

Demographic Profile of Cervical Cancer: A Retrospective Study Conducted in Sher-I-Kashmir Institute of Medical Sciences, Srinagar, Kashmir, India

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Abstract

Introduction: Worldwide, cervical cancer remains the most common gynecological cancer and the fourth most common malignancy in women, with over 526,000 women globally developing this tumor as reported in 2015 and 239,000 women dying of the disease every year. To date, there are limited data of cervical cancer in Kashmir, India.

Objectives: The aim of the present study was to analyze the demographic spectrum of cervical cancer in Kashmir.

Materials and Methods: This was a retrospective study. All the patients who had histopathologically confirmed cervical cancer, registered at Regional Cancer Center of Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Kashmir, were included, between 2008 and 2015. All the patient characteristics including age, presentation, type of cancer, stage of cancer, parity, and treatment received in each case were studied in detail.

Results: The present study included 120 patients of cervical cancer. The median age of patients was 51 years. Majority of our patients were multiparous (88.3%) and from a rural background (74%). The most common presenting complaint was abnormal vaginal bleeding (70%) followed by abdominal pain (19%). Squamous cell carcinoma was the most common type of cervical carcinoma seen in 95% of patients followed by adenocarcinoma (5%). Most of the patients (66.67%) presented at late Stages (II, III, and IV).

Conclusion: Early detection will reduce the number of deaths of cervical cancer patients. A significant number of cervical cancer patients in Kashmir present with an advanced stage of disease. Cervical cancers are observed at a middle age group that is >40 years of age. People should be educated for an early consultation for symptoms, and high-risk individuals should be encouraged for screening. The health programs about cervical cancer should be carried out in open places to give more information about cervical cancer to the public.

Key words: Cervical cancer, Demographic profile, Gynecological cancer, Pap smear

INTRODUCTION

Worldwide, cervical cancer remains the most common gynecological cancer and the fourth most common

malignancy in women, with over 526,000 women globally developing this tumor as reported in 2015 and 239,000 women dying of the disease every year.^[1] Cervical cancer prevention and screening program have been successfully implemented in developed countries, resulting in a decreasing trend both in incidence and mortality. However, in developing or less developed countries, over 80% of women with cervical cancer continue to be diagnosed at an advanced stage, which is significantly associated with a poor prognosis.^[2]

The major risk factor for cervical cancer is infection with human papillomavirus (HPV). The most common HPV

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types in patients, in descending order of frequency, were Types 16, 18, 45, 31, 33, 52, 58, and 35.^[3] Other known risk factors include early age at first intercourse, number of sexual partners, positive smoking history, multiparity, low socioeconomic status, and oral contraceptive pills.^[4,5]

There are two primary histologic abnormalities accounting for the majority of cervical cancers, squamous cell carcinoma (SCC) and adenocarcinoma. The majority of cervical cancer cases (>70%) are SCC, which is thought to arise from the transformation zone of the cervix. The remainders of cervical carcinomas are adenosquamous (4%) and other carcinomas (5%).^[6-8]

The early stages of cervical cancer may be completely free of symptoms. Vaginal bleeding, contact bleeding (one most common form being bleeding after sexual intercourse), or, rarely, a vaginal mass may indicate the presence of malignancy. Furthermore, moderate pain during sexual intercourse and vaginal discharge are symptoms of cervical cancer.^[8]

The most common diagnostic tests for cervical cancer is cervical cytology, and other tests include colposcopy, endocervical curettage, and directed biopsy. Computed tomographic is effective in evaluating lymph nodes and distant metastasis.^[6]

Treatment of early-stage cervical cancer patients (FIGO stage Ia–IIa) consists of radical hysterectomy and pelvic lymph node dissection. Patients with lymph node metastases are treated with adjuvant (chemo) radiation. Standard treatment of locally advanced cervical cancer (FIGO stage Ib2 and IIb–IVa) is concurrent cisplatin-based chemoradiation, which has been shown to be more effective than radiotherapy alone (NCCN guidelines 2014).^[9]

The aim of this present study was to analyze the demographic spectrum of cervical cancers in the Kashmir Valley.

MATERIALS AND METHODS

This study was a retrospective one. Hence, all patients were included who had histopathologically confirmed cervical cancer registered at Regional Cancer Center of Sher-i-Kashmir Institute of Medical Sciences, Srinagar, between 2008 and 2015. All the patient characteristics including residence, age, presentation, investigation, and treatment received in each case werestudied in detail.

Statistical Analysis

Descriptive analysis was used to report the study results. Categorical data were summarized as percentage. We analyzed

the cancer characteristics according to age, presentation, type of cancer, stage of cancer, parity, and treatment.

