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Research Article

A Hospital based Study of Clinical Profile of Cervical Cancer Patients of Bihar, an Eastern State of India

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Abstract

Introduction: Cervical cancer has a major impact on the lives of Indian women. Though the incidence of cervical cancer is decreasing in the developed countries and even in cities of India, the situation among the rural population is still gloomy. Barriers to cervical cancer control in our country include a lack of awareness and familiarity with the concept of prevention and treatment among the general population and non-oncologist doctors.

Aim: The purpose of this study was to assess the clinical profile of cervical cancer patients referred to a comprehensive cancer centre in Bihar, a state with a high incidence of cervical cancer.

Material and methods: The data of 787 patients treated at the radiotherapy department of Mahavir cancer Sansthan, Patna from 1st January, 2013 to 31st December, 2013 were retrospectively analyzed. Besides, the demographical profile patients were evaluated for clinical symptoms, clinical stage, pathology, techniques of radiotherapy, and compliance to the treatment.

Results: 42% of the patients were in the age group of 50-59 years. 89% had a rural background and 25% were addicted to tobacco. 86% had SCC and 63% had an exophytic type of growth. Stage IIIB was the commonest stage and 34% also had nodal disease. 64% patients received radical radiation whereas 32% received post-operative therapy; inadvertent hysterectomy being the cause in 52% of such cases.

Conclusion: Awareness among the general population should be increased and efforts made to screen pre-invasive and early cancers**.** Physicians must exclude the diagnosis of cervical cancer before performing simple total hysterectomy for abnormal bleeding.

Keywords: Cervical cancer, Awareness, Advanced stage, Radiotherapy, Inadverent hysterectomy

Background

Cervical cancer is a significant health issue for women with approximately 528,000 new cases and 266,000 deaths reported annually worldwide, as per GLOBOCON 2012 [1]. About 85% of these cervical cancer cases are diagnosed in the less developed and developing countries of the world, where it accounts for almost 12% of all female cancers. India, the second most populous country of the world bears more than one-fourth of the world's burden of cervical cancer [2]. There were an estimated 122,844 new cases of cervical cancer in India in the year 2012, which accounted for 23% of all the cancers in females [1]. Cervical cancer prevention and screening programmes have been successfully implemented in the 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 poor prognosis [3]. Barriers to the success of screening programmes in country like India include a lack of awareness about the disease among the general population coupled with the geographical and economic inaccessibility to cancer care. Though the situation in India is gradually improving there still exists a disparity between the availability of quality cancer care. While the big cities have a good number of world class cancer centres, the facility is almost non-existent for most of the rural population of India. Bihar is one of the less developed states of the country in terms of infrastructure for health care. Cervical cancer is highly prevalent in Bihar which is reflected in the large number of patients being referred to Mahavir Cancer Sansthan, the largest comprehensive cancer hospital of Bihar.

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Aim

The aim of the study was to determine the clinical profile of cervical cancer patients of Bihar, a state with a high incidence of cervical cancer.

Methods and Material

This retrospective analysis was done at Mahavir Cancer Sansthan, Patna which is the largest comprehensive cancer hospital of Bihar. This hospital is run under a religious trust board and provides state of art cancer treatment at an affordable cost to about 100 million population of Bihar and neighbouring states of Orissa, Jharkhand and West Bengal. For the present study, the case records of all the biopsy proven cervical cancer patients referred to the radiotherapy department of Mahavir Cancer Sansthan, Patna from 1st January 2013 to 31st December 2013 were reviewed. A total of 787 patients were treated at the radiotherapy department of Mahavir Cancer Sansthan during the given study period.

The patients were evaluated for their demographic, clinical and therapeutic profile. Parameters studied were age, the general condition, background (rural or urban), addiction to tobacco, clinical signs, clinical stage of the disease, histology, morphology of growth, nodal status, treatment profile (technique of external beam radiation, use of concurrent chemotherapy, brachytherapy) and compliance to treatment. The results were statistically analysed using percentage, mean and median. Statistical analysis of the study was not compared to the other studies discussed as it is a hospital based assay, so probably the findings cannot be generalized and other studies were population based.

