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Original Research Paper

Pathology

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ABSTRACT INTRODUCTION Cervix is a path to various non neoplastic as well as neoplastic lesions. Cervical cancer is the leading cancer in Indian women and the second most common cancer among the women. It arises from the precancerous lesions including intraepithelial neoplasia and can be detected with adequate screening and be treated to prevent the progression to invasive carcinoma. METHODS This is a 2-year retrospective study of all cervical biopsies received from 2017-2019 in the department of pathology RESULTS Total of 131 cases were included in the study.71 cases came out to be non-neoplastic, 20 were pre invasive, 40 came out to be malignant lesions. Non-specific Cervicitis was the most common non neoplastic lesion. Amongst the malignant lesion, squamous cell carcinoma was the most common lesion encountered. The most common age group in the malignant cases were 5th and 6h decade of life. CONCLUSION Adequate cervical screening with follow up by cervical biopsies help in early detection and treatment of various cervical lesions. Detailed histomorphological study of the cervical lesions and their categorization is of utmost importance.

KEYWORDS : Neoplastic lesions, Non-neoplastic lesions, Cervicitis

INTRODUCTION

The second most common malignancy in the world is carcinoma cervix. But in India it is the number one cancer in females and contributes to 16% of the world annual incidence 1. The underdeveloped countries have higher number of new cases due to lack of education and empowerment of females and inadequate screening programme for cervical malignancies .2Several risk factors are commonly associated with cervical cancers which includes multiple sex partners, smoking, use of contraceptive pills and human papilloma virus. The host target epithelial cells present in the transformational zone play a very important role in the development of cervical malignancy.³

The structure of Cervix is an elongated portion of the uterus which constitutes of outer layer of stratified squamous epithelium and inner layer of columnar epithelium and a junctional area between the two lined by basal cells. several pathological changes are associated in this layer leading to inflammation to malignant transformation. The most important factor in cervical carcinogenesis is persistent infection with high risk human papilloma virus.⁴

The most common lesions seen in reproductive age group and in sexually active females are non-neoplastic in nature.5The risk factors for carcinoma cervix include age of first intercourse, increased parity, sexually transmitted diseases, HPV, multiple sex partners, racial factors, socio- economic status, smoking, oral contraceptives, male factors and immunological factors. 4The patients most commonly presents with vaginal bleeding or post-menopausal bleeding and these patients need to be evaluated with either colposcopy, pap smear and biopsy if necessary¹.

Pap smear is a simple and most commonly used test to detect various cervical infections, premalignant conditions and cancers at an early stage. Pap smear reporting is being done by Bethesda system. There is increased risk for development of neoplastic and non-neoplastic lesions incervix.6Carcinoma cervix can be prevented, whereas detecting and treating the preinvasive lesion can decrease the chances of transformation into malignancy.² A 100% survival rate is ensured by early detection in preclinical stage.2Because of early diagnosis patients having abnormal pap smears have a better outcome 1. For adequate management of the patients, Pathologic indices like extent of invasion, margin status and presence of lymphovascular invasion are critical and have to be taken into account.³

The main aim of various modalities of diagnosis and treatment is to prevent the development of invasive cervical cancer. 2

In this study we are trying to differentiate neoplastic lesions from the non-neoplastic lesions on the basis of the histopathological differences. Categorization of histological findings and recognising the lesions can help in the better outcome for the patient which can avoid further morbidity and complications.⁷

MATERIAL AND METHODS

A 2-year retrospective study of cervical biopsies from march 2017 to February 2019 was carried out in the department of histopathology at MGM Medical college and hospital, Aurangabad, Maharashtra. A total of 131 cases of cervical biopsies were examined irrespective of the age of the patient and reported accordingly.

The biopsies were received in 10% formalin, fixed, processed and were entirely submitted. The staining was done by haematoxylin and eosin stain. The sections were cut from the paraffin-embedded blocks.

Inclusion criteria- All cervical biopsies sent to the department of pathology from march 2017 to February 2019.

