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A Study on Clinical Profile of Patients with Cervical Cancer Attending Tertiary Care Hospital

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ABSTRACT

Adenocarcinomas of the cervical cancer arise from the endocervical columnar cells and account for about 14% of cervical carcinomas. The percentage of adenocarcinomas has increased because, they are more difficult to detect at a preinvasive stage. All patients were explained the details of the study and written, informed consent was taken from all cases and controls who were willing to participate in our study. All clinically suspected patients of carcinoma cervix underwent punch biopsy and endocervical sampling under aseptic precautions. The samples were sent to histopathological examination to confirm cervical cancer. Among the cases, 28 cases (96.7%) were squamous cell carcinoma and 2 cases (3.3%) were adenocarcinoma. Amongst cases, 17cases (56.7%) were admitted with stage IIIB, 3 cases (10%) were admitted with stage I, 6 cases (20%) were admitted with stage II, 3 cases (10%) admitted with stage IIIA and one patient admitted with stage IV of carcinoma.

INTRODUCTION

Cervical cancer is due to the abnormal proliferation of cervical tissue that have the ability to invade or spread to other parts of the body. Cancer of the cervix uteri is the 4th most common cancer among women worldwide, with an estimated 527,624 new cases and 265,653 deaths in 2012. Worldwide, mortality rates of cervical cancer are substantially lower than incidence^[1]. The majority of cervical cancers are squamous-cell carcinoma. These lesions arise from squamocolumnar junction and may be keratinizing or nor keratinizing. Adenocarcinomas of the cervical cancer arise from the endocervical columnar cells and account for about 14% of cervical carcinomas. The percentage of adenocarcinomas has increased because, they are more difficult to detect at a preinvasive stage^[2].

The association between cervical neoplasia and sexual activity is well established and current studies have identified the human papilloma virus (HPV) as the most important factor responsible for this association. An epidemiological study done by Schiffman et al. showed that the increased risk of cervical intraepithelial neoplasia (CIN) previously associated with other factors such as increased number of sex partners, earlier age at first intercourse, lower level of education, lower income and smoking is actually a result of HPV infection. The only risk factor studied that was noted to be independent of HPV status was increased parity. Schiffman et al. concluded, the HPV satisfied all the requirements that designate a cause of cervical neoplasia^[3].

Acquisition of high risk HPV genotypes (HR HPV) is age dependent, with the highest frequency being amongst the youngest women. An incident HPV infection may regress spontaneously. A persistent high risk HPV infection is one of the causative factors of cervical intraepithelial neoplasia^[4].

MATERIALS AND METHODS

A total number of 60 women were recruited in our study after taking written and informed consent. Out of these 60 women, 30 were cases and 30 were healthy controls. The 30 cases were clinically and histologically confined cases of carcinoma cervix of various stages. The 30 controls were matched with cases for age and BMI.

Inclusion Criteria:

- Patients who were diagnosed to have cervical cancer of any clinical stage confirmed by biopsy were included as cases.

Exclusion Criteria:

- Obese individual with BMI >30.
- Patients having other medical illness including

diabetes, hypertension, hypothyroidism which interfere or alter lipid profile.

- Patients who had previously taken or were at time of study on radiotherapy or chemotherapy.
- Patients who were on medications such as statins, corticosteroid which are known to alter the lipid profile for past one month.
- Patients who have undergone surgeries like bariatric surgery which are known to alter lipid levels.

All patients were explained the details of the study and written, informed consent was taken from all cases and controls who were willing to participate in our study. All clinically suspected patients of carcinoma cervix underwent punch biopsy and endocervical sampling under aseptic precautions. The samples were sent to histopathological examination to confirm cervical cancer.

RESULTS AND DISCUSSIONS

In cases, there were 4 cases (13.3%) in 31-40 years age group. The youngest patient was aged 35 years. Majority of the patients i.e. 13 cases (43.3%) were in age group 51-60 years, 5 cases (16.7%) were in age group 41-50 years and 8 cases (10%) were above 61 years of age. The mean age was 56.5 years.

In controls, there were 4 cases (13.3%) in 31-40 years age group. The youngest patient was aged 36 years. Majority of the patients i.e. 13 cases (43.3%) were in age group 51-60 years, 5 cases (16.7%) were in 41-50 years and 8 cases (10%) were above 61 years of age. The mean age was 55.8 years. The cases and controls were age matched with $p=0.809$.

