

Original article:

Comparative study of histopathology of cancerous, precancerous lesions of cervix with Papanicolaou smears

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Abstract:

Introduction: Cancer is second most common cause of death in the developed countries and third most common cause of death in developing countries. Worldwide, cervical cancer is the fourth commonest cancer in women with nearly 528,000 newly diagnosed cases. Around 266,000 deaths occurred from cervical cancer in 2012, accounting for 7.5 % of all female cancer deaths.

Materials and methods: This was an observational, descriptive, cross-sectional and prospective type of study. The study was performed at Department of Pathology, Rural Medical College, Loni over a period of two years from 15th September 2016 to 15th September 2018. The data was collected from 15th September 2016 to 15th September 2018. Total 108 cases of carcinoma cervix were diagnosed on histopathological examination on basis of specimen received in the form of biopsy, hysterectomy .

Results: In this study we got only 9 cytopathology cases for correlation study with histopathology cases. Out of 9 cases, 2 cases are LSIL cases and were diagnosed with large cell non keratinizing squamous cell carcinoma. Out of 9 cases, 5 cases were HSIL cases. 2 HSIL cases were diagnosed with large cell non keratinizing squamous cell carcinoma, 1 HSIL case correlated with large cell keratinizing squamous cell carcinoma, 1 case diagnosed with papillary adenocarcinoma and 1 HSIL case diagnosed with adenocarcinoma. Out of 9 cases, 2 cases were squamous cell carcinoma cases and correlated with large cell non keratinizing squamous cell carcinoma on histopathology.

Conclusion: The most frequent type of cervix cancer in the present study was squamous cell carcinoma with 87 cases (80.54%).

Introduction:

Cancer is second most common cause of death in the developed countries and third most common cause of death in developing countries. [1] Worldwide, cervical cancer is the fourth commonest cancer in women with nearly 528,000 newly diagnosed cases. Around 266,000 deaths occurred from cervical cancer in 2012, accounting for 7.5 % of all female cancer deaths. Cervical cancer is the second most common cancer in women aged 15–44 years in India. 55–59 years range is peak age for cervical cancer in India. [2] In, India it is one of leading cancers among Indian women with estimated 123,000 new cases and 67,477 deaths in 2012. However, older and poor women are least likely to undergo screening though they are at the highest risk. [4] It is estimated that cervical cancer will occur in approximately 1 in 53 Indian women during their lifetime compared with 1 in 100 women in more developed regions of the world. At current incidence rates, the annual burden of new cases in India is projected to increase to 225,000 by 2025. [5]

In India, cervical carcinoma patients from rural area are more than urban region. [6]Cervical screening pattern in changes in various regions of India from 6.9% in Kerala to 0.006% and 0.002% in the western state of

Maharashtra and southern state of Tamil Nadu, respectively. [2] Carcinoma cervix is the most common type of cancer in females in south India. The disease is more common in people living in poor living conditions and low-income groups. Due to financial problems they have to live with lack of hygiene and lack of regular health check-ups. [6]

Educational level is an important demographic parameter as uterine cervix cancer survival in our population, as the educational levels are very low in females in certain regions of the country. According to the population census of 2011 the female literacy levels in India is 65.46%. [7] Cervical cancer is disease related with factors such as low socioeconomic status, tobacco use, sexual and reproductive factors, HPV, HIV and other sexually transmitted diseases and long-term oral contraceptive use. [4] Few authors consider coitus as important risk factor for the carcinogenic process. [8]

Materials and methods

This was an observational, descriptive, cross-sectional and prospective type of study. The study was performed at Department of Pathology, Rural Medical College, Loni over a period of two years from 15th September 2016 to 15th September 2018. The data was collected from 15th September 2016 to 15th September 2018. Total 108 cases of carcinoma cervix were diagnosed on histopathological examination on basis of specimen received in the form of biopsy, hysterectomy .

INCLUSION CRITERIA:

Patients between 20 to 65 years attending Gynaecology OPD in Pravara Institute of Medical Sciences, Loni with informed consent.