Exclusion criteria-Cervical biopsies that are unsatisfactory for histopathological examination.

RESULTS

The present retrospective study of 131 cases out of which the maximum cases were found in the 5th decade and the minimum in the second decade of life. The cervical lesions ranging from inflammation, dysplasia to carcinoma were seen. Out of 131 cases, 49 cases were of inflammation,20

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cases were of intraepithelial lesions,41 cases were of carcinomas which were further differentiated into squamous and adenocarcinoma and they were graded accordingly.

The most common non- neoplastic lesion seen in this study came out to be chronic cervicitis with 49 (69%) cases followed by papillary endo cervicitis with 12(16.9%) cases .(Table 1., Figure 1,2) and the most common age group in which these non-neoplastic lesions were seen was 31-40 years of age.(Table 6.)

The most common clinical symptoms that was noted in the clinical history of the patients was vaginal bleeding. (Table 5.) In our study we classified the lesions into three categories that is benign, pre malignant and malignant lesions. The premalignant lesions were categorised into HSIL and LSIL. The most common pre malignant lesions in our study was HSIL. (Table 2, figure 3)

The most common malignancy was squamous cell carcinoma amongst which moderately differentiated was the most common followed by well differentiated carcinoma. (Table 3.) Keratinising squamous cell carcinoma (60.5%) was more common than the non-keratinising carcinoma. (Table 4.). cervical malignancies were seen mostly in the elderly age group mainly in the 5th decade of life. (Table 7)

Table 1. Non neoplastic lesions

Lesions	Number	Percentage (%)
Chronic cervicitis	49	69
Nabothian cyst	08	11.2
Inflammatory polyp	01	1.4
Papillary endocervicitis	12	16.9
Squamous hyperplasia	01	1.4

Table 2. Pre-malignant lesions of the cervix

Lesions	Cases	Percentage (%)
LSIL	7	35
HSIL	13	65

S. No.	Variants	Number	Percentage (%)
1	Well differentiated squamous cell carcinoma	08	20
2	Moderately differentiated squamous cell carcinoma	28	70
3	Poorly differentiated squamous cell carcinoma	02	5
4	Adeno carcinoma	01	2.5
5	Adenoid cystic variant of adenocarcinoma	01	2.5

Malignant lesions of cervix Table 4. Types of squamous cell carcinoma

Type of SCC	Cases	Percentage (%)
Keratinising SCC	23	60.5
Non-Keratinising SCC	15	39.4

Table 5: clinical presentation of malignancy

Clinical presentation	Number of cases
Bleeding PV	30
Pain in abdomen	25
White discharge	21

Growth 16

Table 6. Age distribution of non-neoplastic lesions.		
Āge	Number of cases	Percentage (%)
21-30	20	28.2
31-40	30	42.2
41-50	7	9.8
51-60	3	4.2
61-70	6	8.4
71-80	5	7

Table 7: Age distribution of malignancies

Age	Number of cases	Percentage (%)
21-30	5	12.5
31-40	8	20
41-50	7	17.5
51-60	10	25
61-70	5	12.5
71-80	5	12.5



Figure 1. Chronic cervicitis with squamous metaplasia (10x Hand E)

Figure 2. Papillary endocervicitis (10x, Hand E



Figure 3. HSIL (40x, H and E)



Figure 3.-HSIL (40x, Hand E)

Figure 4. LSIL (40X, H and E)



Figure 5. Poorly differentiated squamous cell carcinoma (40x, Hand E)

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Figure 7. Adenoid- cystic carcinoma cervix (40x, Hand E)

DISCUSSION

Invasive cancer of cervix is a preventable condition as it is associated with long preinvasive stage (CIN) making it easy for screening and treatment. The early stages of cervical malignancy are mostly completely asymptomatic.1The incidence of cervical cancer can be reduced by 80% if good screening methods and follow ups are maintained.2Cervical cancer clinically presents with vaginal bleeding but many times symptoms are absent until the cancer is in an advanced stage. However patients can present with vaginal growth, bleeding, pain during intercourse, and vaginal discharge. Symptoms of advanced cervical cancer includes weight loss, loss of appetite, fatigue, pelvic pain, back pain, heavy bleeding and bone fractures if the tumour has metastasised.¹

In this study the most common symptom encountered in the patients of cervical malignancies is vaginal bleeding.

