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Clinicoepidemiological Study of Cervical Carcinoma in Northeast India

KEYWORDS: carcinoma cervix, early marriage, northeast India

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ABSTRACT **Aim**: *To study the clinical and epidemiological profile of the patients with carcinoma uterine cervix at the Regional cancer centre, Manipur, India*

Method and Materials: *The medical records of 180 patients with carcinoma cervix, who got registered in Regional cancer centre, Imphal, Manipur during the period between January 2008 and December 2009 were reviewed retrospectively .The characteristics of patient (age, age at menarche, age at marriage, parity and clinical presentation) and tumor (histopathology, stage, grade) were obtained and used for descriptive analysis by using SPSS version 21.*

Results: *Out of 180 patients, more than 75% were aged 40 years and above. Histologically 84% had squamous cell carcinoma and 15% had adenocarcinoma. In our study 70% of patients had grade two differentiation. Per vaginal bleeding (P/V bleed) was the major complaint. While presentation, 64 (35%) patients were in stage II B, 56 (31%) were in IIIB and 10 patients were in stage IV. Patients who attained menarche at the age of 12-14 were 70%. Thirty nine percent of patients got married at the age of 16-20 and 32% were married at the age of 21-25. Around 32% (n=56) of patients got married before the legal age of marriage. More than 65% (n=115) of the patients had 3-5 children and 16% had 5 or more children.*

Conclusion: *The clinical presentation and risk factors of cervical carcinoma in this region seems to be similar to other Indian states population as well as other parts of world population.*

Introduction

Cervical cancer is the second most commonly diagnosed cancer and third leading cause of cancer related death among females in less developed countries [1]. The recent NCRP data show that between 2009 and 2011, Aizwal district in the north eastern part of India had the highest levels of cervical cancer at an age-adjusted rate of 24.3 [2]. Based on our Hospital Based Cancer Registry, Cervical carcinoma was placed 2nd and 3rd position in overall new cases registration in our department on 2008, 2009 respectively.

Carcinoma cervix is now thought to be a sexually transmitted disease [3]. The impact of early sexual activity in cervical carcinoma has been well established in a number of studies [4-8]. Manipur consists of, 69.79% is of rural population and 30.21% of urban [9]. With almost three-quarters of population living in rural areas where measures of health and living standards are low, rural women are vulnerable to many risk factors. Early teenage marriages more prevalent in rural population.

Manipur top lists in the country in Human immune deficiency virus (HIV) prevalence and the major route of HIV transmission in the State is heterosexual intercourse [10]. HIV itself an immunocompromising condition and heterosexuality both will increase risk of sexually transmitted diseases in men and women especially HPV infection. HPV 16,18,31,45 account for more than 90% of cervical carcinomas [11]. HPV has been implicated in 99.7% of cervical squamous cell carcinoma cases worldwide [12]. Literacy rate (17th rank) [13] is less compared to some other part of India, it is a common factor that not only lowers the age at marriage and encourages high parity.

We took on this study to establish clinical presentation and role of risk factors in cervical carcinoma patients and any variation in these parameters in a Regional cancer centre, Imphal, Manipur situated in north east part of India which caters mainly the rural population.

Method and Materials

We conducted a retrospective observational study using data base of 180 patients of carcinoma uterine cervix di-

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agnosed in indoor and outdoor of the department of radiation therapy at Regional Cancer Centre, RIMS, Manipur, India from January 2008 to December 2009. All these patients were assessed clinically and the diagnosis was confirmed pathologically by biopsy. All the patients were staged by using International Federation of Gynecology and Obstetrics (FIGO). CT scans of the thorax and abdomen were done to rule out metastasis (mets) in the lung and in the abdomen in symptomatic patients. Data including the patient characteristics (age at presentation, age at menarche, age at marriage, parity and clinical presentation) and tumor (histopathology, stage, and grade) characteristics were obtained. We could not get sufficient data about the literacy, hygiene, multiple sexual partner's history, age at first intercourse, HPV DNA status and HIV status. Collected Data were entered in IBM® SPSS® Statistics software for Windows® version 21. Descriptive statistics like mean, median, range, frequency and percentages were calculated for individual variables. No analytical tests for statistical significance were used.

