ORIGINAL RESEARCH PAPER

Pathology

HISTOPATHOLOGICAL EVALUATION OF CERVICAL LESIONS IN TERTIARY BASED HOSPITAL - KUTCH REGION

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ABSTRACT

Aim: To find out various cervical lesions with histopathological correlation and age.

Method: This was a prospective study conducted in pathology department of a tertiary care teaching hospital over a period of two years. A total of 255 women were included in this study. All cases of gynecological lesions at Histopathology department of Gujarat adani institute of medical science, Bhuj for 2 years starting from May 2019 to May 2021 were retrieved. The demographic information such as nature of specimen which include Punch biopsy(21 cases) and total abdominal hysterectomy(234 cases) were extracted.

Results: The most common finding was Nonspecific chronic cervicitis in 159 patients(62.35%) followed by normal stratified squamous epithelium was found in 42 patients(16.47%) and Papillary endocervicitis were 14 patients(5.49%). In benign tumor or tumor-like lesion, Cervical metaplasia were 12 cases(4.70%), Nabothian cyst were 6 cases(2.35%) and Endocervical polyp were 2 cases(0.78%). The premalignant cervical lesions were only 4 cases(1.56%).

The malignant cervical lesions were Large cell non-keratinizing squamous cell carcinoma were 7 cases(2.74%), Large cell keratinizing squamous cell carcinoma were 4 cases(1.56%), Squamous cell carcinoma NOS were 3 cases(1.17%), Poorly differentiated carcinoma was only one case(0.39%), Basaloid squamous cell carcinoma was only one case(0.39%).

Conclusion: Cancer cervix is an ideal malignancy for screening, can be detected early and the premalignant lesion can be treated to prevent the progress to invasive disease. Hence all women with unhealthy cervix should be subjected to punch biopsy to detect early cases of cancer & carcinoma in situ. Most common cervical lesion is Squamous Cell carcinoma and most common age group is 40-49 years.

INTRODUCTION

Carcinoma of cervix is the third most common cancer in women worldwide and most common female cancer in many developing countries like India[1] . In India, it is one of the most common cancer in female with an incidence of 14.42/1,00,000 population and mortality rate of 2.83/1,00,000 population.[2] Major burden of 80% new cases is borne by the underdeveloped countries.[3] This is further worsened by the fact that 75% of these women present with advanced stage. Lack of education and empowerment of women and inadequate screening programme for cervical cancer in these countries also partially affect this high burden.[4] The incidence of cervical cancer rises in 30-34 years of age and peaks at 55-65 years with median age of 38 years especially from lower socioeconomic status who fail to carry out regular health check-up due to financial insufficiency.[5] In the urban areas, cancer of cervix accounts for 40% of cancer while in rural areas, it accounts for 65% of cancer.[6] The cervical epithelium presents a spectrum of cervical intraepithelial neoplasia (CIN) changes as precancerous state. Most cervical cancers can be detected at preinvasive state with an adequate screening and treated appropriately thus preventing overt progression to full blown cancer and hence decreasing morbidity and mortality.[7] Early detection in preclinical stage ensures 100% survival rate. The ultimate aim of various modalities of diagnosis and treatment is to prevent the development of invasive cervical cancer.[8]

Carcinoma of cervix is a preventable condition and more effort must be put into detecting and treating the preinvasive lesion.[9] carcinoma of cervix due to its slow progression from precancerous lesion to malignancy and easy accessibility to examination gives us ample opportunity for early detection and considerably improved prognosis.[10,11] No form of cancer better documents the remarkable effects of prevention, early diagnosis and curative therapy on the mortality rate than cancer cervix. In the management of CIN, punch biopsy is primarily used to confirm the diagnosis of a high grade abnormality, thereby reducing the number of unnecessary treatments and the associated morbidity.[12,13] The punch biopsy also plays a role in the management of women undergoing ablative treatment for CIN because pre-treatment biopsies are required to exclude invasive disease.[14-15]

