



## CLINICAL PROFILE OF CERVICAL CANCER IN ANDAMAN AND NICOBAR ISLANDS : A RETROSPECTIVE STUDY

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### ABSTRACT

**INTRODUCTION:** Cervical cancer is a common cancer in India and a leading cause of Morbidity and mortality among women in India. This study was conducted to study the demographic profile of cervical cancer patients attending a tertiary care centre in Andaman and Nicobar islands (ANI).

**METHODS:** The study was conducted in the Medical Oncology department of GB Pant Hospital in ANI. 42 patients of cervical cancer from January 2015 to December 2018 were included in the study.

**RESULTS:** 42 patients reported with cervical cancer. Postmenopausal bleed (64.3%) was the most common presentation. Most common histological type was Squamous cell carcinoma, 40 (95.2%) and most common stage of presentation was stage IIIB (42.9%) followed by stage IIB (38.1%).

**CONCLUSION:** A significant number of patients are diagnosed at late stages. An organised screening programme may be of large benefit for early diagnosis and treatment in the islands.

**KEYWORDS :** demographic profile, Andaman and Nicobar islands, Cervical cancer.

### INTRODUCTION

India being a developing country, cervical cancer has a major impact in the lives of Indian women. Cervical cancer is the fourth most common cancer in women worldwide. 80% of the Indian women are diagnosed in locally advanced stages at the time of presentation, hence the reason for increased morbidity and mortality. 528,000 new cases were estimated in 2012, with approximately 85% occurring in less developed countries, of which about one fifth cases of cervical cancer was diagnosed in India<sup>1</sup>. Less developed countries accounts for approximately 85% mortality from cervical cancer worldwide<sup>2</sup>. Main reasons proposed for the late presentation of cervical cancer in India and other developing countries are lack of infrastructure and poor health awareness and is likely to continue for coming years also.

According to 2013 census report, 70% of the Indian population lived in the rural area of the country<sup>3</sup>. High incidence of cervical cancer has been reported by Swaminathan R et al from The north-eastern districts of Tamil Nadu and Pondicherry as they have high proportion of the rural population<sup>4</sup>.

Second highest incidence of cervical cancer in the world has been reported by Ambilikai Cancer Registry<sup>5</sup>. The risk of developing cervical cancer has been associated with a number of socioepidemiological factors such as age, parity, religion, socioeconomic status, educational level, and sexual behaviors<sup>6</sup>. Exposure to sexual practice and infection during adolescence, when the transition zone of the cervix is very susceptible to initiation of malignancy is an important risk factor for cervical cancer<sup>7</sup>. Tobacco smoking is also an important risk factor for cervical cancer, seen in the form of beedi smoking in Indian rural female population<sup>8</sup>.

Cervical cancer data in India are mainly derived from the population-based cancer registries (PBCRs) and hospital-based cancer registries (HBCRs). PBCR demographic<sup>9</sup> reveal that the incidence of cervical cancer is 30%

The ANI, is a Union Territory, a group of Islands, a total of 572, lying in the South Eastern Part of the Bay of Bengal. According to 2011 census, the population of the Union Territory was 379,944, out of which 53.25% were male. There are 3 districts, North and middle Andaman, South Andaman and Nicobar. Inhabitants of these islands are a mixture of different races and cultures who migrated from various places of India and also the indigenous tribal population identified as the Particularly vulnerable Tribal Groups (PTGs) by Government of India<sup>10</sup>.

Andaman & Nicobar Islands Institute of Medical Sciences (ANIIMS), Portblair is the only tertiary care centre in the whole island and caters to the whole population. Most cancer patients of ANI at some point of time during their treatment utilize the services of the study hospital. Therefore, the number of cancer patients attending GB Pant hospital is

a good approximate of the total number of cases in the Islands.

This study was conducted to describe demographic and socioepidemiological factors related to Cervical Cancer in ANI.

