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# Histopathological spectrum of lesions of cervix

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**Abstract**
**Introduction:** Uterine cervix is easily accessible site for various infections, inflammations and malignancy. Cervical cancer is the most common cancer in Indian women which can be detected early by doing screening tests and educating the people. So, present study is done to study various histopathological lesions of cervix and to assess the frequency of those lesions.
**Material & Methods:** The study was conducted over a period of 5 years (2013-2017) retrospectively. Various types of pathological lesions in cervix were analysed in department of Pathology, HIMS, Hassan.
**Results:** In the present study, 2124 cases were studied which includes hysterectomy specimens, biopsy, polypectomy and endocervical curettage specimens. Most common age group involved was 40-49 years and Chronic cervicitis was the most common non-neoplastic lesion and Squamous cell carcinoma being most common malignant lesion observed in the present study.
**Conclusions:** The present study concluded that most common lesion being non-neoplastic- chronic cervicitis and among malignant lesion SCC- moderately differentiated type being most common.

**Keywords:** Cervix, Chronic cervicitis, hysterectomy specimens

## Introduction
Uterine cervix acts as a "gateway" for various infections, which affects cervix, uterus and upper genital tract [1] Various inflammatory as well as infectious lesions are common in uterine cervix due to vulnerability to sexual trauma and being an easy access to various infections [1-6]
Cervical cancer is one of the most frequently seen cancer in women in India. Majority of the cervical cancer occur in women who are in their 30's and 40's while they are still raising or supporting families. One of the main reasons is the lack of effective screening programs aimed at detecting precancerous conditions and treating them before they progress to invasive cancer which might decrease the incidence of cervical cancer in our country [3, 8-10]
Complete and accurate assessment of cervical lesions relies on three methods which includes Colposcopic examination, cervical cytology and histopathological examination [2]

## Aim
1. To study the spectrum of various cervical lesions
2. To study the age distribution and identify frequency of cervical lesions

## Materials and methods
This case series cover 5-year period from Jan 2013 to Dec 2017. A retrospective analysis of all patients diagnosed with cervical lesions during this period were studied in Hassan Institute of Medical Sciences, Hassan. Clinical data {age, and clinical features (wherever available)} and gross findings were obtained from the histopathology record section of the institute. Specimens which included vaginal hysterectomy, abdominal hysterectomy, cervical biopsy, polypectomy and endocervical curettage were taken in the present study. They were fixed in formalin. Representative sections were taken, processed and embedded in paraffin blocks. Serial sections of 4-5µm thickness were taken and stained with hematoxylin and eosin. Hematoxylin and eosin- stained slides were retrieved and reviewed.

**Inclusion Criteria:** All hysterectomy and cervical biopsy specimens

**Exclusion criteria:** Scanty tissue bit Autolysed specimens

**Results**

In the present study, 2124 cases were studied among which abdominal hysterectomy specimens 1410 cases (66.4%), vaginal hysterectomy specimens 509 (24%), cervical biopsy 202 (9.5%), polypectomy specimens 2 (0.09%) and a specimen of endocervical curettage (0.05%)

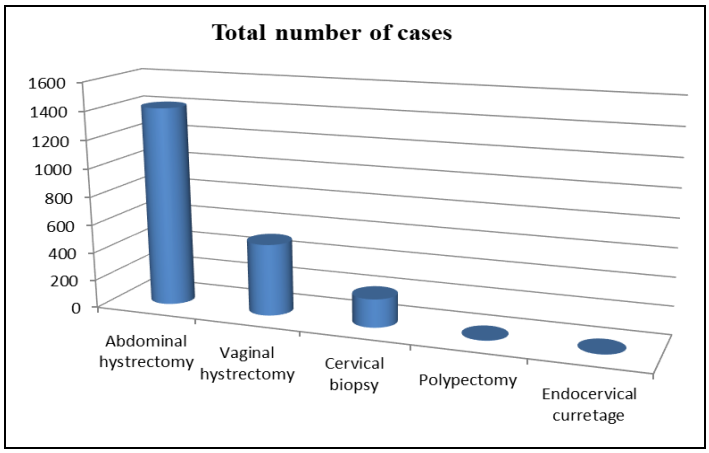


**Fig 1:** Total number of cases from different specimens

**Distribution of cervical lesions**

Among 2124 cases, non-neoplastic lesions were seen in 1862 cases (87.7%), neoplastic lesions in 251 cases (11.8%) and11 cases (0.5%) were unremarkable.

