

Histopathological Study of Cervical Lesions : A Hospital Based Study in Teaching Hospital Batticaloa, Sri Lanka.*Thirukumar M¹, Ahilan S²*¹ *Department of Clinical Science, Faculty of Health Care Science, Eastern University, Sri Lanka*² *Consultant pathologist, Teaching Hospital, Batticaloa***Abstract**

The uterine cervix is prone for infections and malignancies. The cervical cancer is fourth most common cancer in the world and second common female cancer in Sri Lanka. This hospital based retrospective study was done on 586 cervical specimens. This study was aimed for the histomorphology patterns of cervical lesions. Results; There were 10.2% malignant cases and 68.90% were non-neoplastic cervical specimens. Majority of the non- neoplastic cervical lesions were inflammation and polyp, constitute 37.2% and 17.7% of the total study samples. Majority of patients with cervical carcinoma (36.5%) presented with blood-stained, whitish per vaginal discharge and it is followed by (32.7%) abnormal uterine bleeding. The peak age incidence of cervical cancer was 50-59 years. Squamous cell carcinoma was by far the most common histological type accounting for 84.6%, followed by adenocarcinoma 11.5%. Squamous cell cervical carcinoma classified according to Broder's grading system into well, moderately and poorly differentiated at the time of initial diagnosis and constituting cases as 20%, 71.1% and 8.9% respectively. The chronic nonspecific cervicitis was the most common inflammatory lesion constituting 86.2% of non-neoplastic cases.

The main presenting complaints of blood-stained vaginal discharge or abnormal uterine bleeding, especially in the age group of 50-59 years, should be investigated to exclude malignancy. Public health education should be intensified to encourage

early health seeking behavior in order to diagnose cervical malignancy at an early age especially when they have clinical symptoms of blood-stained vaginal discharge or abnormal uterine bleeding.

Key words

Histopathological Study, Cervical Lesions, Batticaloa, Sri Lanka

Introduction

The cervix is vulnerable to many pathological changes such as non-neoplastic and neoplastic lesions. (1,2). The nonneoplastic cervical lesions are distributed across all age groups, more commonly in sexually active women. These are predominantly inflammatory, resulting from both infective and noninfective etiology, and less commonly tumorlike nonneoplastic lesions. Acute cervicitis, chronic cervicitis, and chronic granulomatous cervicitis are examples of inflammatory non-neoplastic lesion (3,4.). Human papilloma virus (HPV), a sexually transmitted infection, inflicted cervicitis is a causal risk factor for condyloma acuminatum, preinvasive cervical intraepithelial neoplasia (CIN), and eventually cervical cancer (5,6).

Globally, cervical cancer is the fourth most common cancer in women. In 2018, about 570 000 women were diagnosed with cervical cancer and about 311 000 women died from the disease. When diagnosed, cervical cancer is one of the most successfully treatable forms of cancer, as long as it is detected early and managed effectively. Cancers

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diagnosed in later stages can also be controlled with treatment and palliative care (7).

In the South East Asian Region, cancer cervix accounts for 175,000 new cases and 94,000 deaths annually (8) Incomplete data reported from some countries in the absence of population-based cancer registries, preclude portraying the true burden.

In Sri Lanka, it is estimated that 7.52 million are at risk of developing cervical cancer, 1395 cases with an age standardized rate of 11.8, and 814 deaths (9). According to the data of National Cancer Control Programme (NCCP), a total of 850 cases of cervical cancer with an age-standardized rate of 7.4 have been identified in 2008, with an incidence rate of 8.6 per 100,000 women. Cervical cancer is the second commonest female cancer and accounts for 10% of all female cancers in Sri Lanka. However, the true burden may be higher given the fact that data is collected only from hospital registries (9). In Sri Lanka, nearly 850-950 with advanced disease women are admitted to government hospitals annually (10).