### MATERIAL AND METHODS

The present study was carried out in Medical Oncology OPD of GB Pant Hospital, ANIIMS Port Blair. This is retrospective analysis of Cervical Cancer patients attending Medical Oncology OPD from Jan 2015 to Dec 2018.

Patient's records were obtained and details of clinical history, complete clinical examination, and haematological, biochemical, and radiological investigation reports before the actual treatment plan and during treatment were recorded and analyzed. Most patients attended Gynaecological OPD for cervical biopsy. After diagnosis of invasive cervical cancer, cases were reexamined and staged according to International Federation of Gynaecologists and Oncologists (FIGO) staging system.

The treatment policy was planned depending on the FIGO stage and status of the first presentation of the patient. Metastatic diseases who were treated with palliative intent received only chemotherapy. The data was collected and compiled in MS Excel and summarized using percentages and proportions.

### RESULTS

A total of 82 patients were registered as Gynaecological cancer from Jan 2015 to Dec 2018 in the Medical Oncology OPD of which 42 (51.22%) patients were registered as Cervical Cancer. 25 cases of cervical cancer were diagnosed between Jan 2015 and Dec 2018 whereas there were 17 patients who were diagnosed before Jan 2015 and presented to the Medical Oncology OPD for follow up. Most of the patients 34 (81%) belonged to South Andaman district and 8 (19%) patients from North and Middle Andaman district. There was no case of cervical cancer from Nicobar district. Majority of the patients i.e 34 (81%) belonged to Middle Socioeconomic status and 8 (19%) patients were from poor socioeconomic status. Only 1 (2.4%) patient was nulliparous, 3(7.14%) had only 1 parity and rest were multiparous, of which 29 (69.05%) patients had between 2 to 3 issues and 9 (21.4%) patients had more than 3 issues. (Table 1)

27 (64.3%) patients were Postmenopausal. Majority of the patients 27 (64.3%) patients presented with complaints of Postmenopausal bleed at the time of diagnosis. Altogether 14 (33.32%) patients were addicted to Tobacco for many years in some form, either smoking 6 (14.28%) patients or Chewing 8 (19.04%) patients. Histological most common was Squamous cell carcinoma (SCC) i.e 40 (95.2%) patients with Well differentiated, 17 (40.5%) being the most common variant. (Table 1)

**Table 1 : Patient's Demography And Clinical Profile**

<b>LOCALITY</b>	
South Andaman	34 (81%)
North & Middle Andaman	8 (19%)
Nicobar	0
<b>ETHNICITY</b>	
Local Population (Non Tribes)	42 (100%)
Tribes	0
<b>SOCIOECONOMIC STATUS</b>	
Low Socioeconomic status	8 ( 19%)
Middle Socioeconomic status	34 (81%)
<b>MARRIETAL STATUS</b>	
Unmarried	0
Married	42 (100%)
<b>ADDICTIONS</b>	
Tobacco Smoking	6 (14.28%)
Tobacco Chewing	8 (19.04%)
No Addictions	28 (66.75%)
<b>PARITY</b>	
Nulliparous	1 (2.4%)
1	3(7.14%)
2 to ≤3	29 (69.05%)
>3	9 (21.4%)
<b>MENOPAUSAL STATUS</b>	
Premenopausal	15 (35.7%)
Postmenopausal	27 (64.3%)
<b>MODE OF PRESENTATION</b>	
Postmenopausal bleeding	27 (64.3%)
Postcoital Bleeding	8 (19%)
Blood mixed with Discharge	7 (16.7%)
<b>PATHOLOGY TYPE</b>	
Squamous cell carcinoma	40 (95.2%)
Adenocarcinoma	2 (4.8%)
<b>DIFFERENTIATION TYPE</b>	
Well differentiated	17 (40.5%)
Moderately differentiated	16 (38.1%)
Poorly differentiated	9 (21.4%)