EXCLUSION CRITERIA:

- i. Patients who are not ready for cervical biopsy.
- ii. Unavailability of data.

The following procedures were performed:

1. The entire procedure was explained to the patient.
2. The detailed clinical history, relevant clinical findings and investigations were noted.

For the histopathological study, biopsy, hysterectomy specimen received in histopathology section. They were fixed in 10 % buffered formalin and subjected to automated tissue processing, Paraffin blocks were made and thin sections were cut with the help of microtome. The sections were stained in routine H&E stain, PAS stain if required and mounted with DPX. Histopathological studies were done separately and then results of cytological and histopathological studies were correlated.

Results:

In the present study, maximum number of cases 64 cases (59.25%) belonged to parity group of 2 – 4, 7 cases (6.48%) belonged to parity group - 1. 18 cases (16.66%) recorded from nullipara group.

Table 1 - Distribution of cases showing correlation of cytology and histopathology in the study, N = 8.

| | LSIL | HSIL | SCC |
|--------------------------|------|------|-----|
| LCNKSCC | 02 | 02 | 02 |
| LSKSCC | | 01 | |
| Papillary adenocarcinoma | | 01 | |
| Adenocarcinoma | | 01 | |

In this study we got only 9 cytopathology cases for correlation study with histopathology cases.

Out of 9 cases, 2 cases are LSIL cases and were diagnosed with large cell non keratinizing squamous cell carcinoma.

Out of 9 cases, 5 cases were HSIL cases. 2 HSIL cases were diagnosed with large cell non keratinizing squamous cell carcinoma, 1 HSIL case correlated with large cell keratinizing squamous cell carcinoma, 1 case diagnosed with papillary adenocarcinoma and 1 HSIL case diagnosed with adenocarcinoma.

Out of 9 cases, 2 cases were squamous cell carcinoma cases and correlated with large cell non keratinizing squamous cell carcinoma on histopathology.

Table 2 - Distribution of cases according to histological type in the study, N = 108.

| Sr. Number | Histological diagnosis | No. of cases | % |
|------------|-----------------------------------|--------------|-------|
| 1 | LCNKSCC | 84 | 77.77 |
| 2 | LCKSCC | 03 | 2.77 |
| 3 | ADC | 05 | 4.62 |
| 4 | ADSQ | 03 | 2.77 |
| 5 | SMCC | 05 | 4.62 |
| 6 | Carcinoma in situ | 03 | 2.77 |
| 7 | Lymphoepithelioma like carcinoma | 02 | 1.85 |
| 8 | Papillary adenocarcinoma | 01 | 0.92 |
| 9 | Papillary squamous cell carcinoma | 01 | 0.92 |

Discussion:

In present study, most common histological type of cervical carcinoma was large cell keratinizing squamous cell carcinoma with 84 cases (77.77%) and least common type were papillary adenocarcinoma with 1 case (0.92%) and papillary squamous cell carcinoma with 1 case (0.92%).

Goellner J R (1976) observed that majority of cases 61.02 % were of squamous cell carcinoma, large cell non keratinizing type. [9]Verma K et al (1982) analyzed that majority of cases 74 % were of squamous cell carcinoma, large cell non keratinizing type. [10]

Mitra Subir et al. (1991) observed that majority of cases 83.95 % were of squamous cell carcinoma, large cell non keratinizing type. [11] Pradhan A P et al (2015) studied 204 cases and concluded that squamous cell carcinoma is most frequently seen (71.60%) morphological type of cervix cancer. [12] In the present study, most common type of carcinoma cervix is squamous cell carcinoma 87 cases (80.54%) with large cell non keratinizing subtype comprising 84 cases (77.77%) cases which is in concordance with the studies of Goellner et al , Verma K et al , Mitra S et al and Pradhan A P et al.

Conclusion:

The most frequent type of cervix cancer in the present study was squamous cell carcinoma with 87 cases (80.54%).

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