



CLINICOPATHOLOGICAL STUDY OF NEOPLASTIC LESIONS OF UTERINE CERVIX AT A TERTIARY CARE CENTRE

Pathology

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ABSTRACT

Background:- Cervical cancer is the second most common cancer of women in India and most common cause of death among women in developing countries. HPV infection has emerged as the important causative agent in development of carcinoma cervix. Cervical screening program has drastically reduced rates of carcinoma cervix in developed countries. Present study is being conducted to study the spectrum of neoplastic cervical lesions and its association with clinical presentation in different age groups. **Material And Methods:** The present prospective study was performed on all the biopsies and specimens of cervix received in the Pathology department. **Results:-** Total 356 cases were studied, out of which 264 cases were neoplastic, 75 cases were non neoplastic, and 17 cases were pre neoplastic lesions. Maximum number of cases seen in 5th decade, multiparous, with bleeding as most common presentation. Squamous cell carcinoma was the predominant neoplastic lesion. **Conclusion:-** In our study, majority of cases were multiparous commonly presented in 5th decade of life. Neoplasms of uterine cervix include a wide range of lesions, most predominant being squamous cell carcinoma. It is essential to spread awareness for strengthening of screening programmes at early age for early diagnosis and treatment.

KEYWORDS

Cervix, cervix cancer, clinicopathological study, neoplastic lesions.

INTRODUCTION

Women are considered the strongest beings as their body undergoes different changes and various health problems at various stages of life. Cervical cancer is the second most common cancer next to breast cancer in women of India accounting for 14% of all cancer cases.^{1,2} It is the most common cause of death amongst women in developing countries.³

The cervix is an elongated fibromuscular portion of the uterus measuring 2.5 to 3.0 cm, lined by outer squamous epithelium i.e. ectocervix, internal mucin secreting columnar epithelium called endocervix and squamocolumnar junctional. Uterine cervix is a "gateway" for various infections affecting cervix, uterus and upper genital tract.⁴

HPV is the most important causative agent in the development of carcinoma cervix. which occurs after onset of sexual activity.

Carcinoma cervix is easily preventable unlike most of the other malignancies. Cervical screening program has drastically reduced the rates of carcinoma cervix in developed countries. In developing countries, the discrepancies in screening and treatment affects survival rate compared to the developed countries.⁵

AIM AND OBJECTIVES

To study the spectrum of neoplastic cervical lesions in different age groups and its association with clinical presentation.

MATERIAL AND METHODS

This is a descriptive type of study performed at a tertiary care hospital including cancer hospital during January 2021 to July 2022 for a duration of 18 months. Total 356 samples were studied as per inclusion and exclusion criteria

These specimens were fixed in 10% formalin, grossed, processed, stained and slides were prepared. Relevant clinical details were taken. All the data were entered in Excel sheet and analysed. Microscopic findings were studied and histopathological diagnosis were given. The histopathological classification of tumours was done according to the recommendation by W.H.O.

OBSERVATIONS AND RESULTS

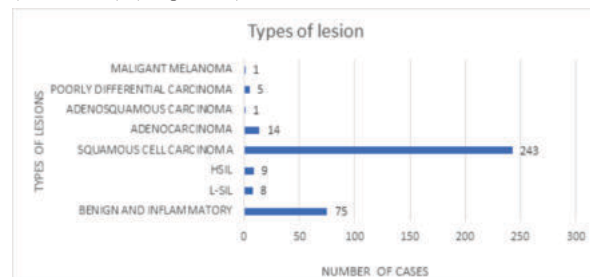
Out of 356 specimens received, 353 were cervix biopsy and rest 3 cases were of Wertheim's hysterectomy.

The age range of the patients was from 25 years to 87 years. Out of total 356, maximum number of patients were found from age groups 41 to 50 years i.e., 125 (35.11%) cases, followed by 51 to 60 years i.e. 79

(22.19%) cases, followed by 61 to 70 years i.e. 78 (21.91%) cases. Specimen with minimum presentation were found in age group 81-90 years (2 cases).