Results

The age range of the study population was 34 to 75 years. The median age was 51 years. The majority of the patients (42%) were in the fifth decade of life. This was followed by 28% patients in the sixth decade, and 18% in the fourth decade of life (Figure 1). Most of the patients, 88.94% had a rural background and only 11.06% lived in towns or cities. Among 787 patients, 2 were nulliparous while 70% of them were grand multiparous. 75% of the patients had never used tobacco in their life. While 11% were addicted to smokeless tobacco mainly in form of paan, zarda, gul and paan masala. 14% were addicted to smoking bidi.

In our study 60% of the patients had a Karnofsky Performance status score of 70 and the remaining 40% had a score of 80 or above. The most common presenting complain was post-menopausal bleeding per vaginum followed by heavy menstrual bleeding, dyspareunia, pain lower abdomen, dysuria, backache, weakness and fatigue.

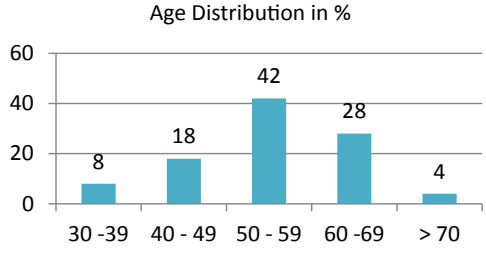

Figure 1: Age distribution

Out of the 787 patients, 252 (32%) were operated cases. However, among the post op cases only 14.68% had a planned radical hysterectomy with node dissection. Remaining 85.5% of the patients either had a simple or subtotal hysterectomy done without ruling out malignancy (Figure 2).

All the patients were staged clinically according to the staging system of the International Federation of Gynaecology and Obstetrics (FIGO). Stage IIIB was the most common stage found in 38% of the patients followed by 35% with stage IIB (Figure 3).

85% of the patients had squamous cell carcinoma followed by adenocarcinoma, adenosquamous carcinoma and other histology in 8%, 5% and 2% of the patients respectively. The tumour showed an exophytic type of growth pattern in 63%, an endophytic pattern in 20% and an ulceroinfiltrative growth pattern in remaining 17% of the patients. 34% of the patients had lymph node involvement with the incidence of pelvic, Para-aortic and inguinal lymphadenopathy being 27.31%, 5.3% and 1.52% respectively (Figure 4).

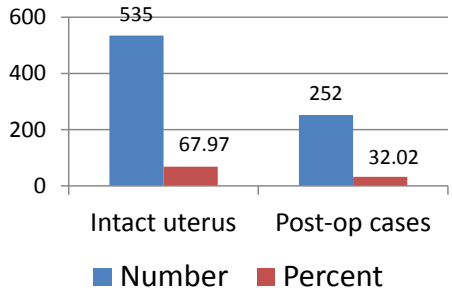

Figure 2: Distribution of cases

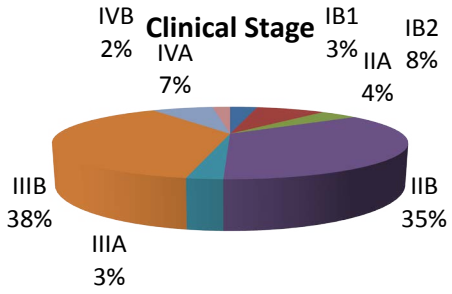

Figure 3: Stage wise distribution

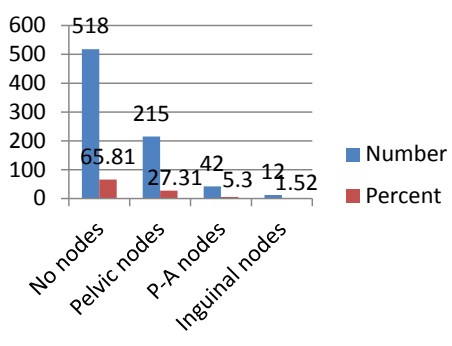

Figure 4: Incidence of lymph nodes

87.54% of the patients received external beam radiation by conventional techniques (AP/PA or Box field) on Cobalt machine. Only about 13% of the patients took treatment on linear accelerator by conformal techniques (3DCRT or IMRT). 40% of the patients took concurrent chemoradiation as per protocol whereas 60% took either only radiation or less than 3 cycles of concurrent chemotherapy. The compliance to brachytherapy was good as 90% of the patients underwent brachytherapy either intracavitary radiation (ICRT) or vaginal surface application (CVSA).

