Why cervical cancer cases are being lately diagnosed in Eastern India? An analysis of the associated factors

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Abstract

Objective: Stage at diagnosis and factors associated with late diagnosis of cervical cancer have been analyzed in this study.

Materials and Methods: It is a hospital based cross sectional study carried out enrolling 246 cervical cancer patients attending outpatient department of tertiary cancer hospital of Odisha, India. The patients were interviewed and histopathological observations were recorded from investigation reports. Factors for late stage presentation were analyzed by using multivariate logistic regression analysis.

Results: 56 (21.96%) cases were presented for diagnosis at early stage (I&IIA) and 194(78.04%) at late stage (IIB and above). Late stage diagnosis was associated with higher age i.e., ≥40years (OR=2.54 95% CI=1.11-5.83), poor treatment seeking behavior (OR=2.23, 95% CI=1.001-5.23), lack of awareness (OR=1.91, 95% CI=.43-8.41), lower education level (OR=1.59, 95% CI=.73-2.45) and initial symptoms with painless bleeding/discharge (OR=7.38, 95% CI 3.22-16.89).

Conclusion: In the absence of screening programme prevalence of late stage diagnosis of cervical cancer was significantly higher. This could be attributed to higher age at presentation, low education, low awareness about the disease and its symptoms and poor treatment seeking behavior. Specific health programme is suggested for women emphasizing cervical cancer screening and awareness regarding signs and symptoms of cervical cancer to enhance health seeking behavior among them.

Keywords: Cervical cancer; Higher age; Late diagnosis; Odisha

Introduction

Cervical cancer is seventh most common cancer among all the known group of cancers found worldwide.[1] Moreover, 528,000 new cases of cervical cancer have been found in the year 2012.[1] Death due to cervical cancer was estimated to be 7.5% of all female cancer deaths.[1] In India, there are 123,000 new cases of cervical cancer with 67,000 deaths in the year 2012.[1] The major cause of mortality and poor prognosis is partly due to late stage diagnosis. Many reports indicate late presentation of the cases that may be ascribed to higher case fatality.[2,3] Advanced stage diagnosis is reported to be associated with socio-demographic differences.[4,5] Inadequate knowledge of cervical cancer about etiology, screening, diagnostic procedure and treatment among health care practitioners[2,3] lead to the misdiagnosis of cervical cancer and unnecessary consultations before they had been referred to cancer diagnostic center which also contributes to the diagnosis of cervical cancer at advanced stage.[6]

In a country that lack a defined screening programme for cancer of cervix detection, self-reporting and early suspicion remains the mainstay for early diagnosis. Early diagnosis is a major issue in cancer prevention, treatment and control.[7] Factors towards such late diagnosis are not precisely known which may vary in different parts of the country with variation in the level of awareness and socioeconomic development.

The present study focuses on analyzing the clinico-pathological features of cervical cancer cases at the stage of presentation to a tertiary care hospital in eastern India and also to identify the factors associated with late stage diagnosis of cervical cancer in this region.

Materials & Method

The study population includes married women attending outpatient clinic of O &G department, Acharya Harihara regional cancer center, Cuttack, Odisha, India. Those who agreed to co-operate physical examination and necessary investigations were enrolled after obtaining informed written consent. Cases showing any of the symptoms like abnormal vaginal bleeding/discharge, pain during coitus, lower abdominal pain have been included in the study. Informed written consent to participate in the study was obtained from all the eligible patients. The period of the study was between March 2013 and July 2014.

The patients with the symptoms suggestive of cervical carcinoma were screened out and cervix examination was done. All the symptoms were divided into two categories- bleeding without pain or discomfort and bleeding with pain or discomfort.

Examination of cervix and cancer staging was done by the gynecologist following FIGO system of staging.

Stage I& IB considered as early and IIB &above as late stage. All the information regarding socio demographic data, symptoms, awareness, treatment seeking behavior of the subjects was collected using a structured questionnaire. The study was approved by institutional ethical committee.

Statistical analysis: Association between predictor variables and advanced stage diagnosis was then examined by multivariate logistic regression analysis. The *P* value, odds ratio (OR) and 95% confidence interval (CI) were calculated using SPSS version 20.0 software.

Result

A total of 246 cervical cancer cases were enrolled during the study period. The patients belong to the state of Odisha and neighboring states such as West Bengal and Jharkhand. 183 (83.33%) cases were ≥ 40 years of age. The mean and median age of these cases were 52.60(SD=11.32) and 50 respectively with a range varying from 27 to 85 year. All the women were married. Mean parity of the subjects was 3.8(SD=1.65) which ranged from 1 to 10 and 142(57.77%) cases are found to have ≥3 parity. 214(87.9%) cases belong to low socioeconomic class and 179(72%) were either illiterate or with low level of education (primary education upto 5th standard).

93.90% of women were unaware of the disease and its symptoms and 95.12% cases had not heard about HPV vaccination. None of the enrolled women had received HPV vaccine. Only 32 cases had their pap test done and 2 cases were tested for HPV earlier. 75.20% cases had attended hospital after 6months of onset of symptoms.

The common clinical features recorded were post-menopausal bleeding (64.22%), abnormal discharge with or without blood stain(60.41%), contact bleeding (32.11%), inter-menstrual bleeding (29.26%), pain during coitus (22.76%), lower abdominal pain (41.6%) and swelling abdomen (12.19%). The number of cases which showed early symptoms of bleeding/discharge with were In 85 women (34.55%) vaginal bleeding/ discharge is associated with pain or discomfort and rest had painless bleeding/ discharge as their early symptoms.

