis as well as presence of chronic diseases such as diabetes mellitus, hypertension and pelvic inflammatory disease, history of prior pelvic surgery cases were excluded from this study. Before collecting data, informed consent was taken from each patient. The socio-demographic profile, clinical presentation, stage, presenting symptoms, per-abdominal examination findings, per-speculum examination findings, per-vaginal examination findings and per-rectal findings were noted in a semi-structured proforma. Clinical staging was done as per International Federation of Gynecology and Obstetrics (FIGO) staging system after proper pelvic examination⁸.

Results

Most of the patients were above the age of 40, and over half of the patients belonged to the age group 41-49 years (**Table 1**). Only 10.6% of the patients were under the age of 40. In this study, the illiteracy rate was high, where 46.9% of patients had no education, 36.3% had education below the primary level and only 16.6% had

education above primary up to the SSC level. Also, 87.8% of the patients were housewives, and 12.1% were service holders. The majority of the patients were married in early age, 74.2% patients got married within 16 years of age. Most patients were oral contraceptive pill (OCP) users (62.1%). The cervical cancer patients had a higher-than-average number of children, with 78.7% of patients having 1-4 children, and 21.2% of patients had more than 5 children. Parity ranged from 2-18 with a mean of 4.4±1.6. Most common clinical presentation was post coital bleeding (37.87%).

TABLE 1 Distribution of patients according to the epidemiological characteristics and clinical presentation (n=66)

Variables	Number (%)
Age, years	
30-39	7 (10.6)
40-49	31 (46.9)
50-59	21 (31.8)
60-69	7 (10.6)
Occupational status	
Housewife	58 (87.8)
Service holder	8 (12.1)
Education	
Illiterate	31 (46.9)
Below primary	24 (36.3)
Age at marriage	
Upto 16 years	49 (74.2)
17-30 years	17 (25.7)
Parity	
1-4 children	52 (78.7)
5-8 children	14 (21.2)
Oral contraceptive user	
Yes	41 (62.1)
No	25 (37.8)
Clinical presentation	
Intermenstrual bleeding	12 (18.1)
Post menopausal bleeding	14 (21.2)
Post coital bleeding	25 (37.8)
Per vaginal discharge	9 (13.6)
Pelvic pain	6 (9.1)

As depicted in **Table 2**, most of patients were in stage IIB (65.1%), only one patient was found in stage IVA. There was a statistically non-significant association between stage of the disease and age of the patients with a *p*-value of 0.08. The maximum number of patients were between 40-49 years (46.9%) followed by 50-59 years. Among patients between 40-49 years, 37.8% of patients were in stage IIB. Majority of illiterate patients (31.81%) were found in stage IIB and this

association was statistically significant. Maximum cases of OCP users were seen in stage IIB (40.9%). This association was statistically non-significant. No statistically significant association was observed between the stage of the disease and parity ($P=0.94$). The majority 51.5% of para (1-4 children) were in stage IIB followed by 18.1% in stage IIIB. Maximum patients were married at early age within 16 years (74.2%). Among them majority of (48.4%) cases presented with stage IIB, followed by 6.1% in stage IIIA, 18.1% in stage IIIB and one patient in stage IVA but this association was statistically non-significant.

There was no statistically significant difference between the stage and clinical presentation (**Table 3**). Post-coital bleeding was noticed by 25 patients, among them 14 patients were in stage IIB. Only 1 patient had stage IVA disease who presented with both post menopausal and post coital bleeding.

Discussion

Carcinoma of uterine cervix is the most common gynecological malignancy in our country with high mortality and morbidity. Majority of them presented with locally advanced stage and may be due to social belief, ignorance and less screening facility. A total number of 66 patients were allocated in this study. The age of the patients in this study ranges from 30 - 69 years. The mean age of patients at diagnosis in this study was 48.50 ± 8.6 years. Most of the patients were diagnosed between the age group of 40-49 years. In this study it was also observed that most of the patients were illiterate (46.9%), which might be the cause for lack of awareness about the disease which was concerned with late detection of cervical carcinoma. Present study showed significant tendency towards early marriage, first full term pregnancy before the age of 16 years (74.2%) and multiparity (78.7%). These results correlates with Louie et al study which revealed 71% patients were married at or before 16 years⁹. In the study, it has been observed that maximum number of patients had 1-4 children (78.7%). This result coincides with the study done by Munoz et al where 70% of patients had 1-4 children¹⁰. Majority of patients in our study were oral contraceptive users (61.7%). This

observation correlates with the Vanakankovit and Taneepanichskul study, that revealed 78% of patients used oral contraceptive pill¹¹. Post-coital bleeding (37.87%) was the most frequent presentation. Others clinical presentations were intermenstrual bleeding, per vaginal watery discharge and pelvic pain. Majority of patients presented with FIGO stage IIB disease (65.1%), and 22.7% patients with stage IIIB. There was only one patient in stage IVA. This observation correlates with Hasan et al study, their most of the patients (57.5%) were in stage IIB and only one patient had stage IVA¹². The association between stage of the disease with educational status of patients was found statistically significant but it was statistically insignificant ($p > 0.05$) with age, OCP use, parity, age at marriage and clinical features¹³. Majority of the patients in stage IIB were illiterate (31.8%), in the age group of 40-49 years (37.8%), OCP users (40.9%) and 51.5% of multipara having 1-4 children and early age at marriage within 16 years. Post coital bleeding was observed in 14 patients in this stage.