METHOD

This was a prospective study conducted in pathology department of a tertiary care teaching hospital over a period of two years. A total of 255 women were included in this study. The pathology request forms of all cases of gynecological lesions at Histopathology department of Gujarat adani institute of medical science, Bhuj for 2 years starting from May 2019 to May 2021 were retrieved. The demographic information such as nature of specimen which includes Punch biopsy and total abdominal hysterectomy were extracted. The specimens were sent to the pathology department for histopathological examination in 10% formalin. They were studied grossly and multiple sections taken. The specimens were processed in automated tissue processor. Four to six micron thick paraffin embedded sections were taken and stained by hematoxylin and eosin. The slides were examined under microscope by the pathologist and the various histopathological patterns identified and classified. Data was collected and shifted to computer for analysis. SPSS software was used for statistical analysis of data.

RESULT

A total of 255 women have been included in the study. They were in age group of 10-75 years(Table 1)

Table-1 Age related frequency

Age groups(Years)	Frequency	Percentage
10-19	4	1.70%
20-29	11	4.3%
30-39	64	25.9%
40-49	125	49%
50-59	31	12.15%
Above 60	20	7.84%
Total	255	100%

Out of 255 patients,125(49%) were in the age group of 40-49 years followed by 64 patients(25.9%) in the age group of 30-39 years. The next frequent was in the age group 50-59 years with 31 patients (12.15%).

Table -2 Histopathological diagnosis of cervix biopsy

Histopathological diagnosis	Frequency	Percentage
Nonspecific chronic cervicitis	198	77.64%
Papillary endocervicitis	14	5.49%
Endocervical polyp	2	0.78%
Nabothian cyst	9	2.35%
Cervical metaplasia	11	4.70%
CIN 3	5	1.96%

Large cell non-keratinizing squamous cell carcinoma	7	2.74%
Large cell keratinizing squamous cell carcinoma	4	1.56%
Poorly differentiated carcinoma	1	0.39%
Basaloid squamous cell carcinoma	1	0.39%
Squamous cell carcinoma NOS	3	1.17%
Total	255	100%

The most common finding was Nonspecific chronic cervicitis in 159 patients(62.35%) followed by normal stratified squamous epithelium was found in 42 patients(16.47%) and Papillary endocervicitis were 14 patients(5.49%).In benign tumor or tumor-like lesion, Cervical metaplasia were 12 cases(4.70%),Nabothian cyst were 6 cases(2.35%) and Endocervical polyp were 2 cases(0.78%).

The premalignant cervical lesions were only 4 cases(1.56%). The malignant cervical lesions were Large cell non-keratinizing squamous cell carcinoma were 7 cases(2.74%), Large cell keratinizing squamous cell carcinoma were 4 cases(1.56%),Squamous cell carcinoma NOS were 3 cases(1.17%) ,Poorly differentiated carcinoma was only one case(0.39%),Basaloid squamous cell carcinoma was only one case(0.39%).

Table -3 Correlation of histopathology with age

Age	10-19	20-29	30.-39	40-49	50-59	Above 60	Total
Nonspecific endocervicitis	2(0.78%)	10(3.9 %)	50(19.6%)	81(31.7%)	42(16.4%)	13(5.09%)	198(77.64%)
Papillary endocervicitis				14(5.4%)			14(5.4%)
Endocervical polyp			1(0.39%)	1(0.39%)			2(0.78%)
Nabothian cyst			2(0.78%)	2(0.78%)	2(0.78%)	3(1.17%)	9(3.52%)
Cervical metaplasia			4(1.56%)	6(2.35%)	1(0.39%)		11(4.31%)
CIN 3				5(1.9%)			5(1.96%)
Large cell non-keratinizing SCC			5(1.96%)	1(0.39%)		1(0.39%)	7(2.74%)
Large cell keratinizing SCC				4(1.56%)			4(1.56%)
Poorly differentiated SCC				1(0.39%)			1(0.39%)
Basaloid SCC			1(0.39%)				1(0.39%)
SCC NOS			2(0.78%)			1(0.39%)	3(1.17%)

Chronic cervicitis, CIN I, carcinoma in situ were all found in the age group 40-49 years while Squamous cell carcinoma was found in higher incidence 8 cases(3.13%) in the age group 30-39 years followed by 6 cases (2.35%) in the age group 40-49 years.

