

Retrospective histopathological analysis of cervical cancer: Our experience

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Abstract

Introduction: Cervical cancer is a malignant neoplasm arising from the uterine cervix. One of the most common symptoms of cervical cancer is abnormal vaginal bleeding, but in some cases there may be no obvious symptoms until the cancer has progressed to an advanced stage. Treatment usually consists of surgery in early stages, and chemotherapy and /or radiotherapy in more advanced stages of the disease.

Materials and Methods: This retrospective study of histomorphological patterns of cervical lesions was done over a period of 5 years (2008 to 2013). Totally 795 cervical biopsies were received, amongst which 618 biopsies were chronic cervicitis, 95 showed varying degrees of dysplasia's and 82 cases were malignancies. These cases were further correlated with clinical presentations.

Results: The commonest age group in the malignant cases (18 years to 80 years) were 4th and 5th decade with history of bleeding per vagina being the commonest clinical presentation. Squamous cell carcinoma was the commonest variant.

Conclusion: Histopathological patterns of malignancies needs to be sub-typed further along with special stains, immunohistochemistry and molecular studies, as the treatment modalities and prognosis largely varies with each type of lesion.

Keywords: Cervix, carcinoma, Histomorphological

Introduction

Carcinoma cervix is the 2nd most common malignant tumour in the world. But in India it is the number one cancer in women and constitutes for 16% of the world annual incidence. It is more common in 5th decade.⁽¹⁾ Epidemiological studies demonstrate the association of several risk factors which include sexual promiscuity, multiple sex partners, early sexual intercourse, multiple pregnancies, cigarette smoking, use of oral contraceptives and Human papillomas virus (HPV). Evidence of HPV is found in nearly 80% of cervical cancer. The most common clinical presentation of the patient is vaginal bleeding/ post menopausal bleeding and these patients need to be evaluated with colposcopy, pap smear and biopsy if necessary. Patients with abnormal pap smear have better outcome because early diagnosis.^(1,2)

Prognosis depends on the stage of the cancer with treatment; the 5 year relative survival rate for the earliest stage of invasive cervical cancer is 92%. Only 25% to 35% of women with stage III cancer and 15% or fewer of those with stage IV cancer are alive after 5 years.⁽³⁻⁵⁾ This study was conducted to identify the prevalence and histomorphological patterns of cervical cancer in our centre.

Materials and Methods

A 5 year retrospective study of cervical biopsies from February 2008 to January 2013 was carried out in

the department of pathology, Vinayaka Mission Kirupananda Variyar Medical College, Salem, Tamil Nadu. During this period, 795 cases of cervical biopsies for various clinical presentations were sent for histopathological examination to our department with a brief clinical history. All cervical biopsies were included in the study. Cervix histopathology from hysterectomy specimens were excluded from the study.

Results

The present study included 795 cases of cervical biopsies of which 643 (80.9%) were inflammatory, 70 (8.8%) cases showed dysplasia (CIN Grade I, II, & III) and 82 (10.3%) of cases were malignant (Table 1). The age group range for malignancy varied from 25- 80 years, amongst which 38% of cases were in 5th and 6th decade of life (Table 2). The most common clinical presentation in malignancy cases was bleeding per vagina (70%) (Table 3) and 62% of these cases were provisionally diagnosed clinically as carcinoma cervix. Growth was seen in 15% of malignancy cases and in other cases clinical suspicion and all cases were followed-up with biopsies and histopathological examination. The most common malignancy was squamous cell carcinoma (85.5%) among which moderately differentiated squamous cell carcinoma comprised 60% followed by well differentiated squamous cell carcinoma and poorly differentiated squamous cell carcinoma (Table 1).

