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Original Article

Clinicopathological Correlation of Cervical Carcinoma: A Tertiary Hospital-based Study

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Abstract

Objectives: This study is conducted to assess the various predisposing factors for cancer cervix and to correlate the clinical and pathological finding using cervix histopathology.

Background: Cervical cancer is the third most common cancer in women worldwide accounting for 9% of all female cancer and 9% death in female due to cervical cancer. We studied 150 cases of cervical carcinoma with different clinical presentations and correlated them with histopathological findings in tertiary hospital in Aurangabad, Maharashtra.

Materials and Methods: A total of 150 cases histopathologically diagnosed as cervical cancer over a period of 1 year were considered for the study. Clinical details of the patient were noted with the help of semi-structured pro forma. The data were analyzed and *P* value calculated.

Results: Of 150 patients, 88 had moderately differentiated squamous cell carcinoma, 24 poorly differentiated, and 32 well differentiated. Adenocarcinoma numbered only six. 98 cases were in the age group of 40–59 years, 39 in the age group of 60–80 years, and 13 in 20–39 years. All six cases of adenocarcinoma were seen in 40–59 years. 96 presented with white discharge, 68 with bleeding per vagina, and 58 had constitutional symptoms. Most of the patients with adenocarcinoma presented with bleeding per vagina. 98 were in Stage 3B, 40 in Stage 2B, 5 in 4A, and 7 in 1B.

Conclusions: Screening of cervical cancer must be done in women with white discharge per vagina.

Key words: Cancer cervix, Clinicopathological correlation, Histopathology, Maharashtra, India

INTRODUCTION

Carcinoma of cervix is the most common cancer responsible for about 5% of all cancer deaths in women worldwide.[1] It is the 5th deadliest cancer in women. There are 1.7 million cases in developing world.[1]

It affects about 16 per 10,000 women in a year and kills 9 per 100,000 per year.[1] In India, 134,000 were detected to have cervical cancer, of which 72,825 women died of cervical cancer.[2] India accounts 1/5 of the burden of cervical cancer worldwide. According to the WHO, 80% of all cases occur in developing countries[3] because prevention programs are either not exist or poorly implemented. Unlike most other malignancies, cancer cervix is easily preventable. Pap smear is easy, simple, and effective screening tool for the detection of early epithelial cell abnormalities.

Women's knowledge level, motivation for screening, and other psychological factors determine her health-seeking behavior.[4] Relative risk of each histological type of invasive cervical cancer is increased with increasing number of sexual partner, young age at first intercourse, increasing parity, increased duration of OC pills use, and smoking.[5]

Human papillomaviruses have emerged as the principal sexually transmitted causal agent in the development of the cancer of uterine cervix in women.[6] Worldwide, the incidence of cervical cancer is approximately 510,000 new cases annually, with approximately 288,000 deaths

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worldwide. The incidence rises in 30–34 years of age and peaks at 55–65 years of age with median age of 38 years.[7]

MATERIALS AND METHODS

The cases were collected from the tertiary care government cancer hospital, Aurangabad, for a period of 1 year. Clearance of ethical board obtained from the institutional ethical committee. A total number of 150 cases histopathologically diagnosed cervical cancer were considered for the study. All details from the patient were taken with the help of semi-structured pro forma. Detailed history about symptoms, menstrual history, systemic examination, local per speculum, and per vaginal examination was done for staging cancer cervix. The data were analyzed with the help of MATLAB software.

RESULTS

A total of 150 cases were analyzed for histopathological type, age parity, symptoms, clinical diagnosis, and clinical staging. Of 150 patients, majority were moderately differentiated squamous cell carcinoma (88) followed by well-differentiated carcinoma (32) and poorly differentiated carcinoma (24). Adenocarcinoma cervix was only six cases [Table 1]. Highest cases were noted in the age group of 40–59 years (98 cases) followed by 60–80 (39 cases) and 20–39 years (13 cases). All six cases of adenocarcinoma were seen between 40 and 59 years [Table 1].

Maximum number of cases was noted in women who had 4–6 children. Hence, it is obvious that multiparty (more than three) is significant risk factor for cancer cervix [Table 2].