Out of total 356 cases studied, 264 (74.15%) cases were neoplastic, followed by 75 (21.07%) cases were non neoplastic (benign, inflammatory) and 17 (4.77%) cases were preneoplastic (L-SIL and H-SIL). Malignant lesions were commonest in the present study.

The most common type of lesion among all the received specimens was squamous cell carcinoma (68.26%) followed by benign and inflammatory (Negative for malignancy or dysplasia). However, in preneoplastic and neoplastic lesions second most common type of lesion found was adenocarcinoma (3.93%). Adenosquamous carcinoma and malignant melanoma contributed to one case each (0.28% each). (Graph no. 1)



Graph No. 1- Lesion Wise Distribution Of All Received Cases

As the study was stressed on neoplastic lesions of uterine cervix, only preneoplastic and neoplastic cases (281 cases) have been discussed further.

Table no. 1. shows age wise distribution of preneoplastic and neoplastic lesions. The most frequently patients presented were in the age group 41-50 years i.e., 92 (32.74%) cases, followed by 69 (24.56%) and 66 (23.49%) cases were observed from age groups 61-70 years and 51-60 years respectively.

Table No 1: - Age Wise Distribution Of Cervical Neoplastic Lesions

TYPES OF LESIONS	Age interval						Total
	31-40 Years	41-50 Years	51-60 Years	61-70 Years	71-80 Years	81-90 Year	
L-SIL	1	4	1	2	0	0	8
H-SIL	1	1	2	4	1	0	9

Squamous cell carcinoma	32	79	57	60	14	1	243
Adenocarcinoma	2	5	5	1	1	0	14
Adenosquamous Carcinoma	0	0	0	1	0	0	1
Poorly Differentiated Carcinoma	0	2	1	1	0	1	5
Malignant melanoma	0	1	0	0	0	0	1
Total	36 (12.81%)	92 (32.74%)	66 (23.49%)	69 (24.56%)	16 (5.69%)	2 (0.71%)	281 (100%)

Preneoplastic and neoplastic lesions were most commonly associated with multiparity. Out of 281 cases, 273 (97.20%) were associated with multiparity. Most of the cases of squamous cell carcinoma i.e., 235 out of 243 (96.70%) were associated with multiparous. Rest all cases had 100% association with multiparity.(Table no 2)

Table No 2 :- Preneoplastic And Neoplastic Lesions According To Parity

TYPES OF LESIONS				Total (Percentage)
	Parity			
	Multipara	Nullipara	Primipara	
L-SIL	8 (100%)	0 (0%)	0 (0%)	8 (2.84%)
H-SIL	9 (100%)	0 (0%)	0 (0%)	9 (3.20%)
Squamous Cell Carcinoma	235 (96.70%)	1 (0.40%)	7 (2.90%)	243 (86.47%)
Adenocarcinoma	14 (100%)	0 (0%)	0 (0%)	14 (4.98%)
Adenosquamous Carcinoma	1 (100%)	0 (0%)	0 (0%)	1 (0.35%)
Poorly Differentiaed	5 (100%)	0 (0%)	0 (0%)	5 (1.77%)
Malignant Melanoma	1 (100%)	0 (0%)	0 (0%)	1 (0.35%)
Total	273 (97.20%)	1 (0.40%)	7 (2.50%)	281(100%)

Out of 243 cases of squamous cell carcinoma, most common type of SCC found was large cell non keratinizing type of squamous cell carcinoma i.e., 117(48.15%) cases, followed by 112(46.09%) cases of large cell keratinizing type of squamous cell carcinoma, 13(5.35%) cases were of squamous cell carcinoma not otherwise specified and 1(0.41%) case was reported as clear cell variant of squamous cell carcinoma. (Table no. 3)

Table No. 3: - Variants Wise Distribution Of Cases Of Squamous Cell Carcinoma

TYPES OF SQUAMOUS CELL CARCINOMA (SCC)	NUMBER OF CASES	PERCENTAGE
Large cell keratinizing SCC	112	46.09%
Large cell non-keratinizing SCC	117	48.15%
Clear cell variant of SCC	1	0.41%
SCC not otherwise specified	13	5.35%
TOTAL	243	100%

Table no 4 shows FIGO clinicoradiological stages wise distribution of preneoplastic and neoplastic lesions of uterine cervix. Most of the malignancies were presented at clinical stage IIIB followed by IIB. This may be because it is a tertiary care centre most of the patients are referral from primary and secondary care centres. The patients who were clinically suspicious for malignancy (? CA CX) found to be squamous cell carcinoma followed by preneoplastic i.e., 5- L-SIL and 7- H-SIL.