Majority of patients presented with three main symptoms i.e. offensive vaginal discharge, backache and loss of appetite and weight loss i.e. 14 cases each (46.7%). 7 cases (23.3%) presented with post coital bleeding, 11 case (36.7%) presented with post-menopausal bleeding and pain abdomen and 4 cases (13.3%) presented with urinary symptoms. Majority 11 (36.7%) of cases attained menarche at age of 15 years. Majority 12 (40%) of controls attained menarche at age of 15 years.

Majority of the cases i.e. 18 patients (60%) were post-menopausal women and 12 patients (40%) were premenopausal women. Amongst controls 16 women (54%) were post-menopausal women and 14 women (46%) were premenopausal women. Majority of cases and controls were multiparous women i.e. 96.7%. There is no statistical significance between parity of cases and controls ($p=0.657$).

Majority of cases, 25 (83.3%) and controls 25 (83.3%) had body mass index between 18.5- 24.9. There was no statistical significance in BMI between cases and controls ($p=0.776$).

Table 1: Age distribution of patients studied

Age in years	Cases		Controls	
	Number	Percentage	Number	Percentage
31-40	4	13.3	4	13.3
41-50	5	16.7	5	16.7
51-60	13	43.3	13	43.3
61-70	5	16.7	5	16.7
71-80	3	10.0	3	10.0
Total	30	100.0	30	100.0
Mean \pm SD	56.50 \pm 12.03	55.80 \pm 10.16		

Table 2: Distribution of symptoms in cases:

Symptoms	Number of cases (n=30)	Percentage
Vaginal discharge	14	46.7
Post coital bleeding	7	23.3
Postmenopausal bleeding	11	36.7
Backache	14	46.7
Pain abdomen	11	36.7
Urinary symptoms	4	13.3
Loss of appetite	14	46.7

Table 3: Age of menarche distribution in cases and controls

Age of menarche	No. of patients	Percentage	No. of controls	Percentage
13	4	13.3	3	10%
14	8	26.7	10	33.33%
15	11	36.7	12	40%
16	7	23.3	5	16.66%
Total	30	100.0	30	100.0

Table 4: Menstrual status of cases and controls

Status	Number of cases	Percentage	Number of controls	percentage
Premenopausal	12	40.0	14	46
Postmenopausal	18	60.0	16	54
Total	30	100.0	30	100.0

Table 5: Parity in cases and controls

Parity	Cases		Controls	
	Number	percentage	Number	percentage
1	1	3.3	1	3.3
2	2	6.7	5	16.7
3	12	40.0	14	46.7
4	8	26.7	6	20.0
≥ 5	7	23.3	4	13.3
Total	30	100.0	30	100.0

P=0.657, Not significant, Fisher Exact test

Table 6: BMI (kg/m²) in cases and controls.

BMI (kg/m ²)	Cases		Controls	
	Number	Percentage	Number	Percentage
16-18.4	4	13.3	4	13.3
18.5-24.9	25	83.3	25	83.3
25-29.9	1	3.3	1	3.3
Total	30	100.0	30	100.0

P=0.776, Not significant, Fisher Exact test

Table 7: Comparison of mean value of clinical variables in cases and controls:

Variables	Cases	Controls	p-value
Age in years	56.50 \pm 12.03	55.80 \pm 10.16	0.809
Weight (kg)	52.14 \pm 6.74	53.53 \pm 8.15	0.473
Height (kg)	154.77 \pm 5.72	152.57 \pm 6.07	0.154
Waist circumference (cm)	81.50 \pm 5.76	84.43 \pm 8.44	0.121
Hip circumference (cm)	96.10 \pm 4.88	95.63 \pm 6.08	0.744

Table 8: Histological type of carcinoma in cases

Type	No. of patients	percentage
Squamous cell carcinoma.	28	96.7
Adenocarcinoma.	2	3.3
Total	30	100.0

Table 9: Grades of carcinoma in cases

Grades	Number of patients	Percentage
Well differentiated	9	30.0
Moderately differentiated	19	63.3
Poorly differentiated	2	6.7
Total	30	100.0

Table 10: Stage of carcinoma in cases

Stage	Number of patients	Percentage
I	3	10.0
IIB	6	20.0
IIIA	3	10.0
IIIB	17	56.7
IV	1	3.3
Total	30	100.0