The patient's age ranged from 31 yrs to 75 yrs, with a mean age of 54.36 ±9.3 years SD. Majority of the patients were diagnosed in the fifth and sixth decade of life. (Table 2)

**Table 2 : AGE DISTRIBUTION**

<b>AGE (in years)</b>	<b>N (n%)</b>
< 40	3 (7.1%)
41 to 50	14 (33.3%)
51 to 60	15 (35.7%)
61 to 70	8 ( 19%)
>70	2 (4.8%)

Majority of the Patients i.e 25 (59.6%) were in Stage IIIA or above. No patient was diagnosed at Stage I. 38 ( 90.5%) patients were treated with curative intent and only 4 (9.5%) patients received treatment with palliative intention. 38 (90.5%) patients received Radiation therapy as per the plan. At the completion of study 16 (38.09%) patients were dead , 10 (23.8%) patients progressed/relapsed and 16 (38.09) patients were in remission.

Median survival for Stage II was 36.75 months, Stage III was 16 months and Stage IV was 14 months. (Table 3)

**Table 3 : STAGE DISTRIBUTION AND MEDIAN SURVIVAL**

<b>STAGE</b>	<b>N (n%)</b>
IA	0
IB	0
IIA	1 (2.4%)
IIB	16 (38.1%)
IIIA	4 (9.5%)
IIIB	18 (42.9%)
IVA	2 (4.8%)
IVB	1 (2.4%)
<b>STAGE MEDIAN SURVIVAL (in months)</b>	
STAGE I	No patients diagnosed in Stage I
STAGE II	36.75
STAGE III	16
STAGE IV	14

**DISCUSSION**

When we compare it with Global trends it is observed that African countries like Malawi (75.9), Mozambique (65.0), Zambia (58), Zimbabwe (56), and few central African countries are high-risk regions for cervical cancer with the age-standardized rates of over 30 per 100,000 cross 10 age groups<sup>11</sup>. Countries like New Zealand (5.5) and West Asia (4.4) have low rates of Cervical cancer. It is observed in various studies that the underdeveloped and developing countries have higher frequencies of Cervical Cancer due to lack of well structured screening programmes compared to Western industrialised countries<sup>12</sup>.

In a one year study done by Shahid et al it was observed that frequency of Cervical cancer was 14.6% of all the female cancers and 57.14% out of all the Gynaecological cancer<sup>13</sup>. This high prevalence rate might be due to the lack of health infrastructure and organised screening programmes in our setting as compared to developed nations. Many other researchers have also observed the same. Even in the present study the frequency of Cervical cancer among the Gynaecological cancer is 51.22%. Majority of the patients i.e. 34 (81%) of the patients belonged to South Andaman . This can be explained as majority of population resides in this part of ANI.

The mean age of the patients was 54.36 years. 29 (69%) women were in the fifth, and sixth decade of life. Approximately 7.1% belonged to age <40 years. 30%–40% of cases of cervical cancer lie in the range of 40–60 years as per the demographics of HBCRs among various registries. It was further observed in a study from rural India that the maximum number of cervical cancers are diagnosed in the fourth and fifth decade of life<sup>14</sup>.

According to the Surveillance, Epidemiology, and End Results data, below the age of 50 years most women with cervical cancer are identified. More than 20% of new cases are diagnosed in women aged 65 years and older<sup>15</sup>, hence older females remain at risk. In contrast to the data from India and many developing countries cervical cancer is relatively a disease of young in United Kingdom. It accounts for 16% of all cancers in the age group of 15 -34 yrs with a peak age of diagnosis at 25–29 years<sup>16</sup>.

