

Histopathological Study of Cervical Lesions

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ABSTRACT

Introduction- Uterine cervix is a hub to various lesions and biopsy being a routine procedure aids in the early diagnosis and helps to reduce morbidity and mortality. Our study aims to determine the frequency and histomorphological patterns of various non-neoplastic and neoplastic cervical lesions.

Materials and Methods- This study consists of a total of 200 cases of cervical biopsies submitted for histopathology over a period of one year. Clinical details of all the patients were obtained.

Results- Among 200 cases included, majority 146(73%) were non neoplastic lesions and 54(27%) were neoplastic, out of which 40(20%) were LSIL, 6(3%) HSIL, 7(3.5%) malignant and one was a case of cervical leiomyoma. Maximum females (40.5%) subjected to biopsy belonged to the age group of 41-50 years. The mean age for neoplastic lesions was 49.2 years. Chief complaint in most cases 108(54%) was white discharge.

Conclusion- Biopsy is a valuable procedure which aids in early diagnosis, hence further management by the clinician.

Keywords – Cervical biopsy, Cervicitis, Carcinoma

INTRODUCTION

The cervix is the elongated fibro muscular portion of the uterus that measures 2.5 to 3.0 cm, lined by two types of epithelium, an outer squamous epithelium and internal mucin secreting columnar epithelium, with unique junctional area containing reserve/basal cells [1] Cervix is vulnerable to many pathological changes ranging from inflammation to malignancy. Uterine cervix is gateway to several non-neoplastic and neoplastic gynecological lesions. [2,3] Non-neoplastic cervical lesions are seen in all age groups but are more commonly seen in sexually active women. These include inflammatory and tumor-like non-neoplastic lesions. Majority of non-neoplastic lesions are inflammatory in nature. [4,2] Inflammatory lesions of clinic pathological importance are acute cervicitis, chronic cervicitis and chronic

granulomatous cervicitis. [4,5,2] These can result from both infective and non-infective etiology. Infective causes of acute and chronic cervicitis include a wide spectrum ranging from bacterial, viral, protozoan and fungi microorganisms commonly encountered in sexually transmitted infections (STIs) and urinary tract infections (UTIs). Studies have shown that chronic granulomatous cervicitis is mostly caused by tuberculosis. [6,8] Sexual transmitted viruses include human papilloma virus (HPV) and herpes simplex virus. HPV cervicitis is a causal risk factor for condyloma acuminatum, pre-invasive cervical intraepithelial neoplasia (CIN I, II, III) and eventually cervical cancer [6,7] Thus, categorization and familiarity of the cervical non-neoplastic lesions with their histomorphologic findings are essential in their recognition and will improve the

approach toward better management of the patient. [6] Chronic cervicitis is the most common uterine cervical lesion in the reproductive age group occurring between 25 to 55 years of age linked to sexual activity and also in postmenopausal women because of reduction in immunity and hormonal replacement therapy. [9]

Aim of Study

This study aims to determine the frequency and histomorphological patterns of various non-neoplastic and neoplastic cervical lesions and finding out the most prone age group for these lesions so as to target them for various screening programmes for early detection of non-neoplastic and neoplastic lesions and raising awareness.

MATERIALS AND METHODS

This study consists of a total of 200 cases of cervical biopsies submitted for histopathology in the Department of Pathology, MGM College, Kamothe, Navi Mumbai over a period of one year from December 2016 till November 2017. Relevant clinical profile of all the patients like age and presenting complaints were obtained. All the specimens were fixed in 10% formalin solution and paraffin blocks were prepared, 4-5 microns thick sections were taken and stained with hematoxylin and eosin. Special stains like PAS were used wherever required. Histomorphological features were studied and the lesions were

classified into non neoplastic, pre-invasive and invasive. Age incidence and distribution according to symptoms was calculated.

RESULTS

Among 200 cases ranging from 20 - 80 years of age, 146(73%) were non neoplastic while 54(27%) were pre invasive and invasive lesions. The non-neoplastic lesions include 70 cases (35%) of chronic non-specific cervicitis followed by papillary endocervicitis 43 cases(21.5%), cervical polyps 25 cases(12.5%), erosive cervicitis 6 cases (3%) and pseudoepitheliomatous hyperplasia 2 cases(1%).In pre-invasive lesions majority were LSIL/CIN 1-40 cases (20%), 3% were HSIL i.e. CIN 2-5 cases, CIN 3-1 case. 6 cases were diagnosed as Squamous cell carcinoma while 1 case was diagnosed Adenocarcinoma and 1 as cervical leiomyoma. The age of the females subjected to biopsies ranged from 20 to 80 years with maximum of them belonging to the age group of 41- 50 years (40.5%).Age of the women with pre-invasive and invasive lesions ranged from 25-75 years with lesions being most common in 36- 45 years. Mean age of the females with pre-invasive and invasive lesions was 49.2 years. The most common presenting complaint was white discharge- 108 cases (54%) followed by backache, abdominal pain (25%) and bleeding per vagina (15%). Additional findings like nabothian cysts and squamous metaplasia was seen in 30 and 16 cases respectively.

