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Evaluation of Non-Neoplastic and Neoplastic Lesions of Uterine Cervix

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ABSTRACT
To evaluate non-neoplastic and neoplastic lesions of uterine cervix. Eighty specimens from hysterectomy, cervical polypectomy, and cervical biopsy obtained from the obstetrics and gynecology department were immersed in formalin and paraffin embedded sections were made for microscopic analysis. Haematoxylin and eosin stains were used on the sections. Histopathological diagnosis were established and reported based on microscopic observations. Tumors were histopathologically classified using the W.H.O. 2017 standards. Cervical specimens showed 14 cervical biopsy, 56 hysterectomies and 10 polypectomy. The difference was significant (P< 0.05). The non- neoplastic lesions were 68 and neoplastic were 12. Inflammatory lesions were seen in 53 and non-neoplastic cervical glandular lesions in 15 cases. Neoplastic lesions were benign seen in 7, precursor lesions in 3 and malignant lesions in 2 cases. The difference was significant (P< 0.05). Benign lesions were endocervical polyp in 4, fibroepithelial polyp in 1 and leiomyomatous polyp in 2 cases. Malignant lesions were adenocarcinoma (1) and squamous cell carcinoma (1). The gold standard for diagnosis is a biopsy specimen examined histopathologically. The majority of cancers affecting the female genital system are cervical cancers.

INTRODUCTION

Cervical cancer is a major public health concern and a major cause of morbidity and mortality for women globally[1]. Cervical cancer is the most common neoplasm in women in India, making up 20%-50% of all female cancers and 80% of all female genital cancers. At some time in their lives, one in every 142 women will receive a cervical cancer diagnosis[2].

In most histopathology departments, a significant component of the workload consists of gynecological specimens. Viral infections and other carcinogens can target the cervix and cause invasive cancer[3]. One of the most frequent clinical problems in gynecologic practice is infection, which may be brought on by a lifelong exposure to vaginal microorganisms[4].

Cervical non-neoplastic disorders are mostly inflammatory in nature, albeit clinically they can occasionally mimic cancer[5]. Therefore, classification and acquaintance with the histomorphological features of cervical non-neoplastic lesions are crucial for their identification and could enhance the strategy for better patient management. Additionally, additional difficulties can be avoided by detecting these non-neoplastic lesions early[6]. Cervical pathological investigations in conjunction with clinical correlation are crucial for obtaining a conclusive diagnosis in cervical disorders. There are still intrinsic limitations in cervical cytology, such as non-representative cervix sample and cell transference from collection equipment to glass slide[7]. We performed this study to assess non neoplastic and neoplastic lesions of uterine cervix.

MATERIALS AND METHODS

After considering the utility of the study and obtaining approval from ethical review committee, 80 specimens from hysterectomy, cervical polypectomy, and cervical biopsy were obtained from the obstetrics and gynecology department. The histopathology department was the site of this study.

Information like name, age, gender, and so forth were noted. Formalin fixed paraffin embedded sections were used for microscopic analysis. Haematoxylin and eosin stains were used on the sections. When needed, special stains such as PAS and mucicarmine were used. Histopathological diagnosis were established and reported based on microscopic observations. Tumors were histopathologically classified using the W.H.O. 2017 standards.The results were compiled and subjected for statistical analysis using Mann Whitney U test. P value less than 0.05 was set significant.

RESULTS AND DISCUSSIONS

Cervical specimens showed 14 cervical biopsy, 56 hysterectomy and 10 polypectomy. The difference was significant (P< 0.05) (Table I).

Table 1: Distribution of cervical specimens

Specimens	Number	P-value
Cervical biopsy	14	0.025
Hysterectomy	56	
Polypectomy	10	

Table 2: Histopathological distribution of lesions

Lesions	Variables	Number	P-value
Non- neoplastic	Inflammatory	53	0.01
	Non-neoplastic cervical glandular lesions	15	
Neoplastic	Benign	7	0.05
	Precursor lesions	3	
	Malignant	2	

Table 3: Various benign and malignant lesions

Parameters	Variables	Number	P-value
Benign	Endocervical polyp	4	0.05
	Fibroepithelial polyp	1	
	Leiomyomatous polyp	2	
Malignant	Adenocarcinoma	1	1
	Squamous cell carcinoma	1	

The non- neoplastic lesions were 68 and neoplastic were 12. Inflammatory lesions were seen in 53 and non-neoplastic cervical glandular lesions in 15 cases. Neoplastic lesions were benign seen in 7, precursor lesionsin 3 and malignant lesions in 2 cases. The difference was significant (P< 0.05) (Table 2).

