

Trends of carcinoma of uterine cervix at a tertiary cancer centre in Jharkhand.

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Abstract

Objective: Reports on incidence and trends of various cancers in India come from data compiled by National Cancer Registry Program (NCRP) through 29 population based (PBCR) and 29 hospital based cancer registry (HBCR). Despite this, several states in India including Jharkhand does not have either HBCR or PBCR and information regarding incidence and trends of various cancers including cervical cancers is lacking. In the absence of an established cancer registry, data from our institute which is the largest tertiary cancer center of Jharkhand may be important to understand the demographics of cancer in this part of country.

Methods: We did this retrospective study to examine the incidence and trends of carcinoma of uterine cervix at our institute Among 520 patients of cancer identified from 2014 till date, carcinoma of uterine cervix comprised of 30.57% of all cancer cases

Result: 41.6% of patients belonged to age group of 41-50 years. Majority of patients (33.58%) belonged to stage IIIB (FIGO 2009) followed by stage IVA (24.82%). Highest number of cases (32.85%) were reported from Ranchi district followed by Giridih district of the state.As per the results of our study, cervical cancer comprises approximately one third of all cancers at our institute and mostly present in advanced stage.

Conclusion: The data may help in formulation of the health care policy as well as design of well-designed cancer control measures in this part of the country.

Keywords: Carcinoma cervix, Incidence, Jharkhand, India

I. Introduction

Cervical cancer is an important leading cause of death from malignancy among women in India. It is caused by human papillomavirus that results in abnormal growth of cells which invade or spread to the other parts of the body. Vaginal bleeding, contact bleeding, or a vaginal mass may indicate the presence of malignancy and symptoms usually appear in early stages but mimics those of more common vaginal infections or misdiagnosed as irregularities of menses and hence is neglected by both patient as well as primary health care giver. Cervical cancer is preventable if identified in its early stages; it is fatal if diagnosed at advanced stages. But, even when the disease is not fatal, the consequences are severe and often lead to physical, psychological, and sexual problems. Invasive cervical cancer has been extensively studied across worldwide. Mostly in developed countries there is declination in the cervical cancer due to widespread implementation of papanicolaou testing that detects the precancerous lesion which can be curable (Hakama et al, 1987; Coleman et al., 1992; Boring et al., 1992; Sigurdsson, 1993). But in developing countries with the achievement of epidemiological transition and increasing affluence from industrialization, the cervical cancer remains a major cause of premature morbidity and mortality (World Cancer Report, 2014).

The countries like south East Asia, Eastern Europe has increasing evidence of cervical cancer (Yule, 1978; Whelan et al., 1990; Abate, 2015). Women living with HIV are at increased risk of developing cervical cancer and experience more rapid progression of the disease [9]. The World Health Organization (WHO) has initiated many approaches for cervical cancer prevention and control to identify opportunities to deliver effective interventions. Cervical cancer-related research has increased significantly over the past decade, representing biomedical, behavioral, and policy level findings. Despite of this fact, very few women receive screening services in India. A recent report from Indian council of medical research suggests that cervical cancer comprises 7.92 % of cancer worldwide (Torre et al., 2015; Sreedevi et al. 2015) and 94,000 new cases are reported annually from India alone. Cancer control has become a part of a more comprehensive, larger program on non communicable diseases called National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke (NPCDCS) where the common risk factors are addressed in an integrated manner. The low levels of knowledge about screening, misconception that “cancer is incurable”, patients feeling

shy or embarrassed in exposing their genital region to a male doctor when they are not in pain or giving birth etc are the important barriers for screening of the disease at an early stage and may lead to the progression of the disease. A cohort analysis from Mumbai (Dhillon et al., 2011) illustrates steeper declination among younger age group due to higher education, lower parity, later age of marriage etc. While 29 population based cancer registry (PBCR) and 29 Hospital based cancer registries (HBCR) under the aegis of National Cancer Disease Informatics and Research (NCDIR) provides us information about the incidence and trends of various cancers including cervical cancer, no such registry exists in Jharkhand. Epidemiological data on incidence and trends of cancer from a specific region is the essential basis for laying the foundation of patient care, cancer research as well as cancer control policies. Through this study we aim to explore the incidence as well as trends of cervical cancers presenting at our institute, a major tertiary care center in the state of Jharkhand