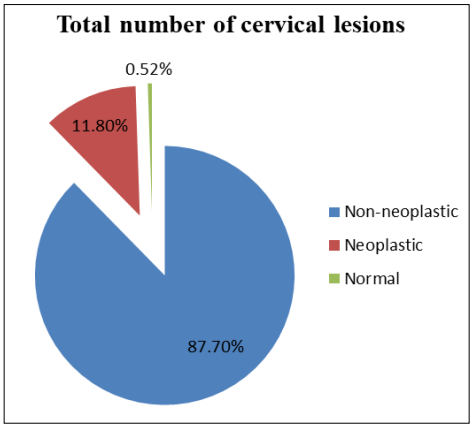


**Fig 2:** Distribution of various cervical lesions

**Age-wise distribution of cases**

The most common age group affected in the present study is 40-49 yrs (44.5%) followed by 30-39yrs (21.8%) and 50-59 yrs (16%).

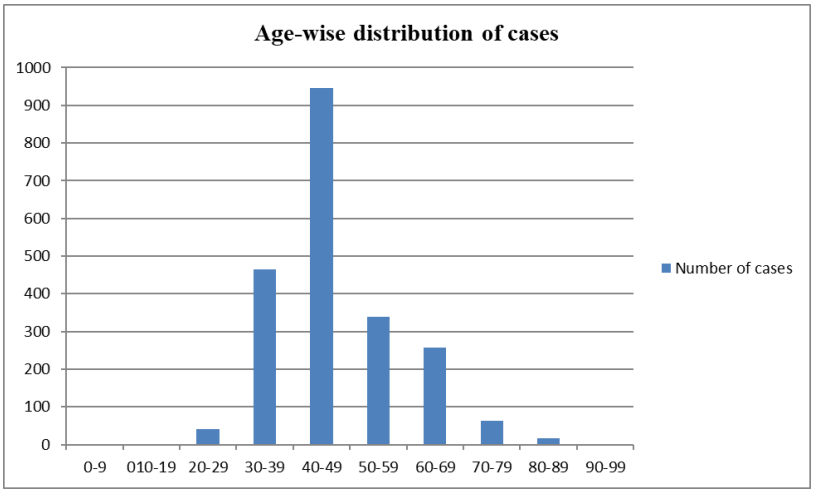


**Fig 3:** Age-wise distribution of cervical lesions

**Distribution of non-neoplastic lesions**

In the present study, most common lesion was chronic cervicitis which was common in 40-49 yrs age group individuals.'

**Table 1:** Shows various non- neoplastic lesions.

| Non-neoplastic lesions | No. of cases | Percentage |
|---|---|---|
| **Inflammatory lesions** | | |
| Chronic cervicitis | 1215 | 65.25% |
| Chronic polypoidal endocervicitis | 450 | 24.2% |
| Chronic cervicitis with squamous metaplasia | 110 | 5.9% |
| Chronic cervicitis with nabothian cyst | 28 | 1.5% |
| Chronic polypoidal endocervicitis with squamous metaplasia | 21 | 1.1% |
| Chronic papillary endocervicitis | 16 | 0.85% |
| Chronic cervicitis with chronic polypoidal endocervicitis | 11 | 0.6% |
| Chronic cervicitis with basal squamous metaplasia | 03 | 0.16% |
| Squamous metaplasia with nabothian cyst | 03 | 0.16% |
| **Non neoplastic cervical glandular lesions** | | |
| Simple microglandular endocervical hyperplasia | 03 | 0.16% |
| Cystic tunnel clusters | 01 | 0.05% |
| Microglandular endocervicitis | 01 | 0.05% |

**Distribution of Pre-malignant lesions**

Cervical intraepithelial Neoplasia I(CIN I) was the most common in 40-49 yrs followed by 30-39 yrs about 100 cases, CIN II was seen in 7cases and CIN III was seen in 9 cases.