Benign lesions were endocervical polyp in 4, fibroepithelial polyp in 1 and leiomyomatous polyp in 2 cases. Malignant lesions were adenocarcinoma (1) and squamous cell carcinoma (1). The difference was significant (P< 0.05) (Table III).

Cervical cancer is the second major cause of cancer death among Indian women and the fourth most common disease in women globally. This malignancy is mostly prevented with screening and immunization. Because cancer grows slowly, it can be effectively prevented by screening tests and immunization against the human papilloma virus (HPV)[8].

The cytologic diagnosis of cervical smears has become a very important screening test for the detection of pre-invasive and invasive cervical epithelial abnormalities[9]. Screening of female population for cervical neoplasia is a simple, inexpensive, and reliable method which greatly reduces the mortality and morbidity associated with carcinoma cervix, if detected in its pre-invasive stage[10]. Cervix either from hysterectomies continue to form the major bulk of gynaecology specimens that are received in the histopathology department[11,12]. Patients with cervical pathologies may be asymptomatic or may present with vaginal discharge, backache, lower abdominal pain and others[13,14,15]. Cervical cytology has proven to be one of the most successful cancer screening techniques in developed countries, with early detection and treatment of preinvasive lesions contributing to a notable decrease in the incidence and mortality of invasive cancer. We performed this study to assess non neoplastic and neoplastic lesions of uterine cervix.

Our results showed that cervical specimens showed 14 cervical biopsy, 56 hysterectomy and 10 polypectomy. Patil *et al.*[16] found that inflammatory lesions formed the major part accounting to 74.30%, followed by malignancies (13.54%). Among the inflammatory cervical lesions, chronic non- specific cervicitis was the most common in 188/214 (87.86%) cases. Benign cervical lesions were found in 19/288 (6.59%) cases. Total 39/288 (13.54%) cases of Invasive cervical malignancies were encountered. Among cervical malignancies, Squamous cell carcinoma was the commonest in 36/39 (92.32%) cases. Of these, large cell non- keratinizing was the most common histological subtype.

The non- neoplastic lesions were 68 and neoplastic were 12. Inflammatory lesions were seen in 53 and non-neoplastic cervical glandular lesions in 15 cases. Neoplastic lesions were benign seen in 7, precursor lesions in 3 and malignant lesions in 2 cases. In their investigation, Dayal *et al.*[17] discovered that the most frequent clinical complaint (43.00%) was vaginal discharge, which was followed by bleeding complaints (23.38%). 32.51% of women had a grossly normal cervix, while 20.07% had nabothian follicles. Chronic cervicitis was the most prevalent pathology (79.66%) found on the histopathology investigation. The cervical region is home to various gray-colored lesions, ranging from cervical dysplasia to cancer. However, benign lesions make up the majority of cervical diseases. But benign tumors are frequently misinterpreted as cancerous. A combination of clinical findings and histopathological testing is required for an early and precise diagnosis. It is recommended that health camps be conducted in conjunction with cervical screening and educational awareness programs.

Benign lesions were endocervical polyp in 4, fibroepithelial polyp in 1 and leiomyomatous polyp in 2 cases. Malignant lesions were adenocarcinoma (1) and squamous cell carcinoma (1). According to Baral *et al.*[18], 300 specimens in total were examined. Of the patients under 40 years old, 73 (or 50%) were normal, 34 (or 23%) had aberrant physiologic alterations, and 13 (9%) had benign abnormalities and pregnancy-related problems. Within the age range of 40 to 55 years, the percentages of individuals with aberrant physiological changes, benign conditions, and normal physiological changes were 32, 42, and 26 percent, respectively. There were three (21%) malignant and three (21%) benign diseases in the age group over 55. In this age group, there were 5 (36%) poor samples.

Deepthi *et al.*[19] in their study a total of 1000 cervical smears were studied and 235 out of 1000 cases were followed by histopathological study. Out of these 1000 cases, one hundred and seventy-nine (17.9%) cases were neoplastic, seven hundred and six (70.6%) cases were inflammatory smears, ninety (9.0%) cases were normal study and twenty-five (2.5%) cases were inadequate to evaluate. Among 179 neoplastic cases, eighteen (10.06%) were carcinomas, forty-six (25.07%) were HSIL and one hundred and fifteen (64.24%) were LSIL. The sensitivity of cervical cytology was 88.06% and specificity was 95.24%.

CONCLUSION

The gold standard for diagnosis is a biopsy specimen examined histopathologically. The majority of cancers affecting the female genital system are cervical cancers.

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