White discharge was the most common complaint noted in 96 of 150 accounting 64%. 68 of 150 presented with bleeding per vagina (45.33%) and 58 of 150 had constitutional symptoms of malignancy as back pain, weight loss, and loss of appetite. Most of the patient of adenocarcinoma presented with bleeding per vagina and white discharge per vagina [Table 3].

All the suspected cases of cancer cervix were diagnosed as carcinoma by histopathology. Staging was done by standard protocol for staging. Of 150 patients, 98 (65.33%) were in Stage 3B (tumour extends to pelvic wall), 40 (26.66%) in Stage 2B (tumour with parametrial invasion), 5 (3.33%) in Stage 4A (tumor invades mucosa of bladder or rectum and/or extends beyond true pelvic), and 7 (4.66%) in Stage 1B (clinically visible lesion confined to cervix or microscopic lesion stromal invasion of 3–5 mm depth with 7 mm width) [Table 4].

Table 1: Age distribution in various histological types of cervical cancer

Histopathological type	Age group in years (%)			Total cases (%)
	20–39	40–59	60–80	
Adenocarcinoma	0	6	0	6 (0.04)
WDSCC	1 (3.12)	24 (75)	7 (21.87)	32 (100)
MDSCC	8 (9.09)	56 (62.5)	24 (27.27)	88 (100)
PDSCC	4 (16.66)	12 (50)	8 (33.33)	24 (100)
Total	13 (8.66)	98 (65.33)	39 (26)	150 (100)

*WDSCC: Well-differentiated squamous cell carcinoma, MDSCC: Moderately differentiated squamous cell carcinoma, PDSCC: Poorly differentiated squamous cell carcinoma

Table 2: Distribution of parity in cervical carcinoma

Histopathological type	Parity (%)				Total (%)
	1–3	4–6	6–10	>10	
Adenocarcinoma	4 (66.66)	2 (33.33)	0	0	6 (100)
WDSCC	11 (34.37)	20 (62.5)	1 (3.12)	0	32 (100)
MDSCC	44 (50)	41 (46.59)	3 (3.40)	0	88 (100)
PDSCC	10 (41.66)	14 (58.33)	0	0	24 (100)
Total	69 (46)	77 (51.33)	4 (2.66)	0	150 (100)

WDSCC: Well-differentiated squamous cell carcinoma, MDSCC: Moderately differentiated squamous cell carcinoma, PDSCC: Poorly differentiated squamous cell carcinoma

Table 3: Clinical signs in various histopathological types of cervical cancer

Clinical signs	Histopathological types of cervical carcinoma (%)				Total
	Adenocarcinoma	WDSCC	MDSCC	PDSCC	100%
WDPV	2 (2.08)	14 (14.58)	64 (66.66)	16 (16.66)	96
BPV	4 (5.88)	21 (30.88)	34 (50)	9 (13.23)	68
PMB	1 (4.16)	3 (12.5)	15 (62.5)	5 (20.83)	24
CS	2 (3.44)	17 (29.31)	25 (43.10)	14 (24.13)	58
MPV	0	0	0	1 (100)	1
PCB	0	9 (26.47)	15 (44.11)	10 (29.41)	34
IM	0	4 (33.33)	6 (50)	2 (16.66)	12
Others	3 (7.14)	8 (19.04)	19 (45.23)	12 (28.57)	42

WDSCC: Well-differentiated squamous cell carcinoma, MDSCC: Moderately differentiated squamous cell carcinoma, PDSCC: Poorly differentiated squamous cell carcinoma

Maximum number of cases were in Grade 3 as can be shown in Table 5.

As it can be Seen in Table 6, Maximum Number of Patients in our Study were Treated with Irradiation due to Advanced Stage at Time of Diagnosis.

DISCUSSION

Carcinoma of cervix is the most common cancer responsible for about 5% of deaths in women worldwide. Its ranking in causing death in women worldwide has decreased in the past 50 years from 5th to 8th due to early detection of precancerous lesions.[1] It has been estimated that 5 yearly

Table 4: Distribution of cervical carcinoma in various clinical stages at the time of diagnosis

Histopathological type	Stages of cervical cancer (%)				Total (100%)
	1B	2B	3B	4A	
Adenocarcinoma	0	0	6 (100)	0	6
WDSCC	5 (15.62)	8 (25)	19 (59.32)	0	32
MDSCC	2 (2.27)	25 (28.40)	61 (69.31)	0	88
PDSCC	0	7 (29.16)	12 (50)	5 (20.88)	24
Total	7 (4.66)	40 (26.66)	98 (65.33)	5 (33.33)	150