The histology in 95.2% cases were SCC, making it the most common of which 40.5% were well differentiated. Adenocarcinoma was reported only in 4.8% of cases. 85%–90% of cervical cancer cases in India are SCC. The prevalence of HPV16 alone in cervical cancer is 70%–90% in India, whereas HPV18 varies from 3% to 20%. In western countries Adenocarcinoma contribute to more than 25% of all cervical cancer cases, and 86% cases are infected with HPV 18. In contrast, only 10%–15% of cervical cancer cases present with a histology of adenocarcinoma in India, and HPV16 is the most prevalent type (42%) even in adenocarcinoma<sup>17</sup>.

About 97.6% Of Patients presented in advanced stage. Similar to the observation in most of the studies around the world from less developed countries whereby most of the cervical cancer cases presents in advanced stages<sup>12</sup>, even in our study Maximum patients belonged to Stage IIIB (42.9%) followed by Stage IIB (38.1%). (Table 3)

14 (33.32%) of the patients were addicted to Tobacco in various forms. 6 (14.28%) were addicted to Tobacco smoking, mostly Beedi and remaining 8 (19.04%) were addicted to tobacco chewing (Table 1). A study by McIntyre et al has supported Tobacco smoking as a risk factor for Cervical cancer<sup>18</sup>.

There was only one Nulliparous women in our study. 90.45% of the women were Multiparous, with 2 to ≤3 parity in 29 (69.05%) patients and 9 (21.4%) patients with more than 3 parity (Table 1).

Multiparity is considered as a high risk for cervical dysplasia and cervical cancer<sup>19</sup>.

Multiparity induces many cervical changes, which may predispose to malignant transformation. It may increase the risk of cervical cancer by maintaining the transformation zone in the ectocervix region. Moreover, the number of squamous metaplastic cells in the transformation zone increases during pregnancy<sup>20</sup>.

The impact of socioeconomic factors pertaining to the stage of cervical cancer patients at diagnosis was analyzed in the study from South India<sup>21</sup>.

In our study patients belonging to low Socioeconomic status were 8 (19%) whereas 34 (81%) belonged to middle socioeconomic status. The presence of other sexually transmitted infections<sup>22</sup> and immunosuppression<sup>23</sup> are also risk factors for cervical cancer.

Majority of our patients i.e 27 (64.3%) , presented with Postmenopausal bleed. 38 (90.5%) were planned to be treated with curative intent. Treatment plan was generated for them but only 30(78.95%) of them completed the treatment course. Only 4 (9.5%) were treated with palliative intent. Similar picture where patients don't complete their planned treatment has been observed in various HBCRs. As per a Mumbai Registry only 47 % patients and as per a bangaluru registry only 37% patients complete their planned treatment.

## CONCLUSION

Incidence of Cervical cancer still remains high in our society and as most of our patients still presents in higher stage at the time of diagnosis. More effective cervical cancer screening programmes, health awareness classes and improved infrastructure are the need of the hour. Since post menopausal bleeding is the commonest presentation, preventive strategies may be oriented towards awareness and early reporting of post menopausal bleed.