There were 194(78.04%) cases diagnosed at late stage (IIB and above). Squamous cell carcinoma with moderate differentiation was the commonest histological type (93.9%) observed while adenosquamous cell carcinoma (4.06%) and adenocarcinoma (1.62%) were less frequent.

There was a statistically significant difference between the proportion of women of age below 40 and above 40 who were diagnosed at an advanced stage of cervical cancer (60% vs 15/%, respectively, p<.0001).

The association between late stage diagnosis and probable risk factors were analyzed by multivariate logistic regression analysis (Table 1). Late stage diagnosis was associated with higher age (OR=2.54 95% CI=1.11-5.83), poor treatment seeking behavior (OR=2.23, 95% CI=1.001-5.23), lack of awareness (OR=1.91, 95% CI=.434-8.41) and lower education level (OR=1.59, 95% CI=.73-2.45). Women having initial symptoms of abnormal bleeding/discharge with pain or discomfort (OR=7.38, 95% CI 3.22-16.89) is associated with late stage diagnosis. On questioning 32% of cases in the perimenopausal stage considered such irregular bleeding as normal phenomenon relating to their age hence didn't seek consultation from the initial days.

Table 1: Factors Associated with delay presentation of disease

Variables		Early stage diagnosis	Late stage diagnosis	OR (95% C.I)	*P value
Age	< 40 (n=63)	25	38	2.54 (1.11-5.83	.02
	≥40 (n=183)	27	156		
Education	Illiterate/primary (n=179)	24	155	1.59 (95% CI=.73 – 2.45)	.002
	Secondary and above(n=67)	28	39		
Economic condition	APL (n=32)	5	27	.29 (.07-1.20)	.08
	BPL (n=214)	47	167		
Early Symptom	Bleeding without pain (n=152)	10	142	7.38 (3.22-16.8)	.000
	Bleeding with pain (n=94)	42	52		
Awareness about disease and symptoms	Yes (n=16)	9	7	1.91 (.43-8.41)	.39
	No (n=230)	43	187		
Awareness about screening	Early pap test Y (n=32)	4	28	.39(.07-2.25)	.009
	N (n=214)	48	166		

programs	Early HPV test Y (n=2)	2	0	3110367.34	
	N (n=244)	50	194		
Gap between date of onset of symptoms and attending at hospital	Within 6month (n=60)	20	40	2.23(1.001-5.23)	.05
	> 6month (n=186)	32	154		

Significant at p value ≤.05;All the variables are included in the multivariate analysis.

Discussion

The report presents the first observation on the possible factors associated with late stage diagnosis and clinical presentation of cervical cancer cases from Odisha, Eastern India. Post-menopausal bleeding reported to be the most common clinical presentation in this study, similar to a study by Ikechebelu et al.[8] Abnormal vaginal discharge is reported to be the commonest symptom by Sarkar et al.[9] Other major presenting symptoms observed in our study group are, contact bleeding, intermenstrual bleeding and pain during coitus which are similar to the findings of other studies.[10]

Studies in India and other countries in the last decade have shown that, 60% to 95% of cervical cancer cases are reported at late stage of the disease.[11-16] Although the trends of the late stage of diagnosis have changed from 95% to 70% over a decade, still it is not satisfactory. Our observation also shows a high prevalence of late stage presentation (78.04%).

The mean age at the time of diagnosis varies from 45 to 52 as per the previous studies which resembles to our findings.[17-19] Moreover the patients reporting at a later age had progressive disease presentation (stage IIB and above) at diagnosis. Similar observation on delayed diagnosis and higher age at presentation was also previously documented by Ibrahim et al.[20] However the present study reported that women presented at a younger age were diagnosed at an early stage of disease. It could be due to better treatment seeking behaviors at this age group in contrast to the women of higher age group. Irregular bleeding pattern in the peri-menopausal period would have caused confusion among the elderly women who tends to consider it as normal and don't seek treatment. This may be due to the low socioeconomic condition and low level of awareness observed in the studied women.

Previous studies have shown lower education is a risk factor for cervical cancer among women.[21-23,20,5] In agreement with the previous studies the present study showed that illiterate or just literate women were mostly diagnosed at the late stage of the disease than those who were more educated. The USA cancer data reveals that mortality due to cervical cancer increases with poverty and decreasing education.

Women those having abnormal bleeding/discharge with pain or discomfort as early symptoms were seen to be presented at an early stage than those who had painless episode. This indicates undermining painless bleeding because of low awareness. Lack of awareness about the disease and delay stage diagnosis is seen to be strongly associated in the present analysis. Due to lack of awareness about the symptoms, women may ignore the early warning symptoms till it become severe and present at the health care facility at a late stage. It is also reported that women tend to ignore the mild gynecological symptoms such as vaginal discharge as a general problem and don't seek medical treatment until it becomes severe or associated with bleeding.[24] Another study from India has shown that patients who had early symptoms of bleeding or bleeding with other symptoms were more likely to seek treatment at early stage.[22] This Poor treatment seeking behavior of the subjects is also directly correlated with the increased late stage diagnosis in our study. Further to it, delay in attending a care hospital may be due to lower education, older age, lack of awareness and low socioeconomic back ground.

Missing diagnosis at primary or secondary health care level couldn't be derived in this study because of non-availability of adequate records with the patients that could have added towards the cause for delay diagnosis at health facility level. The present investigation clearly reflects a high prevalence of late stage diagnosis of cervical cancer in eastern India especially among the elderly and less educated group. Hence there is a need for a regular cervical cancer screening programme at Primary health care level to reduce the advanced stage reporting. Moreover, there is no programme in India to address the health of elderly women. Focused health programme can be suggested for elderly women, emphasizing awareness regarding signs and symptoms of cervical cancer to enhance health seeking behavior among them, towards self-reporting.

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