TABLE 1: DISTRIBUTION ACCORDING TO DIAGNOSIS

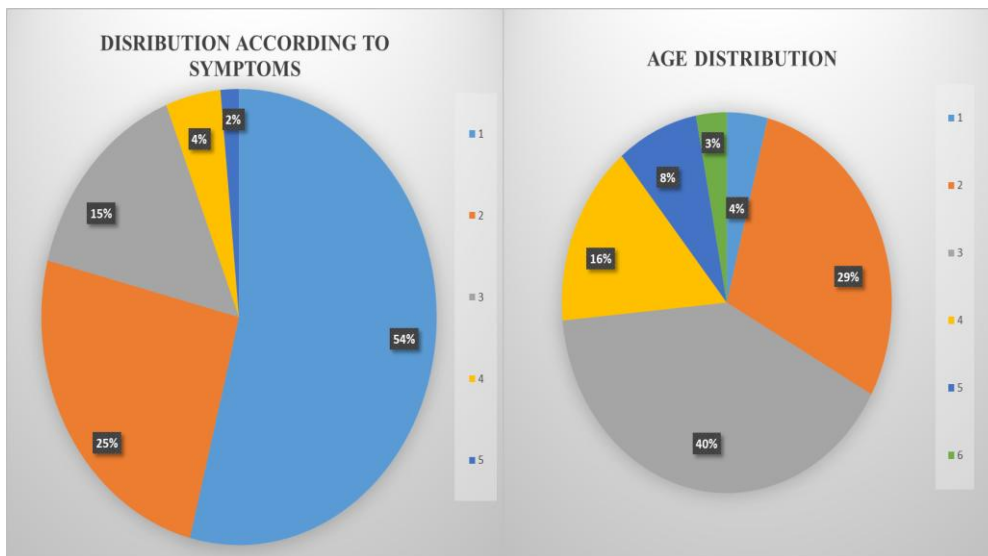
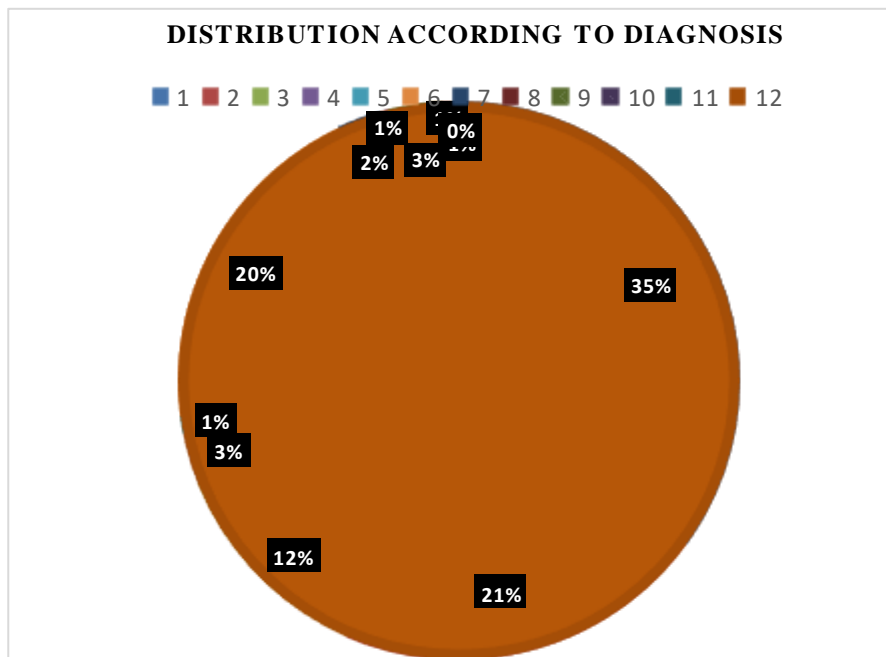
S.NO	DIAGNOSIS	CASES	PERCENTAGE
1	CHRONIC NON SPECIFIC CERVICITIS	70	35%
2	PAPILLARY ENDOCERVICITIS	43	21.50%
3	POLYP	25	12.50%
4	EROSIVE CERVICITIS	06	03%
5	PSEUDOEPITHELIOMATOUS HYPERPLASIA	02	01%
6	CIN 1	40	20%
7	CIN 2	05	2.50%
8	CIN 3	01	0.50%
9	SQUMOUS CELL CARCINOMA	06	03%
10	ADENOCARCINOMA	01	0.50%
11	CERVICAL LEIOMYOMA	01	0.50%
		200	100%

