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Morphological Spectrum of Cervical lesions with an emphasis on Neoplastic lesions - a 2year retrospective study.

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Abstract
Introduction : *Cervical cancer is the leading cancer in Indian women and second most common cancer in women worldwide next to breast cancer.*
Objectives : *To study the age distribution, relative frequency of various cervical lesions and histopathological features of cervical lesions.*
Materials and Methods : *This is a 2 years retrospective study of all cervical biopsies and hysterectomy specimens received from 2015 to 2017 in the department of pathology.*
Result : *In a total of 635 cases studied 341 (53.7%) cases were non-neoplastic, 96 (15.11%) were preinvasive and 198 (31.18%) cases were malignant. Cervicitis was the most common non-neoplastic lesion and squamous cell carcinoma was the most common cancer.*
Conclusion : *Adequate cervical screening procedure with follow up cervical biopsies helps in early diagnosis and management of premalignant and malignant lesions.*
Keywords :*Cervical Cancer, Cervicitis, Cervical Intraepithelial neoplasia, Neoplastic, Non-neoplastic.*

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I. Introduction

Cervix is a fibromuscular elongated portion of the uterus of size 2.5 – 3 cm, divided into ectocervix lined by stratified squamous epithelium and endocervix lined by mucin secreting columnar epithelium with characteristic transformation zone (1).Cervix is effected by several non- neoplastic and neoplastic gynecological lesions (2).Non – neoplastic cervical lesions include various inflammatory conditions and Non – neoplastic tumor like lesions. These Non – neoplastic lesions are more common in reproductive age and sexually active women. The inflammatory lesions include acute cervicitis, chronic cervicitis (3). The Non – neoplastic tumor like conditions areendocervical hyperplasia, endometriosis, polyps and nabothian cysts (4). Carcinoma cervix accounts for almost 12% of all cancers in women and represents the second most common malignancy after carcinoma of breast in the world (5). Histopathologicalstudies ofcervix along with clinical correlation helps in early diagnosis as they are cheap and relatively easy.

Aims and Objectives :

1. To study the histopathological features of cervical lesions.
2. To study the age distribution and relative frequency of various cervical lesions.
3. To study the spectrum of carcinoma cases presenting at Rangaraya Medical College, Kakinada during 2 years(i.e. 2015-2017).

II. Materials And Methods

All the hysterectomy and cervical biopsies received at the department of pathology of Rangaraya Medical College, Kakinada over a period of 2 years included in the study from October 2015-October 2017 .

All the cervical biopsies and hysterectomy specimens submitted in the institution were evaluated andhistopathologically diagnosed as normal, inflammatory, non-neoplatic lesions, cervical neoplasms and precursors of cervical neoplasms. Cervical biopsy specimens and hysterectomy specimens received were examined grossly, fixed in 10% formalin overnight. Cervical biopsies were processed completely and multiple sections were given from the cervix in hysterectomy specimens, paraffin embedded and sections of 3-4 micron thickness are cut. Stained with hematoxylin and eosin stain and histomorphological analysis was performed as per the WHO classification of cervical tumors.

Special stains such as PAS, reticulin, mucicarmine were done wherever required.

III. Results

Among 635 cases studied 341 (53.7%) cases were non- neoplastic, 96 (15.11%) were precursor lesions and 198 (31.18%) cases were malignant.

Table – 1: Distribution of lesions.

Cervical lesions	Total	Percentage
Non-neoplastic (inflammatory and tumor like lesions)	341	53.7
Preinvasive cervical intraepithelial lesions	96	15.11
Malignant lesions	198	31.18

Non-neoplastic lesions were higher than neoplastic lesions. Non-neoplastic lesions included both inflammatory lesions and tumor like lesions. Inflammatory lesions (cervicitis) were seen in 297 cases and maximum number of cases seen in 4th decade of life. Non-neoplastic tumor like lesions such as polyps were seen in 44 cases.

Table – 2: Distribution of Non-neoplastic lesions

Age	Cervicitis	Endocervical polyp	Leiomyomatous polyp
<20	2	0	0
21-30	69	1	1
31-40	112	17	4
41-50	71	11	1
51-60	28	6	0
61-70	10	2	0
71-80	4	1	0
>80	1	0	0
Total	297	38	6

A total of 96 (15.11%) preinvasive cervical intra epithelial lesions (Table No. 3) were seen and majority were high grade squamous intra epithelial lesions seen in 4th decade. Cases of low grade squamous intra epithelial lesions were also higher in 4th decade of life.

Table-3:Distribution of preinvasive cervical lesions

Age	LSIL	HSIL
<20	0	1
21-30	1	7
31-40	18	24
41-50	8	11
51-60	3	10
61-70	3	7
71-80	1	2
>80	0	0
Total	34	62

Malignant lesions(Table No. 4) constituted to 198 cases. Most common type of carcinoma was squamous cell carcinoma noted in 192 (96.96%) cases and 4 (2.02%) cases of adenocarcinoma (Fig 2) werenoted.Neoplastic case were more in 5th decade. Other malignant cases noted were two cases of adenosquamous carcinoma.

Table-4: Distribution of malignant cases.