RESULTS

The present study included 120 patients of cervical cancer registered at Regional Cancer Center of SKIMS, Srinagar, from January 2008 to December 2015. The median age of our patients was 51 years. Since cervical cancer progresses slowly from precancerous conditions to advanced cancer, the incidence increases at about ages 35–40 and reaches a maximum in women in their 50s and 60s.

Most common age group at presentation in our patients was 46–60 years with a mean age of 53 ± 0.44 as shown in Table 1 and 74% of our patients belonged to rural background [Table 2].

Only 12 (10%) patients were smokers in our study. 80% of our patients were married at younger age (<20 years). 113 (94%) patients had achieved menarche at the age group of 10–15 years and 66 (85%) patients had menopause at the age group of 46–50. Majority of our patients were monoandrous (91%) and multiparous (88.3%). Most common presenting complaint was abnormal vaginal bleeding (70%) followed by abdominal pain (19%). 43% of patients had ulceroinfiltrative cervical appearance and only 21% of patients had normal cervical appearance on EUA [Table 3].

Table 1: Distribution of cervical cancer patients according to their age

Age group (years)	n (%)
31–45	32 (26)
46–60	56 (47)
61–75	31 (26)
76+	1 (1)
Total	120 (100)
Mean±SD	53±0.44 years

The most common age group at presentation in our patients was 46–60 years

Table 2: Distributions of patients according to their habitat

District	n (%)
Srinagar	43 (36)
Anantnag	20 (17)
Baramulla	10 (8)
Kulgam	9 (8)
Pulwama	9 (8)
Budgam	9 (8)
Kupwara	9 (8)
Bandipora	5 (4)
Shopian	4 (3)
Ganderbal	2 (2)
Total	120 (100)

In our study, most of the patients had rural habitat

Most of our patients were evaluated with both contrast-enhanced CT abdomen/pelvis (88%) and USG abdomen/pelvis (60%). SCC was the most common type of cervical carcinoma seen in 95% of patients, followed by adenocarcinoma (5%) in our study [Table 4]. Most of the patients had stage 1 disease at presentation [Table 5]. 55% of our patients received concurrent chemoradiotherapy, while, as in 45% of patients, surgery was performed [Table 6].

DISCUSSION

The present study included 120 patients of cervical cancer registered at Regional Cancer Center of SKIMS, Srinagar,

from January 2008 to December 2015. The median age of our patients was 51 years which is in accordance with a study by Jacques *et al.* (2004)^[10] in which they concluded from the analysis of data from cancer registries in developing countries that about 80–90% of confirmed cervical cancer cases occur among women age 35 or older. Since cervical cancer progresses slowly from precancerous conditions to advanced cancer, the incidence increases at about ages 35 to 40 and reaches a maximum in women in their 50s and 60s.

Majority of our patients were multiparous (88.3%) and from a rural background (74%). High parity has long been suspected of being associated with an increased risk of cervical cancer. The findings are in concurrence with reports of Muñoz *et al.* 2002^[3] who found a direct

Table 3: Distribution of patients according to their symptoms and signs

S.No.	Symptom and signs	Status	n (%)
1	Vaginal bleeding	Present	84 (70)
		Absent	36 (30)
		Total	120 (100)
2	Abdominal pain	Present	23 (19)
		Absent	97 (81)
		Total	120 (100)
3	Cervical appearance (EUA)	Normal	25 (21)
		Exophytic	39 (33)
		Endophytic	4 (3)
		Ulceroproliferative	52 (43)
	Total	120 (100)	
4	Age at menarche	<10	4 (3)
		10–15	113 (94)
		>15	3 (3)
		Total	120 (100)
5	Marital history	Married	112 (93)
		Unmarried	8 (7)
		Total	120 (100)
6	Age at marriage	15–20	90 (80)
		21–25	22 (20)
		Total	112 (93)
7	Smoking history	Present	12 (10)
		Absent	108 (90)
		Total	120 (100)
8	Contraceptive practice	Present	5 (4)
		Absent	115 (96)
		Total	120 (100)
9	Sexual partner	1	109 (91)
		2	3 (3)
		Total	112 (93)
10	Para	Nullipara	10 (8)
		Unipara	4 (3)
		Multipara	106 (88)
		Total	120 (100)
11	Age at menopause	40–45	4 (5)
		46–50	66 (85)
		>50	8 (10)
		Total	78 (100)

Most common presenting symptom was vaginal bleeding observed in 70% of cases, Ulceroproliferative lesions were most commonly seen in our patients, Most of our patients had achieved menarche at the age group of 10–15 years, Most of our patients were married, monoandrous, and multiparous, Most of our patients had achieved menopause at the age group of 46–50

