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Original Research Article

Assessment of Histopathological Features of Cervical Lesions: A Retrospective Study

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Abstract

Aim: To study the histopathological features of cervical lesions.

Materials and Methods: A retrospective study was done in the Department of Pathology at Shree Narayan Institute of medical sciences, Saharsa, Bihar, India for 12 months

Results: 87.7% (307/350) lesions were Non-neoplastic and majority was inflammatory in nature second most common was benign lesions 25 (7.1%). Invasive lesions occupied only 2.8% (8/350) and pre invasive about 2.2% (10/350) respectively.

Conclusion: Histopathology study of cervical biopsy lesions is a valuable diagnostic procedure. Early detection of cervical lesions may provide an opportunity for appropriate interventions to prevent further complications such as progression from benign to malignant conditions. Adequate screening procedure with follow up cervical biopsies helps in early diagnosis and management of premalignant and malignant lesions.

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. [5] 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. [6,7]

Non-neoplastic cervical lesions occur in all age groups amongst women but are more common in reproductive and sexually active women. [8] Nonneoplastic cervical lesions include inflammatory lesions and non-neoplastic tumor-like lesions. The

majority of these inflammatory lesions are acute cervicitis, chronic cervicitis caused by various bacteria, viruses and fungi. [8] Cervicitis caused by the Human papillomavirus carries a high risk for Condyloma acuminata, cervical intraepithelial neoplasia (CIN) and carcinoma. [9] Cervical carcinomas are classified by WHO classification which is widely accepted. [10] Hence the present study was conducted with the aim to study the histopathological features of cervical lesions.

Material & Methods

A retrospective study was done in the department of Pathology, Shree Narayan Institute of medical sciences, Saharsa, Bihar, India for 12 months

Inclusion criteria: All cervical biopsies and hysterectomy specimens sent to the Department of Pathology for histopathological examination.

Exclusion criteria: Cervical biopsies found to be unsatisfactory for evaluation on microscopic examination after processing and endometrial, myometrial and ovarian lesions in hysterectomy specimens.

Methodology: A total of 350 cervical specimens were received in the department of Pathology and specimens were in the form of cervical punch biopsies, hysterectomies, Wertheim's hysterectomy and cervical amputation. All the specimens 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. A preformed proforma was prepared and included demographics such as clinical features, gross appearance and histopathological features. Gross examination was done and features such as size, consistency, external appearance and appearance of cut surface were noted. The specimens were allowed to fix in 10% formalin for 24-48 hours. The sections were dehydrated in alcohol, cleared in xylol and embedded in paraffin wax to prepare the paraffin blocks. Multiple thin sections of 4 -5 microns in thickness were cut.

Multiple blocks from different areas of lesion were studied in each case. For histopathological study, the paraffin embedded sections were stained by Hematoxylin and Eosin (H & E) stain. The histopathological classification of tumors was done according to recommendations by W.H.O.

Statistical analysis: Data is entered in Microsoft Excel sheet and analyzed using SPSS version 20.0 statistical software. Data depicted in the form of tables, graph's percentage and proportion.

Results

In our study age distribution range from 20-80 years with majority of cases included among 41-50 years which constituted about 41.7% (146/350). Next common age group among 31-40 years constituted 22.7% (78/350). 18.5% in 20-30 years, 8.5% (30/350) in 51-60 years, 6.5% (23/350) in 61-70 years and least noted in 71-80 years i.e., 2.2% (08/550). [Table 1]

Table 1: Age distribution

Age in years	No. of cases	%
20-30	65	18.57
31-40	78	22.29
41-50	146	41.71
51-60	30	8.57
61-70	23	6.57
71-80	08	2.28
Total	350	100

In our study 68.2% (239/350) patients presented with white discharge, 25.4% (89/350) with Back ache + abdominal pain, bleeding per vagina in 2% (07/350). 3.1% (11/350) with pelvic pain and only 1.1% (04/350) presented with dyspareunia. [Table 2]

Table 2: Clinical complaints

Clinical features	No. of cases	%
White discharge	239	68.29
Back ache +Abdominal pain	89	25.43
Bleeding per vagina	07	2
Pelvic pain	11	3.143
Dyspareunia	04	1.143
Total	350	100

87.7% (307/350) lesions were Non neoplastic and majority was inflammatory in nature second most common was benign lesions 25 (7.1%). Invasive lesions occupied only 2.8% (8/350) and preinvasive about 2.2% (10/350) respectively. [Table 3]

Table 3: Distribution of cervical lesions

Cervical lesions	Non-neoplastic	%
Non neoplastic	307	87.71
Benign lesions	25	7.14
Pre-invasive lesions	10	2.85
Invasive lesion	8	2.28
Present study	350	100

In our study among non-neoplastic cervical lesions, majority of the cases reported as chronic nonspecific cervicitis which constituted 54.8%, next common was chronic papillary endocervicitis 18.5%. Among neoplastic lesions of cervix, Squamous cell carcinoma was reported in 1.7% cases and only one case of adenocarcinoma of cervix was reported. Cervical leiomyoma was reported in 3.4% cases. [Table 4]

Table 4: Histopathological distribution of non-neoplastic, pre-invasive and invasive cervical lesions

Cervical lesions	No. of cases	%
Chronic nonspecific cervicitis	192	54.86
Chronic Papillary endocervicitis	65	18.57
Endocervical polyp	23	6.571
Erosive cervicitis	14	4.00
Pseudoepitheliomatous hyperplasia	8	2.28
Cervical leiomyoma	12	3.42
Carcinoma insitu	02	0.57
CIN 1	03	0.85
CIN 2	04	1.14
CIN 3	02	0.57
Squamous cell carcinoma	06	1.71
Adenocarcinoma	01	0.28
Total	350	100

In the present study according to Broder's grading, moderately differentiated squamous cell carcinoma was most commonly reported (58.3%), poorly differentiated in 25% and well differentiated in 16.6% [Table 5]

Table 5: Classification according to Broder's grading

Cervical carcinoma	No. of cases	%
Poorly- Differentiated	03	25.00
Moderately- Differentiated	07	58.33
Well- Differentiated	02	16.67
Total	12	100.00

Discussion

The present study shows Non-neoplastic lesions (74.1%) are more common than malignant lesions which was similar to the studies done by Avani J et al [11] and Srivani S et al [8] in which non-neoplastic lesion were 73% and 79.7% respectively.

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. [12] 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. [13] Paavonen J et al [14] 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. [15]In Thirukumar M et al. study [16] according to presentation of the patients with non-neoplastic cervical lesion, about 20.4%, presented with whitish per vaginal discharge, 18.9 % presented with the mass in the vagina. While abnormal uterine bleeding was the presentation in 48.9% of the patients, 6.1% of the patients had post coital bleeding. Only 5.7% of the patients presented with abdominal pain. Manoja et al study [17] most common clinical complaint was white discharge 130 (52%) followed by backache and abdominal pain 70 (28%), bleeding per vagina 30(12%) pelvic pain 20 (8 %). [18]

Conclusion

Histopathology study of cervical biopsy lesions is a valuable diagnostic procedure. Early detection of cervical lesions may provide an opportunity for appropriate interventions to prevent further complications such as progression from benign to malignant conditions. Adequate screening procedure with follow up cervical biopsies helps in early diagnosis and management of premalignant and malignant lesions. 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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