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# HISTOPATHOLOGICAL STUDY OF CERVICAL LESIONS - A TERTIARY CARE INSTITUTE EXPERIENCE

Pathology

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## ABSTRACT

**Introduction:** The cervix is commonly involved by various no neoplastic and neoplastic diseases. Histopathological examination of cervical biopsy is very essential to make timely diagnosis of these lesions, especially of carcinoma cervix.

**Objectives:** 1) To study the histopathology of cervical lesions. 2)To study the incidence of various malignant and non-malignant lesions of cervix, age distribution and relative frequency of various cervical lesions.

**Materials and Methods:** This is two years retrospective study of all cervical biopsies received in the department of pathology.

**Result:** In a total of 380 cervical biopsies were examines out of which 317 (83%) were nonmalignant lesions. Out of these 22 (6.07%) benign neoplasms and 281 (73.94%) inflammatory lesions. Chronic nonspecific Cervicitis was the most common non neoplastic lesion and squamous cell carcinoma was the most common malignant lesion.

**Conclusion:** Due to deep and extensive study of cervical lesions it is easy to study natural history of cervical cancer and so premalignant lesions can be detected early.

## KEYWORDS

Neoplastic, Non-neoplastic Cervical Lesion, Squamous Cell Carcinoma, CIN,

## INTRODUCTION

The Cervix is the lower part of uterus that projects in to vagina. On account of this unique location the cervix is readily accessible for diagnosis and treatment. The cervix is commonly affected by various infections, inflammatory and neoplastic diseases.[1] Histopathological study of cervix is very important to make an early diagnosis of these lesions, especially of carcinoma cervix. Early recognition of infections, inflammatory lesions prevent considerable damage to the cervix in the form of fibrosis, glandular atrophy and sometimes even development of malignancy.[1,2] The success in the reduction of incidence and prevalence of invasive cervical carcinoma can be attributed to the early detection and treatment of precancerous lesions by cytological and histopathological screening of the vulnerable population. Histopathological studies have the advantage of being readily available, cheap and technically easy.[2]

## MATERIALS AND METHODS

The present histopathological study of cervical lesions was carried out at the department of Pathology, Government Medical College medical college & Tertiary care hospital over a period of 2 years. This retrospective study includes 380 cases that were submitted for histopathological examination. The material used in this study were received in different forms such as punch biopsies, hysterectomies, Wertheim's hysterectomy and cervical amputation. All the specimen and biopsy were fixed in 10% formalin and paraffin blocks were prepared, which were cut at 5-micron thickness and were subsequently stained with hematoxylin and eosin. Special stains like alcian blue were employed whenever necessary. The relevant data i.e. Clinical features, gross appearance and histopathological reports were recorded as per requirement. The histopathological classification of tumors was done according to recommendations by W.H.O.

**INCLUSION CRITERIA:** All Cervical Biopsies.

**EXCLUSION CRITERIA:** Inadequate & autolyzed cervical biopsies or specimens.

## OBSERVATIONS

The total number of biopsy specimens received the study period of two years was 5134. Of these cervical biopsies were 380 (7.4%). Out of these 22 (5.78%) cases were diagnosed as benign neoplasms and highest incidence i.e. 06 cases (27.27%) was found in age group of 46-55. years. In benign and non-neoplastic lesions, highest incidence was present in endocervical polyp with 17 cases (77.27 %) and leiomyomatous polyp next to this i.e. 3 cases (13.64 %). Out of 380 cases, 281 (73.94%) were inflammatory lesions and the age group commonly involved is 36-45 yrs. (Table 1). In Inflammatory lesion, Chronic nonspecific cervicitis (CNC) was common lesion constituting 158 (56.23%) cases followed by papillary edndocervicities(PEC) with 113(40.21%) cases. There were 3(1.6%) cases of granulomatous cervicitis (GC) and 1(0.35%) case of follicular cervicitis(FC). Total 6 (2.13%) cases of Non condylomatous wart (NCW) were found mostly seen in middle aged women. All the inflammatory lesions were mostly found in 26-45 yrs. Age group a time when woman is maximally sexually active. (Table 2). The incidence of Cervical Intraepithelial neoplasia (CIN) in this study was 11 (2.89%) (table 3) with incidence in 2 nd to 5 th decade. The intraepithelial lesions were mainly squamous origin. There were no cases of Cervical Intraepithelial glandular neoplasia (CIGN) found in this study. In this study it was observed that primary malignant lesion of cervix was 1.2 % of total biopsies and 34.6% of female genital tract malignancies. Squamous cell carcinoma was the predominant malignancy and the incidence of Large cell non keratinising squamous cell carcinoma(LCNK) is higher than the other types. Most common age group commonly involved is 36-65 yrs. (Table 3). Squamous metaplasia is found in 118/281 inflammatory cervical lesions i.e. 41.9% and 118/380 (31%) of all cervical biopsies and it was mostly seen in women with child bearing age group. There were two cases of squamous metaplasia with mild dysplasia.