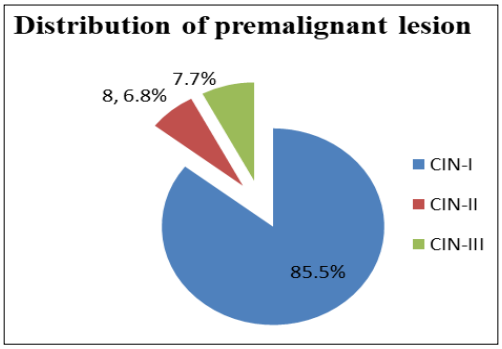


**Fig.4:** Distribution of premalignant lesions

**Distribution of Neoplastic lesion**

In the present study, Endocervical polyp was seen in 11 cases, leiomyomatous polyp was seen in 1 case and cervical fibroid was present in 4 cases. Squamous cell carcinoma was the most common malignancy noted in 112cases (95%) and Adenocarcinoma in 6 cases (5%).

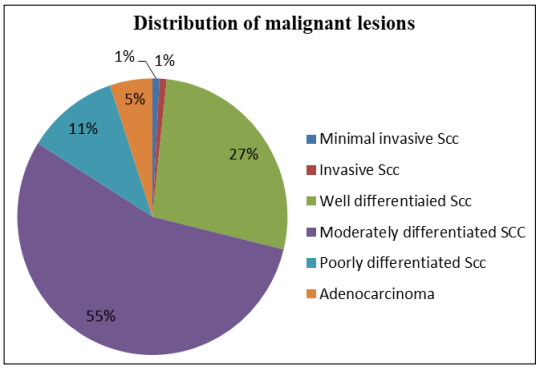


**Fig 5:** Distribution of malignant lesions

**Age-wise distribution of malignant lesion**

**Table 2:** Age-wise distribution of the malignant lesions

| | Squamous cell carcinoma | Adenocarcinoma |
|---|---|---|
| 20-29 yrs | 00 | 00 |
| 30-39 yrs | 07 | 00 |
| 40-49 yrs | 31 | 03 |
| 50-59 yrs | 34 | 02 |
| 60-69 yrs | 27 | 01 |
| 70-79 yrs | 10 | 00 |
| 80-89 yrs | 03 | 00 |

Among SCC, Well differentiated SCC was seen in 32 cases (27.1%), moderately differentiated SCC in 65 cases (55.1%), poorly differentiated SCC in 13 cases (11%), a case of invasive SCC was seen in 70 yr female and minimally invasive SCC in 40 yr female. Adenocarcinoma was seen in 6 cases, and most affected age group in this malignancy was 40-49 yrs (3cases).

