

## HISTOPATHOLOGICAL AND CYTOLOGICAL ANALYSIS OF VARIANTS IN CERVICAL LESION AT PACIFIC MEDICAL COLLEGE, UDAIPUR

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### ABSTRACT

**Background:** Histopathological and cytopathological analysis is the primary basis of clinical and scientific research to formulate guidelines for treatment and prevention of cervical cancer. Histopathological examination reveals precancerous lesions and determines treatment protocols according to grade and extent of the lesion. The histopathological examination also forms the basis of newer treatment techniques and preventive measures. **Material & Methods:** A total of 100 patients specimens were analyzed, which includes biopsy specimens and hysterectomy to examine the cervical lesions pathology. After fixation by 10% formalin for 24 – 48 hours specimens were dehydrated in alcohol, which was cleared by xylene and then embedded in paraffin blocks. Cut sections of size 4 -5 microns from different sites were stained by Hematoxylin and Eosin (H & E) stain. **Results:** Among the total specimens of cervical lesions 89% were non-neoplastic, and 11% were neoplastic. Among all the non-neoplastic lesions 77% were reported to be the inflammatory pathology. Among the total specimens, 11% reported to be of neoplastic pathology, 7% reported to had benign pathology and 5% reported to had cervical intraepithelial neoplasia respectively. **Conclusion:** chronic inflammatory cervical lesions were the most common genital tract lesions, and its association was found with 30-40 years age group. Cervical intraepithelial neoplasia and cervical carcinomas were reported in few numbers of cases, and their association was found with 40-60 years age group. Therefore, females of older age group complaining of bleeding per vagina should be screened for cervical neoplasia.

**Keywords:** Cervicitis, Cervical Intraepithelial Neoplasia, Cervical Cancer.

### INTRODUCTION

The histopathological and cytopathological analysis is the primary basis of clinical and scientific research to formulate guidelines for the treatment and prevention of cervical cancer (1). Histopathological examination reveals precancerous lesions and determines treatment protocols according to grade and extent of the lesion (2). The histopathological examination also forms the basis of newer treatment techniques

and preventive measures (3). Cervical cytological analysis implemented as the screening tool for the cervical metaplasia which is widely used in preventive programs (4). Exfoliated cells studied from the surface of the cervix and cytopathological analysis was done accordingly. The above-stated procedures dramatically reduce the global burden of cervical lesions by more than 70% through enhancements of the preventive measures (5). Cervical lesions

are mainly squamous epithelial dysplasia which represents some proliferative lesions differentiated by cytological and histological analysis (6). These above-stated facts sometimes under evaluate the actual condition as these preventive measures do not take accountability for increased detection rates among the young group for whom screening tools provide little protection and the rising incidence of human papillomavirus contamination along with other risk factors (7).

Nowadays the combination of clinical analysis supplementary with retrospective histological examinations postulates the hypothesis that invasive cervical squamous cell dysplasia develops from precancerous lesions that can be diagnosed by the pathologist (8). Hence, we are conducting the present study to gain a better knowledge of the broad spectrum of cervical lesions as we are diagnosing the precancerous and cancerous lesions of the uterine cervix.

## **MATERIALS & METHODS**

The present observational cross-sectional study was conducted at Department of Pathology, Pacific Medical College, Udaipur. A total of 100 patients specimens were analyzed, which includes biopsy specimens and hysterectomy to examine the cervical lesions pathology. The specimens collected by the gynecologist after the gross examination which includes size, consistency and appearance surface at our hospital and after that specimen processed with standard histopathological procedure and interpretation according to the lesion diagram of the cervix. After fixation by 10% formalin for 24 – 48 hours specimens were dehydrated in alcohol, which was cleared by xylene and then embedded in paraffin blocks. Cut sections of size 4 -5 microns from different sites were stained by Hematoxylin and Eosin (H & E) stain. Study duration was of one year from June 2016 to May 2017. These diagnosed patients were enrolled for

study by simple random sampling. Institutional Ethics Committee Clearance was taken before the start of the study and written informed consent for the study purpose was obtained from all the patients. All the patients were subjected to a detailed clinical examination by pretested proforma and detailed history was taken from patients. All other specimens from lesions of the uterus, parametrium, vagina, vulva and from lesions which originates from neighboring organs but metastasize to the cervical canal were excluded from the study. The data were analyzed using MS Excel 2010, Epi Info v7 and SPSS v22.

## **RESULTS**

In the present study, Cervical lesions were studied from the total 100 specimens obtained from biopsy specimens and hysterectomy specimens which turns out that hysterectomy specimens were the most prevalent type, i.e. 78 % of the total specimens of our study sample. Among other samples for cervical lesions, the analysis includes cervical punch biopsy specimens 16 % which followed by polypectomy 4% and Fothergill's operation 2%. Chronic nonspecific cervicitis was the most common inflammatory lesion reported in the present study which was found in 64% of the study sample. Out of them, 27% were of the age group 30-40 years, and 18% were of 40-50 years age group. After that, the papillary endocervicitis reported among 13% of the study sample, out of them maximum 6% were of age group 30-40 years followed by 4 % in 40-50 years of age. Neoplastic lesions were reported among 11% of the study sample, out of them maximum 6% were of age group 40-50 years followed by 3 % in 50-60 years of age. Cervical intraepithelial neoplasia lesions were reported among 5% of the study sample, out of them maximum 3% were of age group 40-50 years followed by 1 % in 50-60 and 20-40 years of age respectively. (Table 1)