Age	Squamous cell carcinoma	Adenocarcinoma
<20	0	0
21-30	8	0
31-40	35	0
41-50	34	1
51-60	82	1
61-70	31	2
71-80	0	0
>80	2	0
Total	192	4

IV. Discussion

Chronic non specific cervicitis was the most common non- neoplastic lesion seen in 297 (87.09%) cases, comparable to the study done by Badge et al (6). Maximum cases were seen in the age group of 31-40 years. Diagnosis of chronic cervicitis was made on the presence of lymphoplasmacytic infiltrate, some cases with squamous metaplasia.

Causative organisms for cervicitis include various organisms like bacterial, viral, protozoan & fungi. Studies have shown that chronic granulomatous cervicitis is mostly caused by tuberculosis (2)

Non-neoplastic tumor like lesions such as polyps (endocervical and leiomyomatous) were rare entity seen in 44 (12.9%) cases. A study done in tertiary care hospital by Saravanan et al (3) also found similar results. Histophathological diagnosis of endocervical polyps were made based on the presence of dilated endocevical glands and blood vessels in the stroma. Polyps which showed subepithelial smooth muscle arranged in interlacing fascicles were diagnosed as leimyomatous polyp.In our study 96 (15.11%) cases showed cervical squamous intraepithelial lesion of which majority of cases were high grade lesions seem in 4th decade, which is comparable to the study done by sinha et al (7), Jashamy et al (8) and Choudhury M et al (9). In our study, it was observed that more number of precursor lesions were concentrated in the 4th decode, compared to the overt malignancy which is more common in the 5th decade suggesting that moreemphasis should be given for early screening of the disease and educate people about the same. Out of the different histopathological types of cervical cancer, squamous cell carcinoma account for 75-80% of cervical cancers, adenocarcinoma 15-25% and adenosquamous carcinomas 3-5% (10).

Amongst the neoplastic lesions squamous cell carcinoma (SCC) was the commonest 96.96% lesion comparable to study done by Gupta et al (11) (94.26%). SCC was seen predominantly in the age group of 50-60 years.Large cell non keratinizing squamous cell carcinoma (Fig 3) was the most common variant of SCC accounting for 86.32% followed by Large cell Keratinizing squamous cell carcinoma. This distribution is similar to the study done by Sinha et al (7). In this study we followed classification of 2 tiered system proposed by the WHO.Adenocarcinoma was the second most common epithelial neoplasm constituting 4 cases (2.02%) which is comparable to the study done by Alfsen et al (12)Then were 2 cases of Adenosquamous carcinoma which is comparable to study done by Alfsen et al (12)

V. Conclusion

In our study non-neoplastic lesions were more common than neoplastic lesions. Chronic cervicitis was the most common lesion followed by malignancy (squamous cell carcinoma). Precursor lesions were seen a decade earlier to the neoplasms. These findings urge thatscreening procedures should be started in an earlier age group in women who are sexually active, and a thorough check-up in indicated in women withsimple complaints like white discharge per vagina.

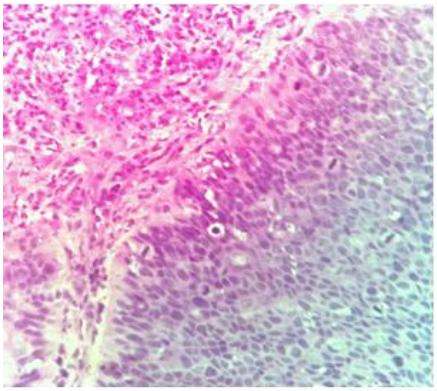

Fig 1 : HSIL

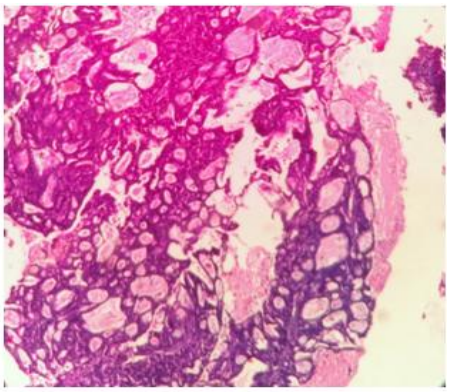

Fig 2 : Adenocarcinoma cervix

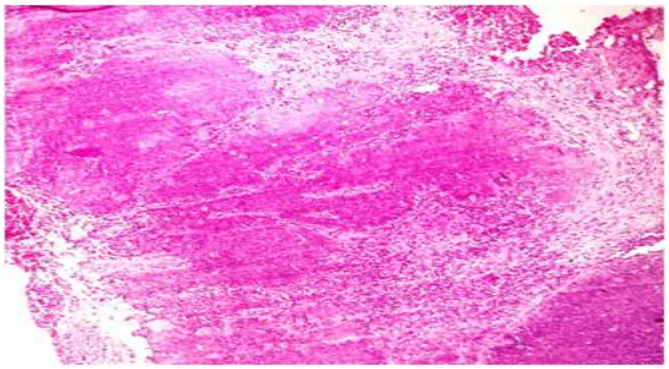

Fig 3 : Non keratinising squamous cell carcinoma

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