Results

From the descriptive findings out of 180 patients, 45(25%) were in age group between 41-50 years, 48(27%) were in 51 to 60 years, 36(20%) were in 61 to 70 years and more than 30(19%) patients in 31 to 40 years. The median age at presentation was 54 years (Range: 27 – 84 years) maximum belonging to the Fifth decade. About presenting complaints are summarized in [Table 1]. In our study 70% of patients attained their menarche at the age between 12-14 years, 20% in 15-16 years of age and remaining 10% were above 16 years. In the present study all of them were married. Around 39% (n=70) of patients got married in between the age of 16-20 years, 32% (n=57) married at 20-25, 11.5% (n=21) married before 16 years of age. In this study around 32% (n=56) of patients got married before the legal age of marriage. Parity among the patients are summarized in [Table 2]. Women had three or more children were 80% (n=144). Maximum number of cases (115) were noted in women who had 3-5 children. 151(84%) patients had squamous cell carcinoma followed by adeno carcinoma (15%) (n=27) and 2 cases were adenosquamous type histology. In our study 35% (n=64) of patients were in IIB, 31% (n=56) were in IIIB, around 6% (n=10) were in IV, 16% (n=29) were in IB and remaining cases shared by stage IA and IIIA. Out of 10, 4 cases presented with rectal or bladder involvement, two cases with supraclavicular node. Spinal mets, liver mets were seen in each one patient and lung mets seen in 2 patients. Histopathologically eight patient had squamous cell type and two patients had adenocarcinoma. Grade at presentation are summarized in [Figure 1].

Discussion

This is the kind of preliminary study in this part of region to find out geographical variation in clinical presentation and risk factors. Among our study population, most of them attained their menarche in the early age (12-14). It has been proven as a risk factor for carcinoma cervix, since it makes a way for early age intercourse, teenage marriage, early pregnancy and high parity [14]. As soon as menarche is attained, there is high chance of getting married as a Cultural belief in Indian scenario. So there is huge possibility of early sexual intercourse that results in more frequent and prolonged sexual activity, prolonged hormonal stimulation moreover the young cervical tissue is much susceptible to oncogenic change especially by HPV [15]. We can assume that the latent period for this carcinoma starts from there [16]. Earlier report by Takur et al from Himachal Pradesh (one of the north Indian state) also found that women who married before 18 years of age had almost 3 times overall risk (OR = 2.88) as compared to women marrying after the age of 18 years [17]. Similar reports are also shown by previous studies [18-19].

In our study we found that many of the patients got married before 18 years of age. Inspite of having The Child Marriage Restraint Act in India [20], it's not strictly enforced especially in rural areas.

Early teenage marriages can cause acute problems like stress due to physical and mental abuse, early maternal deaths and infant mortality rate, etc. Also it can cause chronic problem like carcinoma cervix due to more chance of HPV exposure at early age, high fertility, and low fertility control. Our study shows the risk pattern in a typical rural Indian population where there is a higher prevalence of early marriage and high parity.

In our study 85% of patients had a squamous cell carcinoma, it can be compared with previous studies [24-26] and adenocarcinoma constituted 13.6% which is similar with Dikshi et al study [27]. In the present study 104 (69.4%) cases were moderately differentiated squamous cell carcinomas. Maximum number of cases was found in the age group of 40-59 years. These reports are in concordance with previous studies [28].

Study conducted by Ikechebelu JI et al and Ijaiya MA et al from Nigeria [29,30], observed that most of the patients presented with bleeding per vagina which is parallel with my study findings. In our study number of patients in stage IIB were more, compared to IIIB. Usually in rural population most of the patients will present in late stages. Since most of the cases registered from Imphal west and Imphal east which mainly caters urban population, so early stage disease was more common compared to late stages. The study results are consistent with other studies done in various parts of India as well as other parts of the world.

Limitations

Since there was no sufficient data's for literacy, hygiene, multiple sexual partners history, age at first intercourse, HPV DNA status and HIV status, we could not comment on this risk factors. Further community level population based study on this region will help in commenting about geographical variation in risk factors.

Conclusion

The clinical presentation and risk factors of cervical carcinoma in this region seems to be similar to other Indian states population as well as other parts of world population.

Table 1. Shows presenting complaints among study population

Presenting Complaints	Frequency N=180	Percentage (%)
P/V bleed	115	63.9
P/V discharge	73	40.6
Lower abdomen pain	57	31.7
Post coital bleed	12	6.7

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Table No 2. Parity wise distribution

Number of children		Frequency N=180	Percent (%)
	No children	9	5
	1-2	27	15
	3-5	115	64
	<5	29	16
	Total	180	100.0

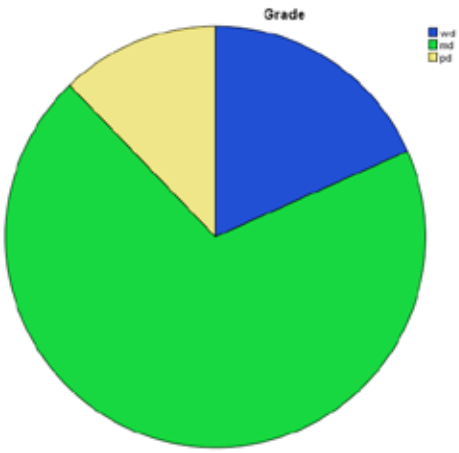

Figure 1. Distribution of grades in this study population

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