Histopathology is an important commodity to determine cancer and pre- cancer by classifying into a specific type depending on the patterns of microscopic appearance and pattern and morphology of cells in tissue sections from biopsy specimens.¹

Our study included non-neoplastic, pre invasive and invasive cervical lesions. The non -neoplastic lesions included mainly the cases with the inflammatory histology which were due to non-specific causes.

Chronic non-specific cervicitis is the most common pathology encountered accounting for a total of 49 cases out of 71 cases followed by papillary endocervicitis. The most common age group in which these non-neoplastic lesions were seen was between 31-40 and the main complaints were bleeding per vagina followed by white vaginal discharge. Diagnosis of chronic cervicitis is made by the presence of lymphoplasmacytic infiltrate on histopathology. Pre invasive lesions included 20 of the cases which showed cervical squamous intraepithelial lesions, majority accounting for high grade lesions.

Biopsies with the cytological abnormality in the lower 1/3 rd. of the epithelium are diagnosed as low grade squamous intraepithelial lesions (LSIL) and dysplasia in lower 2/3 rd. or full thickness of the cervical epithelium were diagnosed as high grade squamous intra epithelial lesion(HSIL).5The outcome for patients with LSIL is excellent as regression is expected within a span of one year. If the patient contracts infection with HPV 16 then the progression of LSIL to HSIL along with positive p16 immunohistochemistry is regarded as increased risk of progression.⁵

In this study we came across 38 cases of squamous cell carcinoma and two cases of adenocarcinoma. The most common among squamous cell carcinomas on the basis of differentiation came out to be moderately differentiated squamous cell carcinoma. Squamous cell carcinoma was further differentiated into keratinising and non-keratinising carcinoma in which the maximum accounting for keratinising carcinoma was seen. This differentiation was made on the basis of presence or absence of keratin pearls. It is important to differentiate squamous cell carcinoma from adenocarcinoma since the latter has high recurrence rates. Adenocarcinoma usually presents in the III and IV stage and is usually associated with poor prognosis.¹

The diagnosis of squamous cell carcinoma was made on histopathology by the presence of nests of large atypical round to polygonal cells invading the surrounding stroma. Adenoid cystic carcinoma is a very rare (single case) variant of primary adenocarcinoma with a very high incidence in the post-menopausal females after the age of 40.1Adenoid cystic carcinoma is a locally aggressive tumour associated with poor prognosis since it is associated with wide spread lymph node and vascular metastases especially to the lungs, which is the commonest site of metastases.¹

According to the age distribution the most common age group contracting the malignancies were between 51-60 and the most common symptom encountered in the patients was bleeding per vagina followed by pain in abdomen.

The benefits of screening for carcinoma cervix far outweigh the cost involved. All women with an unhealthy cervix should be subjected to a punch biopsy for a detailed evaluation so as to not miss an early case of invasive cancer. As an early treatment in the cases of CIN will result in a very good prognosis.2

CONCLUSION

In this study we included all the non-neoplastic, pre invasive as well as invasive lesions of the cervix.

The non-neoplastic lesions were more common than the neoplastic lesion in which chronic cervicitis was the most commonly seen lesion.

In females carcinoma cervix is the second most common cause of mortality and morbidity.

Cervical intra epithelial lesions can progress to invasive cervical malignancy if not detected.

Cervical biopsy and histopathological examination are considered as the gold standard for early diagnosis of the cervical lesions.

Cervical screening using pap smears should be done for early detection of any cervical changes so that proper management and follow up could be done and it may change the quality of life of the patient.

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