Materials And Methods

A retrospective study was conducted in Teaching Hospital Batticaloa for five and a half years between January 2012 and June 2017. This hospital-based study was aimed to determine the frequency and histomorphology patterns of various non-neoplastic and neoplastic cervical lesions and to find out the most prone age group for these lesions in order to target them for various screening programs for early detection and raising awareness.

A 508 cervical specimens were taken for analysis during the study period. They consist of cervical biopsy both from punch biopsy or cone biopsy and from cervical polypectomy. The relevant clinical detail of cases was taken from their medical records. All the lesions of the uterine cervix involving ectocervix and endocervix were included and lesions arising from the body of uterus, vulva, vagina, and neighbouring organs extending in cervical canal but not involving cervical tissue and parametrium were excluded.

This research was approved by Ethical review committee of the Faculty of Health Care Science, Eastern University, Sri Lanka. (EUSL/FHCS/ERC/2017/21). Data were processed using SPSS version 21. Descriptive statistics methods were used to analyze the results as the whole numbers, percentages, tables, and charts.

Results

Table-1 shows that there were 508 cervical tissue specimens analyzed during the study period. There were 10.2% (N=52) malignant cases, 3.3% (N=17) and 68.90%(N=350) were non-neoplastic cervical specimens. The occurrence of cervical intraepithelial neoplasia (CIN) in this study was 17 out of 456 (3.7%) cases. CIN 1 constitutes 9 cases and CIN 11 and 111 constitutes 8 cases. Majority of the non- neoplastic cervical lesions were inflammation and polyp, constitute 37.2% (N=189) and 17.7%(N=90) of the total study samples. There were 17.5% (N=89) samples showed normal tissue without any abnormalities.

Table 1: Frequency and types of histopathological lesion

| Histopathological lesions | Frequency (Number) | Percentage (%) |
|------------------------------|--------------------|----------------|
| Inflammation | 189 | 37.2 |
| Polyps | 90 | 17.7 |
| Metaplasia | 11 | 2.2 |
| Hyperplasia | 42 | 8.3 |
| Carcinoma | 52 | 10.2 |
| Koilocytosis changes | 3 | 0.6 |
| CIN- Low grade, High grade | 17 | 3.3 |
| Prolapse changes | 4 | 0.8 |
| Leiomyomas | 11 | 2.2 |
| No significant abnormalities | 89 | 17.5 |
| Total | 508 | 100 |

Majority of patients with cervical carcinoma (36.5%) presented with blood-stained, whitish per vaginal discharge and it is followed by (32.7%) abnormal uterine bleeding such as irregular/excessive bleeding per vaginum. (Table 2)

Table 2: Clinical presentation of diagnosed cervical carcinoma patients

| Clinical symptoms | Frequency | Percentage (%) |
|---------------------------------|-----------|----------------|
| Blood stained whitish discharge | 19 | 36.5 |
| Mass | 11 | 21.2 |
| Abnormal uterine bleeding | 17 | 32.7 |
| Abdominal pain | 1 | 1.9 |
| Post coital bleeding | 4 | 7.7 |
| Total | 52 | 100.0 |

According to presentation of the patients with non-neoplastic cervical lesion, about 20.4%, presented with whitish per vaginal discharge, 18.9% presented with the mass in the vagina. While abnormal uterine bleeding (irregular menses and excessive bleeding) was the presentation in 48.9% of the patients, 6.1% of the patients had post coital bleeding. Only 5.7% of the patients presented with abdominal pain.

Majority of cervical cancers (96.2%) were diagnosed from cervical biopsy either punch or cone biopsy. The peak age (42.3%) incidence of cervical cancer was 50-59 years. (Table 3). Squamous cell carcinoma was by far the most common histological type accounting for 84.6% (45 cases), followed by adenocarcinoma 11.5% (6 cases), and other 1.9% (1 case) infrequent tumour subtypes. (Table 3)