WDSCC: Well-differentiated squamous cell carcinoma, MDSCC: Moderately differentiated squamous cell carcinoma, PDSCC: Poorly differentiated squamous cell carcinoma

Table 5: Distribution of grades in 150 patients

Grade	Number (%)
1	5 (3.33)
2	34 (22.66)
3	100 (66.66)
4	11 (7.33)

Table 6: Distribution of patients according to the mode of treatment

Modality of treatment	Number (%)
Surgery	7 (4.66)
Irradiation	143 (95.33)
Combined surgery and irradiation	2 (1.33)

screening should prevent 84% of invasive cervical cancer and 3 yearly screening will prevent 91%.[1]

About 80% of new cervical cancer cases occur in developing countries like India, which reports approximately one-fourth of world's cases of cervical cancer each year.[2] Incidence of cervical cancer in urban India is decreasing due to more awareness in the urban educated women. Women's sexual habits can increase the risk for cervical cancer as having sex at early age, having multiple sexual partners.

Majority of cervical cancers are squamous cell carcinoma. The lesion arises from squamocolumnar junction and may be by keratinizing or non-keratinizing type (well-differentiated or poorly differentiated carcinoma). Studies have shown that 80–90% of cervical carcinoma are squamous cell carcinoma and rest of them constitute adenocarcinoma.[3] Adenocarcinoma of the uterine cervix arises from the endocervical columnar cells and constitutes about 14% of cervical carcinoma.[4]

In the present study, 96% of cases were squamous cell carcinoma, of which majority (61.11%) were moderately differentiated squamous cell carcinomas. Adenocarcinoma constituted only 4% of cases [Table 4].

According to our study, maximum number of cases was found in the age group of 40–59 years. Most of studies have observed maximum cases in elder women >40 years of age.[2,4,5] The most common age group involved in carcinoma cervix ranged from 35 to 50 years.[8] One study reported that incidence rises in 30–34 years of age and peaks at 55–65 years.[9]

According to our study, multiparty (more than three children) shows increased risk of malignancy when compared to lesser number of children. Studies show that women having four and above children have increased risk of malignancy.[2,6,7] One study shows that women with three or more births show statistically significant *P* value, suggesting increased risk for cancer cervix.

Most of the time, early cervical cancer, have no symptoms. Vaginal bleeding, post-coital bleeding, or rarely vaginal mass may be presenting features. In case of advanced disease, patient may present with abdominal pain, breathing difficult, and cervical neck mass. Advanced carcinoma can present with loss of appetite, weight loss, fatigue, pelvic pain, leg pain, swollen legs, heavy bleeding from vagina, or rarely leakage of urine or feces from the vagina. White discharge per vagina was the most common complaint in more than 50% of the patient with malignancy in one study.[2,7] In our study, most of the patient presented with white discharge per vagina followed by bleeding per vagina. Bleeding per vagina was the most common presentation in adenocarcinoma [Table 3].

In the present study, all of the cases were clinically diagnosed as cervical cancer was confirmed by histopathology in present study majority of the patient 98(65.33%) were in stage 3B.

In contrast to our result of 3B as the most common presenting staging for cervical carcinoma study by Goellner *et al.* suggested that the most common presenting stage is Stage 1 while kalyni *et al* also suggested 3B is the commonest stage.

Table 5 suggests distribution of patient according to grading. Most of the patients 100 (66.66%) had Grade 3 disease. This coincides with study conducted by Goellner, suggesting that 74.5% of patient having Grade 3 disease.[10]

Table 6 suggesting mode of primary treatment in 150 patients which was mainly radiotherapy because 143 patients presented in Stage 3B and very few patients, that is, seven presented in Stage 1 were treated with surgery.

To conclude, this study suggested that the health measures regarding cervical screening have to be started as early as 25 years because early marriages are common in India. Cervical cancer screening should be included in the National Health Programme. White discharge per vagina at any age should not be neglected as it can be symptom of cancer cervix.

CONCLUSIONS

This study suggested that the health measures regarding cervical screening have to be started at early as 25 years because early marriages are common in India. Cervical screening should be included in national health program. White discharge per vagina at any age should not be neglected.

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