II. Materials And Methods

A retrospective study has been made in Department of Oncology, a tertiary care hospital, Rajendra Institute of Medical Sciences (RIMS) Ranchi. The Department of oncology is one of the premier institutes of the state that has an outpatient department which gives service to new and follow-up patients. The detailed data from 2014 till date was captured by using oncology database, developed and maintained at Biomedical Informatics Centre (ICMR), Department of Biochemistry, RIMS, Ranchi. For staging, FIGO 2009 (International Federation of Gynecology and Obstetrics) was used. The data was analyzed by using the SPSS software package, version 20.0 (SPSS Inc., Chicago, IL, USA) for windows and results was illustrated in the form of tables and the trends were shown using graphs.

III. Results

A total of 520 patients with confirmed histopathological diagnosis of cancer were taken from the Department of Oncology. Among them the proportion of diagnosed cervical cancer was 30.57%. There was also an increment of new cases with in the successive years (see figure 1). Table 1 shows the age distribution and the progression of cervical cancer patients with year. The females ranging between ages 41-50 years were more exposed constituting to 41.61 % of total cervical cancer patients, followed by females ranging between ages 51-50 years is 26.28 %. 10.22 % of cases were in 61-70 years, lesser number of cases were found to be in the age range of 20-30 years (4.38 %) and 2.19 % of cases were reported in 71-80 years. [table 1]

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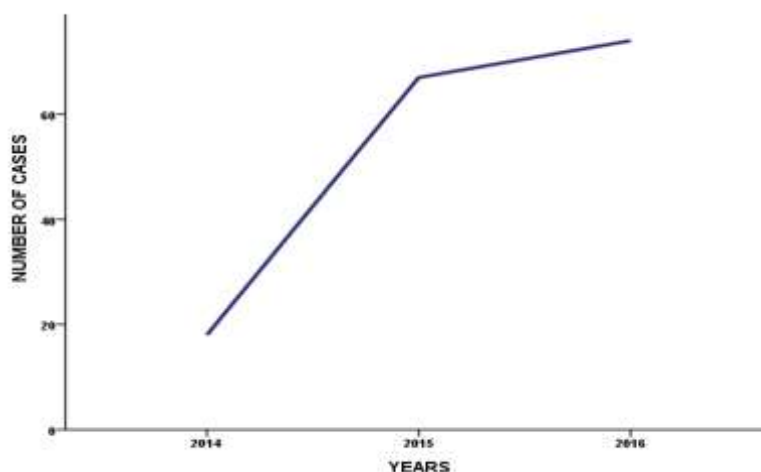


Figure 1. Successive Increment of cervical cancer with Year

Table1. Cervical Cancer patient distribution by age group

Total Frequency	Percentage	
20-30 YEARS	6	4.4
31-40 YEARS	21	15.3
41-50 YEARS	57	41.6
51-60 YEARS	36	26.3
61-70 YEARS	14	10.2
71-80 YEARS	3	2.2
Total	137	100.0

Majority of the cervical cancer cases reported till date were of advanced stages as compared to an earlier stage. From figure 3, it can be observed that the proportion of diagnosed cervix cancer at advanced stage is highest constituting to 33.58 % cases of stage IIIB, 24.82 % cases of stage IVA, 21.17 % cases of stage IIIA, followed by 18.98 % cases of stage IIB, and merely 1.46% cases of stage IIA [figure 2 and 3]