TABLE 2 Association between the FIGO stage of the disease and epidemiological characteristics

Epidemiological characteristics	FIGO stage, n (%)				P
	IIB (n=43)	IIIA (n=7)	IIIB (n=15)	IVA (n=1)	
Age					
30-39	5 (7.5)	1 (1.5)	1 (1.5)	0	0.08
40-49	25 (37.8)	2 (3.1)	4 (6.1)	0	
50-59	13 (19.6)	2 (3.1)	6 (9.1)	0	
60-69	0	2 (3.1)	4 (6.1)	1 (1.5)	
Educational status					
Illiterate	21 (31.8)	2 (3.1)	8 (12.1)	0	0.03
Below primary	19 (28.7)	2 (3.1)	2 (3.1)	1 (1.5)	
Above primary upto SSC	3 (4.5)	3 (4.5)	5 (7.5)	0	
History of OCP consumption					
OCP user	27 (40.9)	5 (7.5)	8 (12.1)	1 (1.5)	0.713
OCP not user	16 (24.2)	2 (3.1)	7 (10.6)	0	
Parity					
1-4 children	34 (51.5)	5 (7.57)	12 (18.1)	1 (1.5)	0.916
5-8 children	9 (13.6)	2 (3.1)	3 (4.5)	0	
Age at marriage					
Upto 16 years	32 (48.4)	4 (6.1)	12 (18.1)	1 (1.5)	0.642
17-30 years	11 (16.6)	3 (4.5)	3 (4.5)	0	

FIGO indicates international federation of Gynecology and Obstetrics; OCP, oral contraceptive pills

TABLE 3 Association between clinical presentation and stage of the disease (n=66)

Clinical presentation (n=66)	FIGO stage, n (%)				P
	IIB (n=43)	IIIA (n=7)	IIIB (n=15)	IVA (n=1)	
Intermenstrual bleeding					
Present (n=12)	3 (4.5)	3 (4.5)	6 (9.1)	0	0.09
Absent (n=54)	40 (60.6)	4 (6.0)	9 (13.6)	1 (1.5)	
Post-menopausal bleeding					
Present (n=14)	9 (13.6)	2 (3.1)	2 (3.1)	1 (1.5)	0.212
Absent (n=52)	34 (51.5)	5 (7.5)	13 (19.6)	0	
Post coital bleeding					
Present (n=25)	14 (21.2)	5 (7.5)	5 (7.5)	1 (1.5)	0.131
Absent (n=41)	29 (43.9)	2 (3.1)	10 (15.1)	0	
Per vaginal discharge					
Present (n=9)	5 (7.5)	3 (4.5)	1 (1.5)	0	0.112
Absent (n=57)	38 (57.5)	4 (6.1)	14 (21.2)	1 (1.5)	
Pelvic pain					
Present (n=6)	3 (4.5)	2 (3.1)	1 (1.5)	0	0.301
Absent (n=60)	40 (60.6)	5 (7.5)	14 (21.2)	1 (1.5)	

FIGO indicates international federation of Gynecology and Obstetrics; OCP, oral contraceptive pills

Conclusion

Among the locally advanced carcinoma cervix cases, most patients were found in stage IIB. Socioeconomic deprivation as indicated by illiteracy might have favoured advancement of the cancers before seeking medical care. Patients aged 40-49 years, history of OCP, multiparity, and early marriage are possible but statistically non-significant risk factors. However, these findings should be cautiously interpreted because of the small sample size employed. Larger studies are necessary before considering the findings of this study for community intervention.

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Author Contribution

M. A Bari and S Alam conceptualised this study. M. A Bari, S Alam, N U Mollah and Z R Bhuiyan developed the methodology and study design. S Sharmin and R S Ruma wrote the protocol. S Sharmin, R S Ruma, H Islam and S K Talukdhara developed the data collection tool. S Sharmin and R S Ruma developed the software

used. M. A Bari and S Alam validated analysis. M. A Bari, S Alam, N U Mollah and Z R Bhuiyan undertook the investigation. N U Mollah and Z R Bhuiyan curated the data. M. A Bari, S Alam, N U Mollah, Z R Bhuiyan, S Sharmin and R S Ruma wrote the original draft of the manuscript. N U Mollah, Z R Bhuiyan, S Sharmin and R S Ruma designed the visualisations used. M. A Bari, S Alam, N U Mollah, Z R Bhuiyan, S Sharmin and R S Ruma provided supervision. All authors review and approved the manuscript.

Conflict of Interest

None

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