53% of the patients completed their treatment within 8 weeks, 33% within 10 weeks and remaining 12% took more than 10 weeks or did not complete their treatment. Acute toxicity was the most common cause for delay or non-compliance to the treatment.

The interim analysis done for a median follow up of 18 months showed that 64.67% of the patients were alive with no evidence of disease. Among the remaining patients, 17.28% had pelvic failure, 5.84% had nodal failure, 4.5% had distant metastasis, 2.28% died and 14.99% were lost to follow up.

Discussion

The median age of our patients was 51 years which is in accordance with data from cancer registries in developing countries which suggest that about 80 percent to 90 percent of confirmed cervical cancer cases occur among women age 35 or older. Because 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 [4].

Majority of our patients were multiparous and from a rural background. High parity has long been suspected of being associated with an increased risk of cervical cancer. Munoz et al found a direct association between the number of full-term pregnancies and squamous-cell cancer risk: the odds ratio for seven full-term pregnancies or more was 3·8 (95% Cl 2·7-5·5) compared with nulliparous women [5].

60% of our patients had a Karnofsky Performance status score of 70. This is different from the patient characteristics seen in studies from developed world. The majority of patients, that is 70% had a Karnofsky Performance status score of 90 or 100 in the RTOG study 92-10 [6]. However similar pattern was also seen in study on locally advanced cervical cancer by T.T Singh, et al. [7] who reported that the performance status of majority of the patients from developing countries are quite low.

Most of our patients presented in a locally advanced stage of the disease. The prevalence of late stage at presentation to the hospital among patients with cervical cancer has been reported to be 98% from Zaria, Nigeria, 90% from National hospital, Tanzania, 81% from Nepal and 80% from Gujarat Cancer and Research Institute, India [8-11]. Because of technical, financial and manpower constraints cervical cancer screening is not being used widely in India. It has been estimated that in India, even with a major effort to expand cytology screening services, it will not be possible to screen even one-fourth of the population once in a lifetime in the near future [12,13]. Rural residence with low level of female literacy, poverty and ignorance about vaccination also lead to delayed referral to cancer centers. Traditionally in most of our villages elderly women of the house is considered to be the authoritative sources of knowledge about genital illness and they are more in favor of traditional healers than medical professionals. The cheap and easy availability of these alternative therapies also delay the correct diagnosis and treatment of cervical cancers. As our study focused on the clinical profile of the patients we do not have data on awareness and screening for pre-invasive and early cervical cancer in the assessed patients. However, based on the finding of the present study we conducted another survey to identify awareness and reasons for late presentation in our patients. The study showed that 91% had lack of information about the disease and 37% had financial issues for not seeking immediate medical help. Lack of oncologist, referrals and neglect were other important reasons for late presentation of the disease [14].

Another important issue is the relatively high number of patients, presenting after an inadequate surgery. In our study about one third of the patients (32%) were post operated and only 15% of them had a planned adequate surgery. The reason for this may be lack of training of physicians working at primary levels in oncology coupled with the lack of facilities for diagnosis and proper treatment.

In our study 34% of the patients had lymph node involvement with the highest incidence in the pelvic nodes followed by Para-aortic and inguinal lymphadenopathy. It has been established that cervical cancer spreads in a progressive but predictable pattern and many patients with locally advanced carcinoma of cervix harbor nodal disease. The incidence of lymph node metastasis is directly correlated with the stage of the disease. Lymph node metastasis, pelvic and/or Para aortic have a major negative impact on the survival of the patient [15,16].

Most of our patients were treated by conventional techniques on Cobalt machine because of the affordability and limited availability of linear accelerator in our part of the country. However, because most of our patients were of thin built, they could be treated successfully with manageable toxicity and good compliance even with conventional techniques.

Conclusion

Awareness and screening for pre invasive and early cervical cancer is required to decrease the prevalence of cervical cancer, which will reduce the mortality and morbidity associated with it. Physicians must exclude the diagnosis of cervical cancer before performing simple total hysterectomy for abnormal bleeding. This will result in planned radical surgery which is curative for early cancers and will also spare this patient from the morbidity of salvage radiotherapy, which is otherwise used in such patients.

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