Table 1: Different Variants of carcinoma

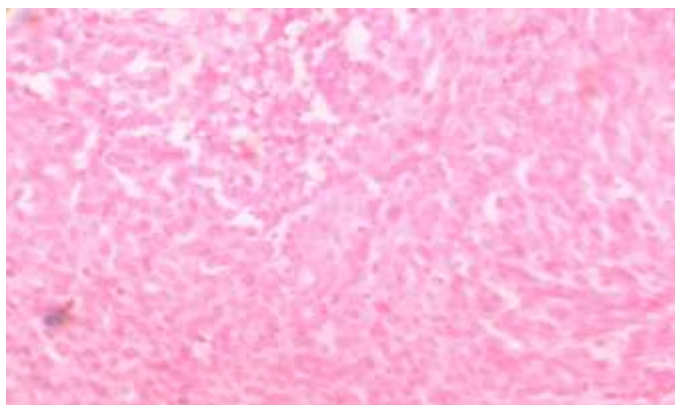
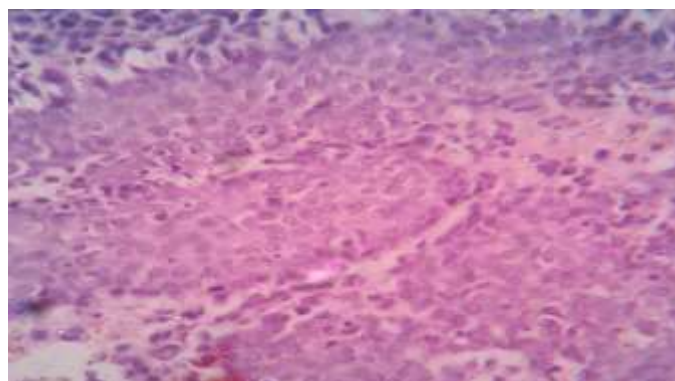
Sl no	Various histomorphological variants	No.	100%
1	Well differentiated squamous cell carcinoma	10	12.1%
2	Mod differentiated squamous cell carcinoma	36	76.8%
3	Poorly differentiated squamous cell carcinoma (Fig. 1)	08	09.7%
4	Squamo-transitional cell carcinoma (Fig. 2)	06	07.3%
5	Squamo-Papillary cell carcinoma (Fig. 3 & 4)	10	12.1%
6	Adenocarcinoma	08	09.7%
7	Adenoid cystic carcinoma	04	04.8%

Table 2: Age distribution of malignancy

Age	No of cases	100%
21-30	2	2.44%
31-40	14	17.07%
41-50	32	39.02%
51-60	26	31.70%
61-70	06	7.32%
71-80	02	2.45%

Table 3: Clinical presentation of malignancy

S. No.	Main clinical presentation	No of cases	Percentage
1	Bleeding p/v	58	70.7%
2	Growth	15	18.3%
3	Pain abdomen	5	6.1%
4	White discharge& itching	4	4.9%

**Fig. 1: Microscopy of Poorly differentiated carcinoma 40X H&E****Fig. 2: Microscopy of Squamo transitional cell carcinoma 40X H&E**

