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HISTOMORPHOLOGICAL SPECTRUM OF LESIONS OF THE CERVIX, A RETROSPECTIVE STUDY IN A TERTIARY CARE HOSPITAL

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HOW TO CITE THIS ARTICLE:

Srivani Saravanan, Jonathan Arnold, Arul P. "Histomorphological Spectrum of Lesions of the Cervix, A Retrospective Study in a Tertiary Care Hospital". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 59, July 23; Page: 10326-10329, DOI:10.14260/jemds/2015/1487

ABSTRACT: Majority of the specimens which reach the histopathology laboratory are from gynecology department. Aim of this study is to determine the frequency and histomorphological patterns of lesions of the cervix. This is a retrospective study done in a tertiary care hospital. A total of 794 cases were retrieved from histopathology department and evaluated. The age group of the patients was between 20-80 years. It was concluded that about 79.7% cases were non-neoplastic and 20.3% were neoplastic. The most common of all these lesions was chronic non-specific cervicitis.

KEY WORDS: Cervicitis, neoplastic, non-neoplastic.

INTRODUCTION: The uterine cervix is prone to develop several non-neoplastic and neoplastic gynecological lesions. These lesions are most commonly found in women of reproductive age group. These lesions may be of non-neoplastic or neoplastic in nature. Majority of the non-neoplastic lesions are inflammatory in nature.^[1] Inflammatory lesions are caused by various organisms including bacteria, virus, protozoa and fungus. HPV cervicitis is a causal risk factor for condyloma acuminatum, preinvasive cervical intraepithelial neoplasia (CIN 1, 2, 3) and eventually cancer.^[2] Carcinoma of the female genital tract particularly cancer of cervix accounts for almost 2% all cancers in women, and so represents the second most frequent gynaecological malignancy in the world.^[3] In India, 90,000 of new cases of cervical cancer occur every year.^[4]

MATERIAL AND METHODS: All the uterine cervical biopsies received at that department of pathology over a period of 3 yrs. from Jan. 2012 to Jan. 2015 were included in the study. The specimens were sent from Obstetrics and Gynecology department. Slides were retrieved from of the archives of the department of pathology. Wherever necessary new sections were made from formalin fixed paraffin embedded blocks and stained with Haematoxylin and Eosin.

RESULTS: During this three years study period between Jan 2012 to Jan 2015, total 794 cervical specimens were received in the department of pathology. These specimens included both small biopsies and hysterectomies. Out of these, 633(79.7%) cases were non-neoplastic and 161(20.3%) cases were neoplastic. Inflammatory lesions were about 377(47.5%) cases.

Incidence of non-neoplastic lesions was higher than neoplastic lesions. Majority of cervical lesions were in the 4th decade (38.9%). Chronic non-specific cervicitis with or without squamous metaplasia was the most common histological diagnosis made (37.9%). Most common type of carcinoma was squamous cell carcinoma. No case of adenocarcinoma was reported in the study. Overall only 29(3.6%) cases and 6 (0.7%) cases occurred before 30 years and after 70 years respectively.

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DISCUSSION: Cervices, either from hysterectomies or biopsies continues to form the major bulk of gynecological specimens which are received in the histopathology department even after the incidence of carcinoma cervix has declined in the industrialized countries.^[5] Chronic non-specific cervicitis constituted the majority of cervical lesions, with about 301(37.9%) cases being reported during the study period. This is not surprising because it is a frequently encountered condition both clinically and in histopathological specimens.^[6] Also chronic non-specific cervicitis occurred between the age ranges of 20-79 years with a peak incidence at the 5th decade of life. No case was seen before menarche.

This is similar to the previous reports by Craig and Lowe.^[7] It is a common phenomenon in postmenopausal women. Certain lesions of chronic nonspecific cervicitis had coexisting squamous metaplasia. All the prolapsed cervix (25.7%) cases had features of hyperkeratosis, with or without erosion. This condition constituted the second most common non-neoplastic lesion followed by chronic nonspecific cervicitis (37.9%). The highest incidence of cervical prolapse was between 41-60 years.