**Table no 1: Age wise distribution of Cervical Lesions:**

| Lesions | AGE ( in Years) | | | | | | TOTAL |
|---|---|---|---|---|---|---|---|
| | < 25 | 26-35 | 36-45 | 46-55 | 56-65 | >66 | |
| Squamous cell carcinoma | - | 7 | 16 | 17 | 17 | 2 | 59 |
| Adenocarcinoma | - | - | 1 | 2 | - | - | 3 |
| Mixed | - | - | - | - | - | - | - |
| CIN | 1 | 3 | 5 | 1 | 1 | - | 11 |
| Microinvasive | - | - | 1 | - | - | - | 1 |
| Metastatic | - | - | - | - | - | - | - |
| NSL | 1 | 1 | 1 | - | - | - | 2 |
| Benign | 2 | 3 | 4 | 6 | 3 | 4 | 22 |
| Inflammatory | 23 | 87 | 85 | 33 | 35 | 18 | 281 |
| TOTAL | 27 | 101 | 113 | 59 | 56 | 24 | 380 |

**Table no 2: Age wise distribution of various inflammatory Cervical Lesions:**

| AGE (Years) | Lesions | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | PEC | CNC | FC | GC | NCW | |
| < 25 | 9 | 13 | - | - | 1 | 23 |
| 26-35 | 30 | 52 | 1 | 2 | 2 | 87 |
| 36-45 | 35 | 48 | - | 1 | 1 | 85 |
| 46-55 | 16 | 15 | - | -2 | 2 | 33 |
| 56-65 | 15 | 20 | - | - | - | 18 |
| >66 | 8 | 10 | - | - | - | 18 |
| TOTAL | 113 | 158 | 1 | 3 | 6 | 281 |

**Table no 3: Age wise distribution of squamous cell carcinoma of cervix.:**

| Age(yrs.) | LCK | LCNL | SCNK | Total | % |
|---|---|---|---|---|---|
| < 25 | - | - | - | - | - |
| 26-35 | - | 6 | - | 6 | 10.16% |
| 36-45 | 1 | 16 | - | 17 | 28.81% |
| 46-55 | - | 16 | 1 | 17 | 28.81% |
| 56-65 | 1 | 16 | - | 17 | 28.81% |
| >66 | - | 2 | - | 2 | 3.38% |
| TOTAL | 2 | 56 | 1 | 59 | |

## DISCUSSION

In this study an attempt was made to understand the histopathology of various cervical causes of mortality and morbidity. Over the period of two years study we received 380 cervical specimens which make 7.4 % of all biopsies reported at the hospital. Out of these 380 cervical specimens 63 turned out to be malignant i.e. 14.3% of all cervical biopsies. Cervical malignancies make up a major part of female genital tract malignancies i.e. 63 out of 182 (34. 6%).During the study period the biopsies were classified as those performed for clinically evident malignancies, clinically suspicious for malignancy and occult malignancies not clinically evident.4 Total 89 biopsies were classified according to these categories. Out of 54 clinically evident malignancies 13 turned out to be negative for malignancy (24%) and 41 cases were reported positive for malignancy (24%). The clinicopathological correlation in this category is quite fair. (Table 4)