**Fig 6:** Gross and microscopy of Endocervical polyp (10x)

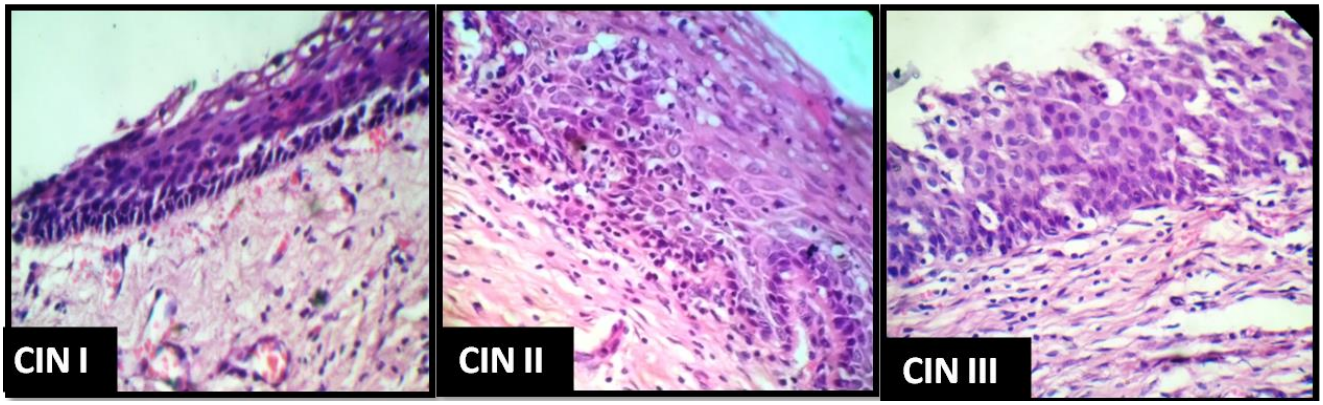


**Fig 7:** Microphotograph of CIN I, CIN II, CIN III (10x)

**Fig 8:** Gross photograph of SCC of cervix showing an irregular polypoidal growth

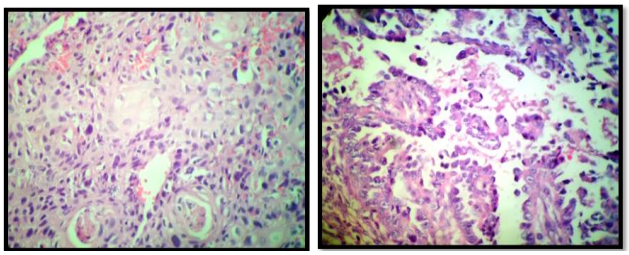

**Fig 9:** Microphotograph of SCC and Adenocarcinoma of Cervix (10x)

## Discussion

The present study was conducted to study the spectrum of various lesions in cervix and to assess the frequency of various lesions. 2124 cases were studied over a period of 5 years. Among this, non-neoplastic lesions were more common. Chronic cervicitis was the most common lesion observed in the present study. The most common age group involved was 40-49 yrs and least number of cases were involved in 90-99 yr age group.

**Table 3:** Comparison of Age-wise distribution of cases

| | **Saravanan *et al.* [5]** | **Pandit GA *et al.* [4]** | **Dubey K *et al.* [3]** | **Present study** |
|---|---|---|---|---|
| Age group | 41-50 yrs (38.9%) | 41-50 yrs (37.5%) | 30-40 yrs (48.3%) | 40-49 yrs (44.5%) |

The present study was concordant with the study done by Saravanan *et al.* [5] and Pandit GA *et al.* [4].

**Table 4:** Distribution of cervical lesions

| **Type of lesions** | **Poste *et al* [7].** | **Pandit GA *et al.* [4]** | **Present Study** |
|---|---|---|---|
| **Non-neoplastic** | | | |
| Chronic Cervicitis | 62.93% | 61.83% | 57.2% |
| Chronic polypoidal endocervicitis | 11.26% | 17% | 21.2% |
| Endocervical polyp | 4.68% | 3.66% | 0.56% |
| Cervical leiomyoma | 1.5% | 0.66% | 0.2% |
| CIN | 4.04% | 4.67% | 5.5% |
| **Neoplastic** | | | |
| SCC | 12.46% | 10.66% | 5.27% |
| Adenocarcinoma | 0.23% | 0.33% | 0.03% |

Non-neoplastic lesion in the present study was concordant

with the study done by Pandit GA *et al*. [4] and Poste *et al*. [7]. Benign lesion of the present study is similar to that of studies done by Pandit GA *et al*. [4] and Poste *et al*. [7].
Neoplastic lesion of the present study was concordant with the study done by Pandit GA *et al*. [4].

## Conclusion

Non-neoplastic were the commonest lesions of the cervix. Commonest cervical malignancy was Squamous cell carcinoma, moderately differentiated being the commonest type, and in non-neoplastic lesions, Inflammatory lesions were commonly found in the sexually active group of women. CIN was most common in the age group of 40-49 years. Cervical malignancies were common in the age group of 50-59 years. Cervical cancers can be prevented if women have regular Pap tests with follow-up for abnormal changes as they have advantage of being readily available, relatively cheap and technically easy.

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