Table 11: Comparison of age in different studies

Age group in years	31-40		41-50		51-60		>60	
Authors	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Saraswathi mali <i>et al.</i> 1968 (n=1625) ^[5]	630	38	504	31	202	12	31	2
Bhadury S <i>et al.</i> 1978 (n=70) ^[6]	20	29	24	34	11	16	5	8
Naryana SM <i>et al.</i> 2010 (n=180) ^[7]	19	17.52	46	42.59	31	28.7	12	11.11
Raju K <i>et al.</i> 2010 (n=99) ^[8]	7	7.1	39	39.7	21	21.4	31	31.6
Present study (n=30)	4	13.3	5	16.7	13	43.3	8	26.7

Table 12: Comparison of histological types in different studies

Histopathological type	Squamous cell carcinoma		Adenocarcinoma	
Authors	Number	Percentage	Number	Percentage
Bhadury S <i>et al.</i> 1978 (n=70) ^[6]	70	100	-	-
Naryana SM <i>et al.</i> 2010 (n=180) ^[7]	101	93.5	6	6.5%
Present study (n=30)	28	96.7	2	3.3

Table 13: Comparison of stages of cervical cancer in different studies

Stage Authors	I		II		III		IV	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Panchanathan R <i>et al.</i> 1996 (n=235) ^[9]	30	12.7	75	31.9	90	38.2	40	17
Naryana SM <i>et al.</i> 2010 (n=180) ^[7]	8	7.8	6	5.4	83	76.83	11	10
Present study (n=30)	3	10	6	20	20	66.7	1	3.3

The mean values of age, weight, height, waist circumference hip circumference were comparable between cases and controls. There was no significant difference in the mean values of age, weight, height, waist circumference, hip circumference between cases and controls.

Among the cases, 28 cases (96.7%) were squamous cell carcinoma and 2 cases (3.3%) were adenocarcinoma. Out of 30 patients, 19 cases (63.3%) were moderately differentiated, 9 cases (30%) were well differentiated, and 2 cases (6.7%) were poorly differentiated.

Amongst cases, 17 cases (56.7%) were admitted with stage IIIB, 3 cases (10%) were admitted with stage I, 6 cases (20%) were admitted with stage II, 3 cases (10%) admitted with stage IIIA and one patient admitted with stage IV of carcinoma.

Cancer cervix is the most frequent cause of the death from cancer especially in women from developing countries like India. Fundamentally the development of a malignancy requires the uncontrolled and excessive proliferation of cells. These newly forming cells would need many basic components well above the normal limits, used in physiological process. One such component is lipids which form major cell membrane components essential for various biological functions including cell division and growth of normal and malignant tissues. The increased requirement of lipids to fulfil the needs of these new cells will diminish the lipid stores. As many studies were not done comparing lipid profile with carcinoma cervix, we are comparing the present study results with lipid profile of other malignancies.

Above table showing comparison of the age distribution of cancer cervix in different study groups and the present study group. In our study, majority of cases 13 (43.3%) belonged to age group 51-60 years. The mean age for cervical cancer was 56.5 years in

present study. In studies done by Saraswathi mali *et al.*, Bhadury *et al.* majority of their cases belonged to age group 31-50 years. In 2010 Naryana SM *et al.* conducted a study on scenario of cervical cancer at our hospital which showed majority of cases 46(42.59%) were in age group 41-50 years which was not correlating with present study.

The above table shows the distribution of histological types of tumour in different studies and present study. On histological examination squamous cell carcinoma was the commonest type and it was correlating with studies done by Narayan SM *et al.*

Majority of cases 20 (66.7%) in present study belonged to stage III of cervical cancer. Similar results were seen in study done by Narayana SM *et al.* in 2010 in our hospital, which showed maximum number of patients 83(76.83%) presented with stage III of cervical cancer. In present study most of the patients had come with locally advanced stage of cancer compared to other studies. As chinakondrupadu is a rural area cultural attitude and lack of public education also discourage early diagnosis. Most of the patients presented to our hospital with advanced stage of cancer^[10].

CONCLUSION

The mean age of cancer cervix patients and the healthy controls was 56.5 years and 55.8 years, respectively. Majority were postmenopausal women.

The commonest presenting complaints were offensive vaginal discharge, loss of appetite and weight loss. Squamous cell carcinoma was the commonest histological type, followed by adenocarcinoma. Maximum patients presented to our hospital with stage IIIB.

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