**Table no 4: Correlation of clinical diagnosis of invasive carcinoma of cervix with histopathological diagnosis.**

| Age(yrs.) | Clinically evident Malignancy | | Clinically suspicious of Malignancy | | Clinically not suspicious of Malignancy | |
|---|---|---|---|---|---|---|
| | + ve | - ve | + ve | - ve | + ve | - ve |
| < 25 | - | 1 | - | - | - | - |
| 26-35 | 8 | 5 | 2 | 1 | 1 | 1 |
| 36-45 | 14 | 5 | 4 | 4 | 2 | 4 |
| 46-55 | 11 | 1 | 3 | 1 | 4 | - |
| 56-65 | 6 | 1 | 1 | 1 | 3 | 1 |
| >66 | 2 | - | 2 | - | - | - |
| TOTAL | 41 | 13 | 12 | 7 | 10 | 6 |

There were 19 cases Clinically suspicious of malignancy out of which 12 cases found positive for malignancy (63.1%) and 7 turned out to be negative for malignancy (36.9%). Out of 16 clinically not suspicious of malignancy 10 cases were reported positive for malignancy (62.55). This emphasizes the need for asymptomatic woman to undergo periodic cervical cytology screening to diagnose malignancy at its earliest.

The greatest proportion of malignancies were found in 26-45year age group. Most of which diagnosed on punch biopsies and hysterectomy specimens. The incidence of cervical cancer in our study is comparable with the study done by Jain et al [5] and sing et al.[6] The incidence of invasive squamous cell carcinoma in our study is very much corroboration with that of innumerable studies done worldwide which state that squamous cell carcinoma constitutes more than 90% of cervical malignancies.[7,8,9] Age wise distribution of squamous cell carcinoma in this study is comparable with the other studies done by Pallipady A et al.[4] Histologically the major subtype in our study was large cell keratinising squamous cell carcinoma which is true with majority of the other studies.[9] Since carcinoma cervix passes through premalignant intraepithelial changes for a variable duration of time ranging from few-many years before turning frankly malignant. Logically one should expect cases of frank cervical carcinoma to be older than CIN. Findings of this study are in accordance to the above text. Study done by Singh et al [6]and solapurkar et al[10] found 20% prevalence of squamous intraepithelial lesion comparable to the present study. In our study The incidence of adenocarcinoma was 4.76%, which was more than twice that reported by Qadir Fatima et al.[9] In this study highest incidence of dysplasia was in 3 rd. to 5 th decades. Diagnosis was made early by a sharp margin between the endocervical epithelium and the dysplastic epithelium.[11]

Among the benign lesions Endocervical polyp is the most common benign lesion of cervix reported. It occurred most often in 26-55 yrs. Age group. Leiomyomatous polyps and leiomyomas were found in 4/22(18.83% 0 cases of all benign lesions. Majority of the cases were found in 26-45 yrs. age group women.

Chronic non- specific cervicitis was the most common non neoplastic lesion seen in 153 cases (56.23%%), comparable to the study done by Badge et al.[12] Maximum cases were seen in age group of 26-55 yrs. Diagnosis of chronic cervicitis was made on the presence of lymphoplasmacytic infiltrate, some cases also showed areas of squamous metaplasia. One showed formation of lymphoid follicles in the sub epithelial region and was suggestive of chlamydial infection. Three showed granulomatous reaction with foreign body and langhans type giant cells. [13] Although such reaction can be caused by variety of causes including lymphogranuloma venerum and foreign body reaction to mucin, In the Indian set up tuberculosis should be ruled out.

## CONCLUSION

In our study cervical lesions are commonest female genital tract lesions. Inflammatory lesions of cervix are the commonest followed by malignancies. The commonest cervical malignancy is squamous cell carcinoma: Large cell non-keratinising being the commonest sub type. Due to deep and extensive study of cervical lesions it is easy to study natural history of cervical cancer and so premalignant conditions can be detected early. Early diagnosis of subclinical wart virus infection leads to decrease in morbidity and mortality. Evolution of internationally accepted definition of koilocytosis would help in proper identification and classification of these lesions and gives us a better insight into the natural history of these conditions.

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