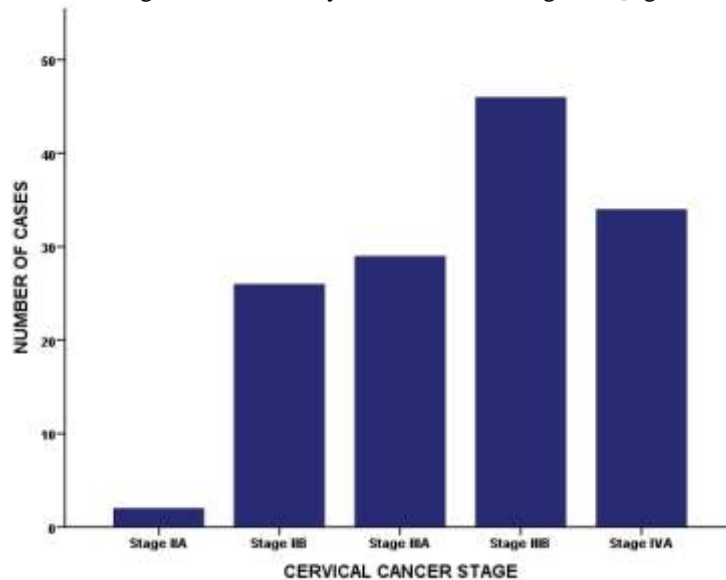


Figure 2. Cervical Cancer stage distribution frequency

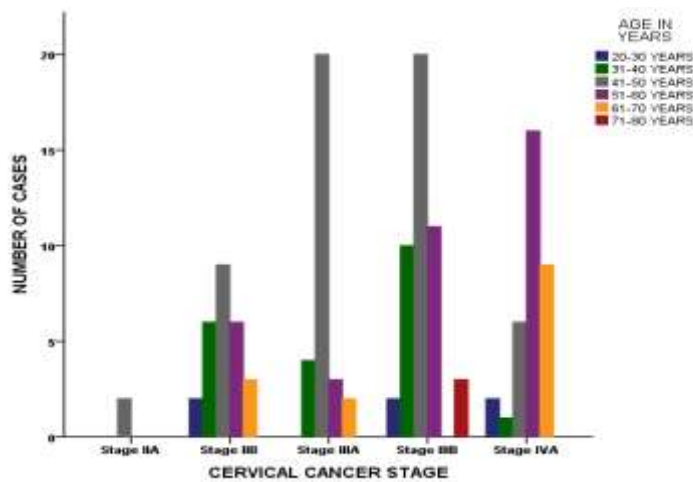


Figure 3. Cervical Cancer stage distribution frequency by age group

In the advanced stage of cervical cancer IVA, the most exposed age category was found to be 51-60 years constituting to total of 11.68 % cases of the patients. 6.57 % of cervical cancer cases were reported in 61-70 years followed by 4.38 % cervical cancer cases among 41-50 years.

The proportion of stage IIIB cervix cancer cases reported is higher among 41-50 years constituting to 14.60 % cases of total population. 8.03% cases were found among 51-60 years, 7.30 % cases cervical cancer cases in 31-40 years and 2.19 % cases among were found among 71-80 years. Similarly 14.60 % cases of stage IIIA were reported among 41-50 years followed by 2.92 % cases in 31-40 years and 1.46 % cases among 61-70 years whereas research workers [12] reported increasing incidence among females aged 20-39 years.

Hazaribagh, and Dhanbad. One of the important reasons for the advanced stage of presentation may be due to delay by primary health care providers in referring cases of cervical cancer presenting with early-stage disease. If symptoms and biopsy would be taken care of as the first line of treatment the complications of the advanced stages can be very much minimized.