Table No 4: - FIGO Clinicoradiological Stages Wise Distribution Of Preneoplastic And Neoplastic Lesions Of Uterine Cervix

Types of lesions	FIGO CLINICORADIOLOGICAL STAGING OF LESIONS												To- tal
	?CA CX	IA	IB	IIA	IIB	IIIB	IIIC	IIIC2	IVA	IVB	NA	R	
L-SIL	5	0	0	0	0	1	0	1	0	0	1	0	8
H-SIL	7	0	0	1	0	1	0	0	0	0	0	0	9
Squamous Cell Carci- noma	23	2	2	5	70	125	1	0	4	3	6	2	243

Adenocar- cinoma	2	0	0	0	5	7	0	0	0	0	0	0	14
Adeno- squamous Carci- noma	0	0	0	0	1	0	0	0	0	0	0	1	2
Poorly Differentiated Carci- noma	0	0	0	0	1	4	0	0	0	0	0	0	5
Malignant Melanoma	1	0	0	0	0	0	0	0	0	0	0	0	1
Total	38	2	2	6	76	138	1	1	4	3	7	3	281

R-recurrence
NA-data not available
?CA CX-clinically suspicious for carcinoma

Majority of patients presented with history of bleeding irregularities as presenting complaint i.e. 253(90%) out of 281 of neoplastic lesions followed with leukorrhea (white discharge per vagina) i.e. 57 (20.28%).

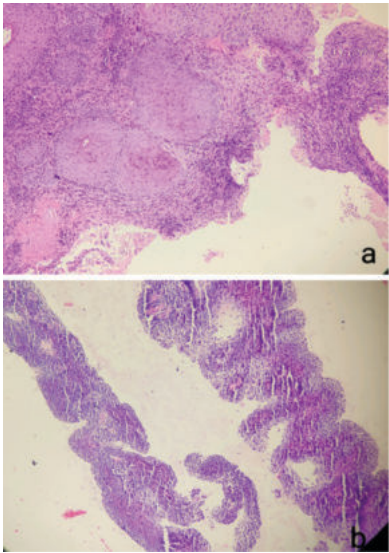


Image No. 1- A- Large Cell Keratinizing Squamous Cell Carcinoma. B- Large Cell Non-keratinizing Squamous Cell Carcinoma.

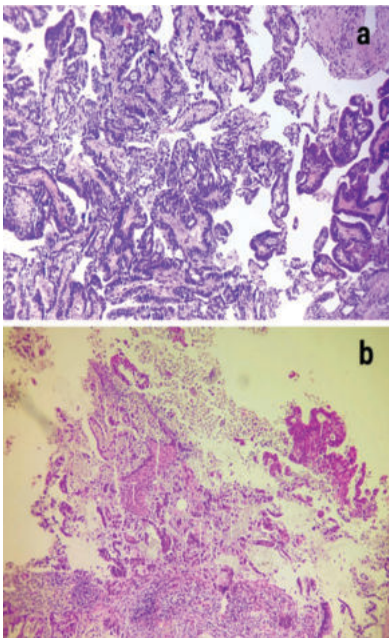


Image No 2- A- Adenocarcinoma B- Adenosquamous Carcinoma

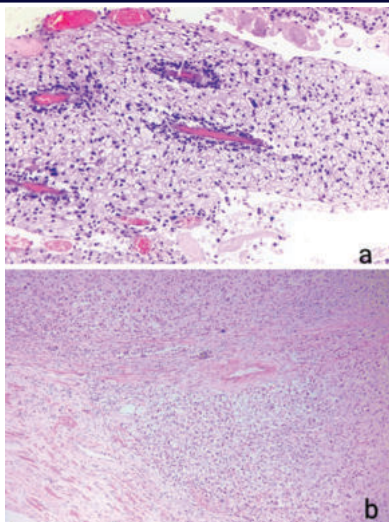


Image No 3- A- Clear Cell Variant Of Squamous Cell Carcinoma.
B- IHC Proven Malignant Melanoma