**Table 1: Age-wise distribution of cervical lesions.**

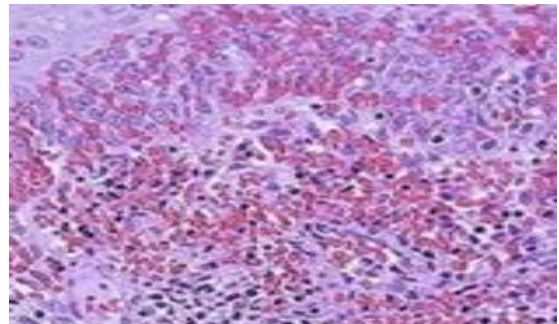
Age group (years)	Chronic inflammatory cervicitis	Papillary endocervicitis	Neoplastic	cervical intraepithelial neoplasia
<30	4%	1%	0%	0%
30-40	27%	6%	1%	1%
40-50	18%	4%	6%	3%
50-60	9%	1%	3%	1%
>60	6%	1%	1%	0%

In the present study, squamous cell carcinoma was the most frequent histologic type of cervical neoplasia reported in 10 cases. There was no case of adenocarcinoma, and only one case of adenosquamous carcinoma was reported respectively. Squamous cell carcinoma was divided further from Broder's grading classification into three categories (well, moderately and poorly differentiated) at the time of initial diagnosis and constituting cases like 1, 7 and 2 cases respectively. Squamous cell carcinoma was characteristically reported with vaginal bleeding and postcoital bleeding. Among the total specimens of cervical lesions, 89% were non-neoplastic, and 11% were neoplastic. Among all the non-neoplastic lesions 77% were reported to be the inflammatory pathology. Among the total specimens, 11% reported to be of neoplastic pathology, 7% reported to had benign pathology, and 5% reported to had cervical intraepithelial neoplasia respectively. (Table 2)

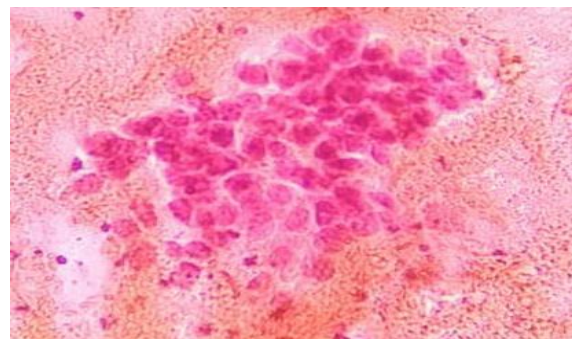
**Table 2: Distribution of cervical lesions according to histopathological examination.**

histopathological interpretation	No. of patients (%)
Inflammatory	77%
Neoplastic	11 %
Benign	7%
cervical intraepithelial neoplasia	5%

**Fig no.1 Chronic inflammatory cervicitis HE stains**



**Fig no.2 cervical intraepithelial neoplasia HE stains**



## DISCUSSION

The present study enrolled a total of 100 specimens of cases with a mean age of 46 years, with cervical pathology and having minor and major cyto-histological abnormalities, and they were sampled for study and cervical biopsy or after hysterectomy biopsy was done according to current updated guidelines for cervical screening. In our study, the total number of cervical lesions

among study samples accounts for 32% of the total genital tract lesions. The data was similar to study conducted by Poste P et al. on the incidence of benign non- neoplastic cervical lesions and found that cervical lesions among study samples account for 32.31% of the total genital tract lesions (9). In our study hysterectomy biopsy was the most frequent type of specimen and accounts for 78% samples which were followed by cervical biopsy which accounts for 16% of specimens. This was similar to the study conducted by Pallipady A et al. Clinical-Morphological spectrum of the cervical Lesions and found that the overall inflammatory lesions (83.5%) were more common than the others (10). These reports were also in parallel with reported published by Saravanan S et al. on histopathological analysis of Lesions In hysterectomy biopsy specimens and found that inflammatory lesions were found in 79.7% of cases (11). In the present study, chronic inflammatory cervicitis reported in 77% of biopsy samples. This report was nearly similar to the study conducted by Omoniyi-Esan et al. among Nigerian population on diseases of the cervix and reported that chronic inflammatory cervicitis was found in 82% of the study patients (12).

In the present study, the chronic inflammatory cervicitis was reported most common among 30-40 years of age group followed by 40-50 years of age group. This report was nearly similar to study conducted by Omoniyi-Esan et al. among Nigerian population on diseases of the cervix and reported that the maximum number of patients with chronic inflammatory cervicitis were enrolled in 30-50 years of age group (12). In the present study, benign cervical lesions were most commonly seen in the age group of 30-40 years. This age incidence was similar to a study conducted by Poste P et al. on the incidence of benign non- neoplastic cervical lesions and

found that high occurrence in the age group of 40-50 years (9).

In the present study, the cervical intraepithelial neoplasia was reported most common among 40-50 years of age group. This report was nearly similar to study conducted by Karim AJ et al. on histological results for cervical neoplasia among Malaysian patients reported that the maximum number of patients with CIN were in the age group of 40-50 years (6). In our study cervical neoplasia was reported among 11% of the study sample and most common among 40-50 years of age group followed by 50-60 years of age group. This report was nearly similar to the study conducted by Saravanan S et al. and reported that cervical cancer found among 12.94% of patients (11). Also, similar findings were obtained by Sinha P et al. in his study conducted among patients with cervical lesions (13). However, the results were decidedly less in comparison with results reported in a study conducted by Jyothi et al. that cervical neoplasia was found in 36.9% patients in the age group of 40-50 yrs (14).

## CONCLUSION

We concluded from the present study that chronic inflammatory cervical lesions were the most common genital tract lesions and its association was found with 30-40 years age group. Cervical intraepithelial neoplasia and cervical carcinomas were reported in few numbers of cases, and their association was found with 40-60 years age group. Therefore, females of older age group complaining of bleeding per vagina should be screened for cervical neoplasia.

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