TABLE 2: DISRIBUTION ACCORDING TO SYMPTOMS

S.NO	SYMPTOMS	CASES	PERCENTAGE
1	WHITE DISCHARGE	108	54%
2	BACK ACHE ABDOMINAL PAIN	50	25%
3	BLEEDING PER VAGINA	30	15%
4	PELVIC PAIN	9	4.50%
5	DYSPAERUNIA	3	1.50%
		200	100%

TABLE 3: DISTRIBUTION ACCORDING TO AGE

S.NO	AGE	CASES	PERCENTAGE
1	20-30	8	4%
2	31-40	58	29%
3	41-50	81	40.50%
4	51-60	31	15.50%
5	61-70	16	8%
6	71-80	6	3%
		200	100%



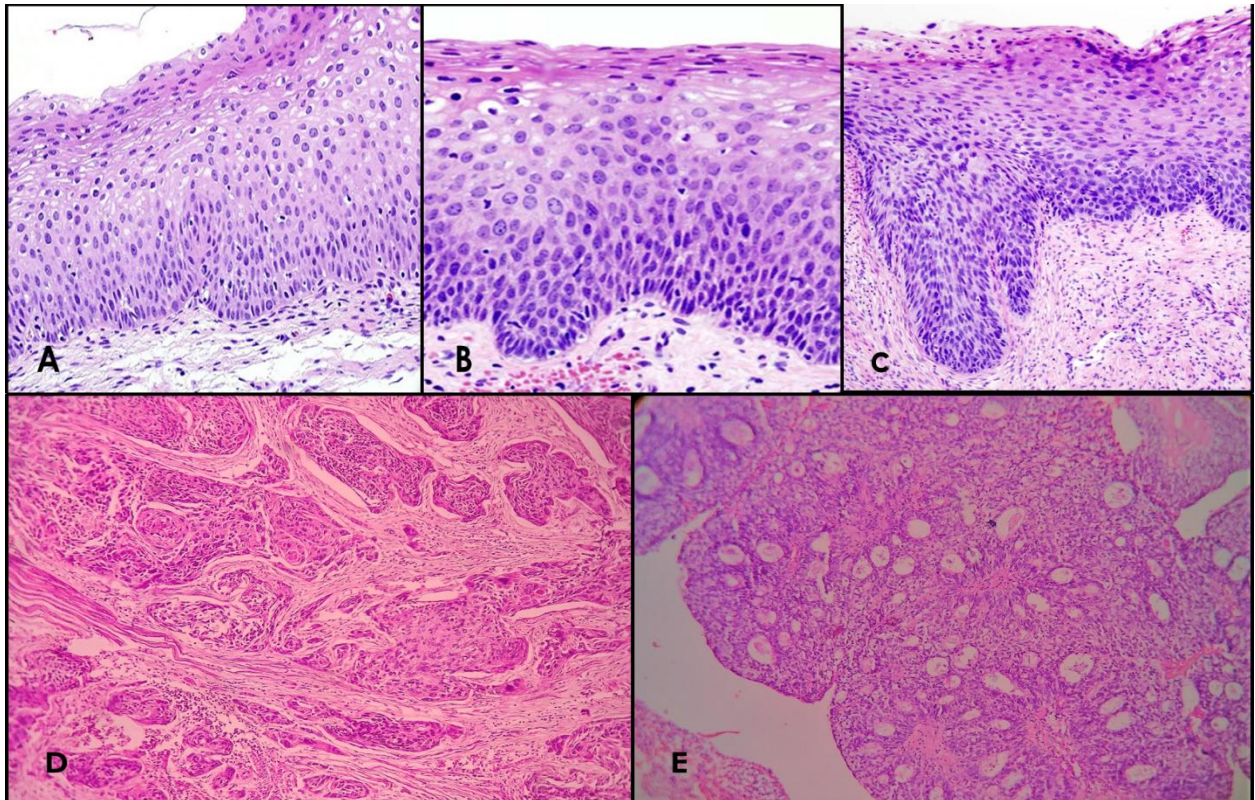


Figure A. CIN 1 Changes; Figure B. CIN 2 Changes; Figure C. CIN 3 Changes;
Figure D. 10 X view of Moderately Differentiated Squamous Cell Carcinoma Cervix;
Figure E. 10 X view of Adenocarcinoma Cervix