DISCUSSION

Total 356 specimens were received. the most common age group involved was 41-50 years i.e., 35.11% and least number of cases were involved in 81-90 years i.e., 0.56%. The present study was concordant with the study done by Hemlata Panwar et al.⁶, Qadir Fatima et al.⁷ and Krishnappa, et al.⁸ Second most frequently affected age group in the present study was 51-60 years (22.19%), which was concordant with the study done by Krishnappa, et al.⁸ and Qadir Fatima et al.⁷.

Amongst preneoplastic and neoplastic lesions commonest age group was 41-50 years, which was concordant with the study of Manjit Kaur Rana, et al.⁹, Krishnappa, et al.⁸ Qadir Fatima et al.⁷ and Hemlata Panwar et al.⁶

Squamous cell carcinoma was the commonest lesion seen i.e. 86.5% (243 out of 281) cases followed by adenocarcinoma seen in 5% (14 out of 281) cases. Our study is comparable with the study of Qadir Fatima et al.⁷, Gupta M. et al.¹⁰, Makaju R et al.¹¹ and Krishnappa, et al.⁸

Out of 243 diagnosed cases of squamous cell carcinoma cases, commonest variant found was large cell non keratinizing squamous cell carcinoma (LCKNSCC) i.e., 48.15% (117 out of 243 cases), followed by large cell keratinizing squamous cell carcinoma (LCKSCC) i.e., 46.09% (112 out of 243 cases). Our study findings are comparable with the study done by Gupta M. et al.¹⁰ and Krishnappa, et al.⁸

Most of the patients involved were multipara i.e., 97.20 %. Our study results are comparable with Das RK et al.¹², Peel et al.¹³ and Krishnappa, et al.⁸

Bleeding was chief complaint in 90% of patients, Our study is comparable with the study of Manjit Kaur Rana, et al.³ and Sheela L. Gaikwad et al.¹⁴

Most frequently presented FIGO clinicoradiological stage was stage IIIB followed by IIB. One case presented with IVB stage was reported as H-SIL and advised for repeat representative biopsy, the repeat biopsy showed large cell keratinizing squamous cell carcinoma (LCKSCC) with areas of necrosis. This could be due to inadequate sampling or not hitting the lesion. One case L-SIL was presented with IIC2 clinical stage but was reported as small suspicious foci of dysplastic cells., Another 2 cases one each of L-SIL and H-SIL with stage IIIB were negative for malignancy and follow up biopsy of these 3 cases were not done. Our study is comparable with the study of Raju K et al.¹⁵, Manjit Kaur Rana, et al.⁹, which states that stage III was the most commonly presented stage.

Limitations Of The Study

- As the study was conducted to study neoplastic lesions of uterine cervix, hysterectomies done due to lesions other than cervix were not included in the study.
- As it is a hospital-based study, findings may not be applicable to

general population.

CONCLUSION

- In our study, majority of cases were multiparous commonly presented in 5th decade of life.
- Neoplasms of uterine cervix include a wide range of lesions, most predominant among them was squamous cell carcinoma, however other histologic types such as adenocarcinoma, adenosquamous cell carcinoma and malignant melanoma were also seen.
- The current study stressed the fact that majority of Indian women present at a late stage of cervical cancer rather than in its early treatable stage.
- It is essential to spread awareness for strengthening of screening programmes as cervix can be subjected to screening for early diagnosis and treatment.
- Earlier age group screening and a regular thorough check up is indicated in women with complaints like leukorrhea or bleeding per vagina.