Table 4: Distribution of cervical cancer patients according to investigations performed and histopathology

S.No.	Investigations	Status	n (%)
1	USG abdomen	Performed	72 (60)
		Not performed	48 (40)
		Total	120 (100)
2	CT abdomen/pelvis	Performed	105 (88)
		Not performed	15 (13)
		Total	120 (100)
3	MRI pelvis	Performed	30 (20)
		Not performed	90 (80)
		Total	120 (100)
4	Histopathology	Squamous cell carcinoma	114 (95)
		Adenocarcinoma	6 (5)
		Total	120 (100)

Most of our patients were evaluated with both CT abdomen/pelvis and USG abdomen/pelvis and 95% had squamous cell carcinoma. CT: Computed tomographic, MRI: Magnetic resonance imaging, USG: Ultrasound

Table 5: Distribution of cervical cancer patients according to their stage

Stage	n (%)
I	40 (33.33)
II	35 (29.16)
III	35 (29.16)
IV	10 (8.33)
Total	120 (100)

Table 6: Distribution of cervical cancer patients according to treatment received

S.No.	Treatment received	Status	n (%)
1	Surgery	Yes	54 (45)
		No	66 (55)
		Total	120 (100)
2	Concurrent chemoradiotherapy	Yes	66 (55)
		No	54 (45)
		Total	120 (100)

Most of our patients received concurrent chemoradiotherapy

association between the number of full-term pregnancies and squamous-cell cancer risk. Majority of cases were from rural habitat (74%) which could be due to the fact that majority of population of Kashmir Valley resides in rural area.

The most common presenting complaint was abnormal vaginal bleeding (70%) followed by abdominal pain (19%) which is consistent with other studies from developing countries like Chauhan *et al.*, (2016)^[11] who conducted a study in Bihar on clinical profile of cervical cancer and found that the most common presenting complaint was postmenopausal bleeding per vaginum followed by heavy menstrual bleeding and pain lower abdomen.

Most of the patients (80%) in our study were married at younger age (<20 years) which is consistent with the studies of Sierra-Torres *et al.* (2003)^[12] in which they reported that beginning sexual intercourse at age 18 years or younger accounted for a 3.9 times increased risk for cervical cancer and is a significant finding ($P < 0.01$).

Most of the patients (93%) in our study were married which is in accordance with other studies who have shown a positive correlation between cervical cancer and marriage. According to Varghese *et al.* (2004),^[13] carcinoma of the cervix is predominantly a disease of married women, especially, occurring in those who marry at an early age and have a long active sexual life.

Only 10% of patients were smokers in our study which is not consistent with other studies like Sierra-Torres *et al.* (2003)^[12] who reported that the risk for cervical cancer was increased 7.7-fold among the U.S. women that smoked cigarettes. The reason for this inconsistency is that, in our state, the prevalence of smoking among women is very low.

In our study, SCC was the most common type of cervical carcinoma seen in 95% of patients followed by adenocarcinoma (5%) which is consistent with a study by Vizcaino *et al.*, (1998)^[14] who found that SCC, originating in squamous epithelial cells, is the most common histopathologic type of cervical cancer, accounting for 85–90% of all invasive cervical cancers worldwide. Adenocarcinoma, originating in glandular epithelial cells, is the next most frequent histopathologic type and accounts for the remaining 10–15% of invasive cervical cancers, along with other rare types.

Most of our patients presented at late stages (Stages II [29.16%], III [29.16%], and IV [8.33%]) which account for a total of 66.67% and only 33.33% had Stage I at presentation, which is consistent with studies like Sankaranarayanan *et al.* (1998)^[15] who had reported that

more than 70% of cervical cancer attend at late stage of disease.

In the present study, patients with Stage I and Stage IIa (45%) were treated with surgery and rest of patients received concurrent chemoradiation as per guidelines of NCCN and ASCO.

The limitations of our study were that most of patients were registered and treated at other cancer centers working in Kashmir Valley as well. Hence, our study group may not exactly reflect the prevalence and incidence of cervical cancer in the whole population in this region. Despite these limitations, our institution being a major oncology center in this region, it may reflect the nature of the disease in this population and emphasizes the significance of early diagnosis by proper and timely evaluation and proper management of the disease.

CONCLUSION

Early detection will reduce the number of deaths of cervical cancer patients. A significant number of cervical cancer patients in Kashmir present with an advanced stage of disease. Cervical cancers are observed at a middle age group that is >40 years of age. People should be educated for an early consultation for symptoms and high-risk individuals should be encouraged for screening. The health programs about cervical cancer should be carried out in open places to give more information about cervical cancer to the public.

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