Non-inflammatory tumor like condition such as endocervical polyp was a rare entity, constituting only 6.5% of the total cervical specimens studied. The histological diagnosis of endocervical polyp was based on the presence of dilated endocervical glands and thick blood vessels in the stroma. Overall the incidence of non-neoplastic lesion was more the neoplastic, the ratio being 3.9:1. Out of 794 cases, 633(79.7%) cases were non-neoplastic, 85(10.7%) were cases of cervical intraepithelial neoplasia and 76(9.6%) were carcinoma as per Table 2. The peak incidence of non-neoplastic and neoplastic lesion of the cervix was in 5th decade.

Cervical intraepithelial neoplasia included all cases of CIN 1, CIN 2 and CIN 3. Out of 794 cases only 85(10.7%) cases of CIN (including CIN1, 2 & 3) were diagnosed based on the typical histological findings. Highest incidence of CIN was in the 6th decade. A variety of benign cervical epithelial changes may be confused with CIN such as immature squamous metaplasia and reactive changes. However in our study the above findings were very rare. Our study shows highest incidence of squamous cell carcinoma in the 5th decade. This finding is similar to the study done by Dhakal et al^[8] About 76(9.6%) cases of squamous cell carcinoma were diagnosed. Almost equal proportion of keratinizing and non-keratinizing squamous cell carcinomas was observed. A few cases had co-existing carcinoma in-situ changes.

CONCLUSION: Based on the results and methodology applied, we have concluded that the most common non-neoplastic cervical lesion was chronic non-specific cervicitis and the most common neoplastic lesion was cervical intra-epithelial neoplasia followed closely by squamous cell carcinoma. Peak incidence of both these lesions was in the 5th decade. The present study highlights on the spectrum of lesions of the cervix which is further divided under various categories. These categories can provide the basis for identifying the etiology. The spectrum of cervical lesions is vast and therefore early detection and management of certain lesions can help in reducing the morbidity.

REFERENCES:

1. Omoniyi-Esan OG, Osasan SA, Ojo OS. Non-neoplastic diseases of the cervix in Nigeria: A histopathological study. *Afr Health Sci* 2006; 6: 76-80.
2. Bosch FX, Lorinez A, Munoz N, Meijer CJ, Shah KV. The causal relationship between human papilloma virus and cervical cancer. *J Clin Pathol* 2002; 55: 244-65.

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3. Hausen HZ, Papilloma viruses and cancer basic studies to clinical application, Nat Rev, 2002; 2: 342.
4. Panday K, Bhagoliwal AJ, A cancer cervix need for mass surveillance program specially in rural areas, Obstet gynecol India, 2005; 55(5): 436-439.
5. Wright Ct, Ferenczy A. Benign diseases of the cervix. In: Kurman RT editor. Blaustein's Pathology of female genital tract. 5th ed. New Delhi: Springer Verlag; 2002. Pg.225-252.
6. Lowe D, Slavin G. Non-neoplastic conditions of the cervix: In Fox H(Ed). Haines and Taylor: Obstetrical and Gynaecological pathology. 4th edition Churchill Livingstone New York 1995.6:249-267.
7. Craig P, Lowe D. Non-neoplastic lesions of the cervix. In: Fox H, Well M. editors. Haines and Taylor: Obstetrical and Gynaecological pathology. 5th ed. Edinburgh: Churchill Livingstone; 2003 page 273-96.
8. Dhakal HP, Pradhan M, Histological pattern of gynaecological cancers, J Nepal Med Assoc, 2009; 48(176):301-305.

Age in years	Frequency	Percentage
21-30	29	3.6
31-40	208	26.2
41-50	309	38.9
51-60	161	20.3
61-70	81	10.2
>70	6	0.7

TABLE: 1 Age distribution of patients with cervical lesions

Histological diagnosis	Frequency	Percentage
Chronic non-specific cervicitis	301	37.9
Cervical prolapse	204	25.7
Endocervical polyp	52	6.5
Papillary endocervicitis	76	9.6
CIN	85	10.7
Squamous cell carcinoma	76	9.6

TABLE: 2 Histological types of cervical lesions

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Figure 1: Chronic Non-Specific cervicitis showing heavy inflammation (H&E 100x)

Figure 2: Cervical Prolapse Showing hyperkeratosis and parakeratosis (H&E 100x)

Figure 3: Squamous cell carcinoma showing nests of malignant squamous cells (H&E 100x)

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FINANCIAL OR OTHER

COMPETING INTERESTS: None

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Date of Submission: 25/06/2015.
Date of Peer Review: 26/06/2015.
Date of Acceptance: 16/07/2015.
Date of Publishing: 22/07/2015.