DISCUSSION

The present study comprises of histopathological study of 200 cervical biopsies. The maximum numbers of cases were of non-neoplastic lesions- 73%, this was comparable to the results of Kumari K et al and Bagde et al in which maximum cases were non-neoplastic 46.39% and 46.51% respectively. In this study majority of the biopsies were diagnosed as chronic non-specific cervicitis (70%), which was comparable to study done by Priyadarshini et al, Nwawchokor et al and Kumari k et al where chronic non-specific cervicitis was diagnosed in 48%, 43.5% and 42.7% respectively. 20% cases were CIN1 (LSIL) which could be reversed to normal epithelium by giving a proper treatment by the gynecologist. 3% cases were diagnosed as HSIL, and 7 cases were of invasive carcinoma comprising of Squamous cell carcinoma(6 cases) and 1 case of adenocarcinoma. Most common presenting complaint in our study was white discharge which was comparable to study by Fatima et

al and Bagde et al where also the most common presenting complaint was white discharge being 66.03% and 60% respectively. The cervix can be prone to STIs and UTIs during intercourse, conception, pregnancy, delivery and post-partum with the reason being that it is a gateway for sexual intercourse and reproduction. Various studies have shown that sexually transmitted infections like Neisseria gonorrhoea, Chlamydia trachomatis and Staphylococcus aureus lead to cervicitis in women of developing countries. [2] Non-neoplastic lesions of the uterine cervix form a major bulk of the gynecologic specimens in histopathology department. There are a variety of non-neoplastic lesions, which are of immense importance to the clinician and the pathologist and are overlooked so a guided approach towards the diagnosis of these lesions should be undertaken. [9] The non-neoplastic lesions of the uterine cervix like cervical inflammatory lesions may be acute or chronic resulting due to infective or non-infective etiology. [10] Paavonen J et al

[3,11] in their study have stated that chronic non-specific cervicitis has variable etiology and needs to be paid attention to as it may lead to endometritis, salpingitis and “pelvic inflammatory disease” through ascending intraluminal spread; chorioamnionitis and it may also initiate or promote cervical neoplasia. [3] HPV cervicitis is on an increasing trend worldwide. [2,12] With the invent of modern diagnostic techniques including polymerase chain reactions, HPV genotyping, in situ hybridization and other molecular studies the diagnostic yield and specificity has increased. The frequency of HPV, particularly the high risk biotypes (HPV 16 and 18) that usually result in cervical cancer varies world-wide. [2,13] Patients with LSIL have excellent outcome as regression are expected on an average approximately within a year. HPV16 infection is associated with a high risk of progression from LSIL to HSIL and a positive p16 immunochemistry is also suggestive of increased risk of progression. [3,14] No single or combination markers have

been found to predict definitely yet whether a given lesion will progress, persist or regress. Most of the patients with HSIL are cured by Loop electrosurgical Excision Procedure (LEEP) and surgical conization procedure but size of the lesion, completeness of excision predicts recurrence. Post therapy the best predictor of recurrence or relapse of residual disease is HPV DNA at the end of 12 months. Adenocarcinomas have been rising in incidence since the 1970s; especially in women younger than 35 years of age. [3,15] SCC is seen predominantly in an age group of 50-60 years. Diagnosis of SCC was made based on the presence of invasive nests of dysplastic squamoid cells infiltrating the basement membrane and invading the stroma. Also seen were keratin pearl formation in numerous cases and some of the cases showed moderately differentiated squamous cell carcinoma. [3] Comparative results from other studies are shown in the following tables.

TABLE 4: COMPARISION OF LESIONS WITH OTHER STUDIES

	NON NEOPLASTIC	PREINVASIVE(LSIL AND HSIL)	INVASIVE
ALI ET AL	46.34%	2.43%	51.2%
KUMARI K ET AL	49.39%	15.29%	35.31%
BAGDE ET AL [16]	46.51%	24.1%	13.95%
FATIMA ET AL [17]	35.33%	03%	61.66%
OUR STUDY	73%	23.5%	5.5%

TABLE 5: INCIDENCE OF CHRONIC NON SPECIFIC CERVICITIS AAND THE MOST COMMON PRESENTING COMPLAINT

CHRONIC NON SPECIFIC CERVICITIS	
PRIYADARSHINI ET AL	48%
NWAWCHOKOR ET AL	43.5%
KUMARI K ET AL	42.7%
ALI ET AL	17%
PRESENT STUDY	70%
MOST COMMON PRESENTING COMPLAINT	
FATIMA ET AL	White Discharge- 66.03%
BAGDE ET AL	White Discharge- 60%
PRESENT STUDY	White Discharge- 54%

CONCLUSION

Tissue biopsy is a valuable diagnostic procedure. Aim of this study was to know the spectrum of diseases and their frequency. In our study non neoplastic lesions were more common as compared to neoplastic lesions with chronic cervicitis being the most common of all the lesions.

Histopathological examination helps in early diagnosis of malignant and premalignant conditions and their prompt treatment.

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How to cite this article: Jain A, Dhar R, Patro P et.al. Histopathological study of cervical lesions. Int J Health Sci Res. 2018; 8(11):82-87.