## CONFLICT OF INTEREST

None

## REFERENCES

- 1) Ferlay J, Soerjomataram I, Ervik M, Dikshit R, Eser S, Mathers C, et al. Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 11. Lyon: International Agency for Research on Cancer; 2013.
- 2) Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM, et al. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Cancer* 2010;127:2893-917
- 3) India's Population 2015; C2013. Available from: <http://www.Indiaonlinepages.com>. [Last accessed on 2017 Jun 25].
- 4) Swaminathan R, Selvakumaran R, Esmey PO, Sampath P, Ferlay J, Jissa V, et al. Cancer pattern and survival in a rural district in South India. *Cancer Epidemiol* 2009;33:325-31.
- 5) Rajkumar R, Sankaranarayanan R, Esmey A, Jayaraman R, Cheriyan J, Parkin DM, et al. Leads to cancer control based on cancer patterns in a rural population in South India. *Cancer Causes Control* 2000;11:433-9.
- 6) Foley G, Alston R, Geraci M, Brabin L, Kitchener H, Birch J. Increasing rates of cervical cancer in young women in England: An analysis of national data 1982-2006. *Br J Cancer* 2011;105:177-84
- 7) El-Moselhy, E.A., Borg, H.M., Atlam, S.A. 2016. Cervical Cancer: Sociodemographic and Clinical Risk Factors among Adult Egyptian Females. *Adv Oncol Res Treat* 1: 106.
- 8) Sinha, D.N. et al. 2003. Tobacco use in rural Bihar. *Indian Journal of Community Medicine* Vol. XXVIII, No.4, Oct.-Dec
- 9) National Centre for Disease Informatics and Research, National Cancer Registry Programme, Indian Council of Medical Research. Three-Year Report of Population Based Cancer Registries 2009-2011
- 10) National Informatics centre. Andaman and Nicobar Islands. MEIT. Govt. of India. Know Andaman. Available from: <http://www.and.nic.in/andaman/>
- 11) African Coalition on Maternal, Newborn and Child Health. 2014 Africa Cervical Cancer Multi Indicator Incidence and Mortality Scorecard; 2014
- 12) Ojji EC, Dike EI, Nzewuihe AC, Ejikem EC. Epidemiology of cervical cancer at the Anambra State University Teaching Hospital, Awka. *Trop J Med Sci* 2012;1:10-3
- 13) P.P. Abdul Shahid, PoojaGogia B, Nagma Rafi. Comprehensive analysis of cancer burden in andaman and nicobar islands: a descriptive study. *International Journal of Contemporary Medical Research* 2017;4(2):357-360.
- 14) Thulaseedharan JV, Malila N, Hakama M, Esmey PO, Cheriyan M, Swaminathan R, et al. Socio demographic and reproductive risk factors for cervical cancer - a large prospective cohort study from rural India. *Asian Pacific J Cancer Prev*. 2012;13: 2991-5
- 15) Surveillance, Epidemiology, and End Results Program. SEER Stat Fact Sheets: Cervix Uteri Cancer. SEER c2015; 2014.
- 16) Cancer Statistics Registrations, England. Office for National Statistics; 2015. Available from: <https://www.ons.gov.uk/ons/reel/.../cancer-statistics-registrations-england/index.htm...> [Last accessed on 2017 May 24]
- 17) Shukla S, Bharti AC, Mahata S, Hussain S, Kumar R, Hedau S, et al. Infection of human papillomaviruses in cancers of different human organ sites. *Indian J Med Res* 2009;130:222-33.
- 18) McIntyre-Seltman K, Castle PE, Guido R, Schiffman M, Wheeler CM. Smoking is a risk factor for cervical intraepithelial neoplasia grade 3 among oncogenic human papillomavirus DNA-positive women with equivocal or mildly abnormal cytology. *Cancer epidemiology, biomarkers & prevention: a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology*. 2005; 14: 1165-1170.
- 19) Schiffman M, Brinton LA, Devesa SS, Fraumeni J.J.F. Cervical cancer. *Cancer Epidemiology and Prevention*, 1996; 2nd edn. pp 1090-1116. Oxford: Oxford University Press
- 20) Muñoz N, Franceschi S, Bosetti C, Moreno V, Herrero R. Role of parity and human papillomavirus in cervical cancer: the IARC multicentric case-control study. *Lancet*. 2002; 359: 1093-1101.
- 21) Gyenwali D, Pariyar J, Onta SR. Factors associated with late diagnosis of cervical cancer in Nepal. *Asian Pac J Cancer Prev* 2013;14:4373-7.
- 22) Lehtinen M, Ault K, Lyytikäinen E, Dillner J, Garland SM. Chlamydia trachomatis infection and risk of cervical intraepithelial neoplasia. *Sexually transmitted infections*. 2011; 87: 372-376.
- 23) Atashili J. Cervical precancerous lesions in HIV-positive women in Cameroon: prevalence, predictors and potential impact of screening. *North Carolina*, 2009;Chapel Hill