REFERENCES

- Kaur A, Chawla A, Manjari M. Incidence and Clinicopathological Correlation of Cervical Cancer in a Tertiary Care Center: A 5-Year Retrospective Study. *AMEs Curr Trends Diagn Treat*. 2020 May 23;3:64-7.
- Prasad D, Sinha A, Mishra U, Parween S, Raman RB, Goel N. Colposcopic evaluation of cervix in symptomatic women and its correlation with Pap smear. A prospective study at a tertiary care centre. *J Fam Med Prim Care*. 2021 Aug;10(8):2923-7.
- Rana MK, Singh K, Mahajan MK, Rana APS. Clinicopathological Profile of Cervical Carcinoma: An Experience of Tertiary Care Cancer Centre. *Asian Pac J Cancer Care [Internet]*. 2019 May 2 [cited 2023 Jan 26];4(3). Available from: <https://scholar.archive.org/work/5lm273ujtrf5jpidqsnkxjh444>
- Patel M, Jain M, Lotlikar R, Professor A, Resident. Histopathological spectrum of cervical lesions-Our institute experience. 2022 Apr 10;338.
- Kaur A, Chawla A, Manjari M. Incidence and Clinicopathological Correlation of Cervical Cancer in a Tertiary Care Center: A 5-Year Retrospective Study. *AMEs Curr Trends Diagn Treat*. 2020 May 23;3:64-7.
- KALPANA SANKHLA (last), HEMLATA PANWAR. hemlata a clinicopathological study of neoplastic and preneoplastic lesion - Yahoo India Search Results [Internet]. 2016 [cited 2023 Jan 27]. Available from:
- Fatima Q, Verma S, Bairwa NK, Gauri LA. Spectrum of Various Lesions in Cervical Biopsies in North West Rajasthan: A Prospective Histopathological Study. :8.
- Krishnappa C, Kanabur DR, Dinesh CUS. Clinico-morphological Spectrum of Neoplasms of Uterine Cervix in a Tertiary Care Center in North Karnataka, South India. undefined [Internet]. 2016 [cited 2022 Oct 26]. Available from: <https://www.semantic scholar.org/paper/ORIGINAL-RESEARCH-PAPER-CLINICOPATHOLOGICAL-SURVEY-Dileep-Jain/d0cedfd20e75985766825fc5428dd11141fb400a>
- Kaur Rana M, Singh K, Mahajan M, Rana APS. Clinicopathological Profile of Cervical Carcinoma: An Experience of Tertiary Care Cancer Centre. *Asian Pac J Cancer Care*. 2019 May 2;4:83-6.
- Gupta M, Basavaraj PK. Histopathological Spectrum of Premalignant and Malignant Lesions of Uterine Cervix. *Natl J Lab Med*. 2018 Jan 1;7(1):P019-26.
- Makaju R, Dhakal B, Dhakal R. Clinicopathological correlation of uterine cervical lesions with focus on premalignant and malignant lesions. *J Pathol Nepal*. 2019 Sep 29;9:1560-3.
- Das RK. Cancer cervix in Assam: an aetiological analysis of 250 cases. *J Obstet Gynaecol India*. 1970 Apr;20(2):234-9.
- Cancer of the cervix in women under 40 years of age, a regional survey, 1975-1984 - PEEL - 1991 - BJOG: An International Journal of Obstetrics & Gynaecology - Wiley Online Library [Internet]. [cited 2023 Jan 26]. Available from: <https://obgyn.wiley.com/doi/10.1111/j.1471-0528.1991.tb15337.x>
- Gaikwad SL, Valand AG, Agarwal NU. Clinico-histopathological analysis of lesions of uterine cervix in Ambejogai city of Maharashtra: A 2 year study at tertiary level hospital. *IPJ Diagn Pathol Oncol*. 2021 Feb 15;1(2):32-5.
- Raju K, Cv R, Sr S. Clinicopathological correlation of invasive squamous cell carcinoma of uterine cervix: A cross-sectional study. *Biomed Res Ther*. 2019 Nov 26;6(11):3443-51.