References

- [1]. Hakama M, Louhivuori K. A screening programme for cervical cancer that worked. *Cancer surveys*. 1987 ;**3**:403-16..
- [2]. Sigurdsson K. Effect of organized screening on the risk of cervical cancer. Evaluation of screening activity in Iceland, 1964–1991. *International journal of cancer*. 1993 Jun 19;**4**:563-70..
- [3]. Coleman MP, Esteve J, Damiecki P, Arslan A, Renard H. Trends in cancer incidence and mortality. IARC scientific publications. 1992 ;**121**:1-806.
- [4]. Boring CC, Squires TS, Tong T. *Cancer statistics, 1992*. CA: A cancer Journal for Clinicians. 1992; **1**:19-38.
- [5]. *World Cancer Report 2014*. World Health Organization. 2014. pp. Chapter 5.12. ISBN 9283204298.
- [6]. Whelan SL, Parkin DM, Masuyer E. Patterns of cancer in five continents. International Agency for Research on Cancer; OMS; 1990.
- [7]. Yule R. Mortality from carcinoma of the cervix. *The Lancet*. 1978 ;**8072**:1031-2..
- [8]. Abate SM. Trends of Cervical Cancer in Ethiopia. *Cervical Cancer: Open Access*. 2015 ;2015.
- [9]. Hawes SE, Critchlow CW, Sow PS, Touré P, N'Doye I, Diop A, Kuypers JM, Kasse AA, Kiviat NB. Incident high-stage squamous intraepithelial lesions in Senegalese women with and without human immunodeficiency virus type 1 (HIV-1) and HIV-2. *Journal of the National Cancer Institute*. 2006 ;**2**:100-9.
- [10]. Torre LA, Bray F, Siegel RL, Ferlay J, Lortet-Tieulent J, Jemal A. *Global cancer statistics, 2012*. CA: a cancer journal for clinicians. 2015 ;**2**:87-108.
- [11]. Sreedevi A, Javed R, Dinesh A. Epidemiology of cervical cancer with special focus on India. *Int J Womens Health*. 2015 ;**7**:405-14.
- [12]. Armstrong B, Holman D. Increasing mortality from cancer of the cervix in young Australian women. *The Medical journal of Australia*. 1981;**9**:460-2.
- [13]. Dhillon PK, Yeole BB, Dikshit R, Kurkure AP, Bray F. Trends in breast, ovarian and cervical cancer incidence in Mumbai, India over a 30-year period, 1976–2005: an age–period–cohort analysis. *British journal of cancer*. 2011 ;**5**:723-30.
- [14]. Anorlu RI, Banjo AA, Odoemhum C. Cervical cancer and cervical cancer screening: level of awareness in women attending a primary health care facility in Lagos. *Nigeria Postgraduate Medical Journal*. 2000;**70**:25-8.
- [15]. Gichangi P, Estambale B, Bwayo J, Rogo K, Ojwang S, Opiyo A, Temmerman M. Knowledge and practice about cervical cancer and Pap smear testing among patients at Kenyatta National Hospital, Nairobi, Kenya. *International Journal of Gynecological Cancer*. 2003 ;**6**:827-33.
- [16]. Kidanto HL, Kilewo CD, Moshiri C. Cancer of the cervix: knowledge and attitudes of female patients admitted at Muhimbili National Hospital, Dar-es-Salaam. *East African medical journal*. 2002 ;**9**:467-75.
- [17]. Emdon S, Gerard U, Jones R. Knowledge about and utilization of facilities for cervical smears among black women in Johannesburg. *South African medical journal*. 1984 ;**8**:289-90.
- [18]. Three year report of the population based cancer registries 2009–2011: Report of 25 PBCRs; National Cancer Registry Programme, Indian Council Medical Research, Bangalore 2013
- [19]. Mosavi-Jarrahi A, Kliewer EV. Cervical cancer incidence trends in Canada: a 30-year population-based analysis. *Journal of Obstetrics and Gynaecology Canada*. 2013; **7**:620-6.
- [20]. Muñoz N, Bravo LE. Epidemiology of cervical cancer in Colombia. *Salud publica de Mexico*. 2014; **5**:431-9.
- [21]. Jung KW, Won YJ, Kong HJ, Oh CM, Lee DH, Lee JS. Cancer statistics in Korea: incidence, mortality, survival, and prevalence in 2011. *Cancer Research and Treatment*. 2014; **2**:109-23.
- [22]. Anaya-Ruiz M, Vincent AK, Perez-Santos M. Cervical cancer trends in Mexico: incidence, mortality and research output. *Asian Pac J Cancer Prev*. 2014; **20**:8689-92.
- [23]. Moodley M. Reduction in prevalence of invasive cervical cancer in KwaZulu-Natal, South Africa: impact of the human immunodeficiency virus epidemic. *International Journal of Gynecological Cancer*. 2006; **3**:1036-40.
- [24]. Dikshit R, Gupta PC, Ramasundarahettige C, Gajalakshmi V, Aleksandrowicz L, Badwe R, Kumar R, Roy S, Suraweera W, Bray F, Mallath M. Cancer mortality in India: a nationally representative survey. *The Lancet*. 2012;**9828**:1807-16