DISCUSSION
In our histopathology department over period of two years, Gujarat adani institute of medical science, Bhuj. In this study the most common finding was Nonspecific chronic cervicitis in 159 patients(62.35%) followed by normal stratified squamous epithelium was found in 42 patients(16.47%) and Papillary endocervicitis were 14 patients(5.49%).In benign tumor or tumor-like lesion, Cervical metaplasia were 12 cases(4.70%),Nabothian cyst were 6 cases(2.35%) and Endocervical polyp were 2 cases(0.78%).The premalignant cervical lesions were only 4 cases(1.56%).

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Reddy et al. and Gupta et al. reported higher percentage of non-neoplastic lesions with 78.4% and 80.9% respectively.[16] Nwachokor et al. reported relatively higher percentage of malignant lesions 43.7% compared with most literatures with 56.3% of benign lesions. In Nwachokor et al. study, inflammatory lesions and tumour like lesions accounted for 59.8% and 40.2% of non-neoplastic cervical lesions respectively.[17] This is in tandem with index research, where the inflammatory lesions and tumour like lesions among the benign cases were 54.1% and 45.9% respectively. Moreover, almost all the inflammatory lesions observed in index research were chronic non-specific cervicitis similar to reports done by Omoniyi-Esan et al., Pandit et al., Gupta et al. and Reddy et al.[18,19,20] The most common invasive carcinoma in this study was Squamous Cell Carcinoma (SCC) with 93.1% followed by adenocarcinoma (6 cases; 6.8%), with SCC large cell non-keratinizing variant being the commonest 44.3% (39 cases) followed by SCC large cell keratinizing subtype 34 cases (38.6%). Gupta et al. also reported 13 cases (86.6%) of squamous cell carcinoma out of all 15 malignancies followed by 1 each case of Adenocarcinoma (6.7%) and HSIL (6.7%) while Srikanth, reported 84% cases of Squamous cell carcinomas followed by 1 each case of Adenocarcinoma (6.7%).[19]

In this study the peak age of the entire malignant cervical tumor occurred from 40-49 age groups followed by 30-39 age groups.CIN 3 occurred more at age groups of 40-49 years. In our study maximum number of cases were in age group of 40-49 years(45.09%) followed by 30-39(25.49%) years. while Kaveri SB et al8 found maximum number of cases of unhealthy cervix in the age group of 31-40 years same as Bagde S et al, Metha A et al and Bojini K R et al.[21,22,23,24] Bodal VK et al found maximum number of patients were in the fourth decade of life followed by fifth decade.[25] Rathoda GB et al found most patients were in the age group of 41-50 years (42.4%)

followed by age group 51-60 years.[18] In our study maximum number (89.4%) of cases were inflammatory – chronic cervicitis. Bodal VK et al found 57.5% of cases of infection - most of them non-specific chronic cervicitis.[25]

CONCLUSION

1. This study highlights a wide spectrum of histopathological evaluation of cervical lesions. Decisions affecting clinical management, treatment and follow up are often based on histopathological diagnosis regarded as "gold standard". The spectrum of cervical lesions is vast and therefore early detection and management of certain lesions can help in reducing the morbidity.

2. Cancer cervix is an ideal malignancy for screening as it has a long latent period and we can detect and treat the pre malignant lesion and prevent the progress to invasive disease. The benefits of screening for carcinoma cervix outweigh the cost involved. A detailed evaluation of the cervix with a guided punch biopsy is an important diagnostic method for the detection of pre neoplastic and early cervical cancer. All women with an unhealthy cervix should be subjected to a punch biopsy so as to not miss early case of invasive cancer and to detect cases of CIN as early treatment will result in a very good prognosis.

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