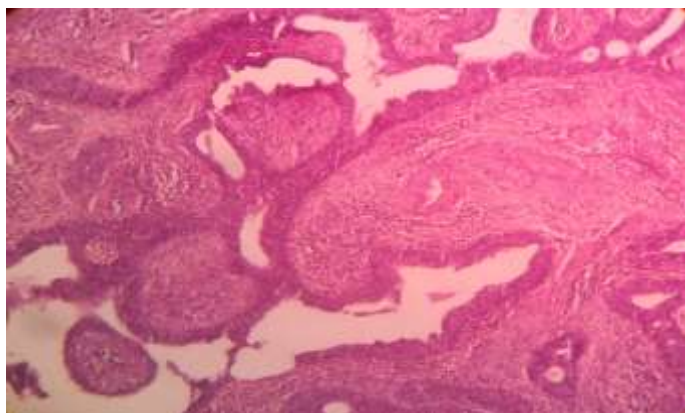


Fig. 3: Microscopy of Squamo papillary carcinoma 10X H&E

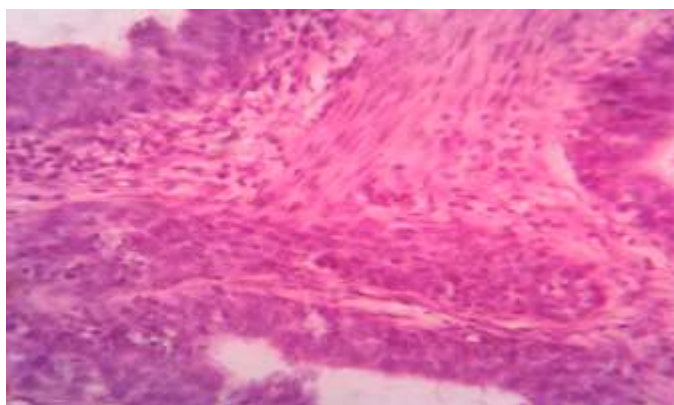


Fig. 4: Microscopy of Squamo papillary carcinoma 40X H&E

Discussion

Cervical cancer is the second most common cancer among women, with an estimated worldwide burden of 493,000 new cases and 274,000 deaths each year. Cervical cancer clinically presents with vaginal bleeding but many times symptoms may be absent until the cancer is in its advanced stages. The early stages of cervical cancer are usually completely asymptomatic.⁽⁶⁻⁸⁾ However patients can present with vaginal growth, contact bleeding, moderate pain during sexual contact and vaginal discharge. Symptoms of advanced cervical cancer includes loss of weight and appetite, fatigue, pelvic pain, back pain, heavy bleeding p/v and bone fracture in cases with metastasis. Our study also shows, bleeding per vagina as the commonest symptom, as seen in the literature.^(8,9)

Our study showed a spectrum of most of subtypes of squamous cell carcinoma except the well differentiated verrucous carcinoma, papillary carcinoma and the poorly differentiated sarcomatoid squamous cell carcinoma. In one study we came across 67 (81%) cases squamous cell carcinoma with its variants and 15 (19%) of adenocarcinoma which in close concordance with the previous studies in the literature.⁽¹⁾

The least common variants of squamous cell carcinoma which we came across in our study are the following, small cell carcinoma which is aggressive tumour of the cervix accounting for 0.5 to 6% of all

uterine cervix. This tumour has the property of early spread to entire body leading to fatal clinical outcome and minimal chances of survival, hence the treatment strategies are variable compared to the other subtypes.^(1,8,9)

The other variant is papillary squamo-transitional cell carcinoma of the cervix, which is an aggressive tumour and need to distinguish from the far more common benign papillary lesions of the cervix. These tumours are a clinicopathologically distinct homogeneous group that display a morphologic spectrum.⁽¹⁰⁾

Adenocarcinoma of the cervix should be differentiated from squamous cell carcinoma and adenosquamous carcinoma as the recurrence rate is high in adenocarcinoma and usually present in stage III & IV which has poor prognosis. Adenoid cystic carcinoma is a rare variant of primary adenocarcinoma of uterine cervix with a high incidence in postmenopausal women but rarely can develop in patients under 40. Our patient was also under the category of less than 40 years. The cervical adenoid cystic carcinoma shows necrosis, a high mitotic rate and greater nuclear pleomorphism than its salivary gland counterpart. Adenoid cystic carcinoma of uterine cervix is locally aggressive tumour associated with poor prognosis due to wide spread lymph node and vascular metastasis especially to lungs, which is the commonest

site of metastasis. Treatment is a judicious combination of radical pelvic surgery, radiotherapy and chemotherapy except in the patients with stage I, in whom aggressive local therapy alone is adequate.⁽¹¹⁻¹⁴⁾

Clear cell adenocarcinoma of the cervix is the rare subtype of adenocarcinoma associated with cervical endometriosis. Exposure to diethyl stilbestrol is the cause of cervical carcinoma. Studies have shown that cervical carcinoma has a slightly worse 5 year survival rate than other cervical carcinoma. They are classically endophytic growth and tend to show deep infiltration of the cervix. A timely and accurate diagnosis is the key to its successful management.⁽¹⁴⁾

The mitotic count is an important tool in deciding the grading, behaviour and therapy prognosis of any tumour. The squamous cell carcinoma group showed significantly higher mitotic count. Mitotic cell count may be helpful in predicting the aggressive intent in squamous cell carcinoma.⁽¹⁵⁾ In our study also the well differentiated squamous cell carcinoma showed mitosis of 5/10 HPF, whereas the poorly differentiated showed mitotic count of 11/10HPF. Adenocarcinoma tumours showed mitotic count of 14/10 HPE and endocervical carcinoma of usual type showed mitosis of 8/10 HPE in our study.

Conclusion

This study highlights a wide spectrum of histopathological subtypes of carcinoma of cervix in a small study population. Decisions affecting clinical management, treatment and follow up are often based on a histopathological diagnosis, regarded as a “gold standard”. Histological assessment remains the basis for determination of treatment, clinical management and subsequent follow up of patient.

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