Table-3: Age and Histopathological distribution of the cervical carcinoma

| Age | Histopathology | | | Number | Percentage (%) |
|----------------|-------------------------|----------------|---------------------|--------|----------------|
| | Squamous cell carcinoma | Adenocarcinoma | Miscellaneous types | | |
| 19-29 | 1 | 1 | 0 | 2 | 3.8 |
| 30-39 | 3 | 0 | 0 | 2 | 5.8 |
| 40-49 | 9 | 1 | 0 | 10 | 19.2 |
| 50-59 | 18 | 3 | 1 | 22 | 42.3 |
| 60-69 | 12 | 0 | 0 | 12 | 23.1 |
| 70-85 | 2 | 1 | 0 | 3 | 5.8 |
| Total | 45 | 6 | 1 | 52 | 100 |
| Percentage (%) | 84.6 | 11.5 | 1.9 | | |

Squamous cell cervical carcinoma classified according to Broder's grading system into well, moderately and poorly differentiated at the time of initial diagnosis and constituting cases as 9 (20%), 32 (71.1%) and 4 (8.9%) respectively. (Table 4)

Table-4: classification according to Broder's grading

| Broder's grading | Frequency | Percentage (%) |
|----------------------------|-----------|----------------|
| Poorly- Differentiated | 4 | 8.9 |
| Moderately- Differentiated | 32 | 71.1 |
| Well- Differentiated | 9 | 20 |
| Total | 45 | 100.0 |

There were 456 non-neoplastic cervical specimens. The peak age of non-neoplastic lesions of cervix was 40-49 years and accounts for 40.6% in Table 5.

Table-5: Age Distribution of Patients with Non-Neoplastic Cervical Lesions

| Age Groups (Years) | Frequency (Number) | Percentage (%) |
|--------------------|--------------------|----------------|
| 19-29 | 38 | 8.3 |
| 30-39 | 105 | 23.0 |
| 40-49 | 185 | 40.6 |
| 50-59 | 92 | 20.2 |
| 60-69 | 30 | 6.6 |
| 70-85 | 6 | 1.3 |
| Total | 456 | 100.0 |

Table-6: Histological sub Types of Inflammatory Cervical Lesions

| Age | Inflammatory cervical lesion | | | Total | Percentage (%) |
|-------|---------------------------------|--------------------------|------------------|-------|----------------|
| | Chronic non-specific cervicitis | Papillary endocervicitis | Acute cervicitis | | |
| 19-29 | 9 | 5 | 1 | 15 | 7.9 |
| 30-39 | 40 | 8 | 2 | 50 | 26.5 |
| 40-49 | 75 | 1 | 3 | 79 | 41.8 |
| 50-59 | 27 | 5 | 0 | 32 | 16.9 |

| | | | | | |
|-----------------|------|------|-----|-----|-----|
| 60-69 | 10 | 0 | 1 | 11 | 5.8 |
| 70-85 | 2 | 0 | 0 | 2 | 1.1 |
| Total | 163 | 19 | 7 | 189 | 100 |
| Per-centage (%) | 86.2 | 10.1 | 3.7 | | |

The chronic nonspecific cervicitis was the most common inflammatory lesion constituting 86.2% of non-neoplastic cases.

Discussion

This study showed that 36.5 % of the patients with cervical carcinoma, presented with purulent vaginal discharge and 32.7% of the patients presented with abnormal uterine bleeding. Gaya et al has shown the commonest symptom at presentation was abnormal vaginal bleeding as seen in 63.9% of cases, though most of them had more than one symptom at presentation (11). Similar findings were reported by Oguntayo et al., in Zaria (12) and Ijaiya et al., in Ilorin (13).

This study showed that squamous cell carcinoma constituted 84.6% and adenocarcinoma 11.5%. More or less similar results were shown by Haghdel M et al., (14), Smith HO et al., (15) and Ijaiya MA et al., (13). They showed that percentage of squamous cell carcinoma was more (84%) as compared to adenocarcinoma (16%) (22, 23, 21).

A study regarding histopathological study of tumours of cervix by atuljain.et al shows mean age of squamous cell carcinoma was 49.1 years, adenocarcinoma was 43.5 years. In our study, most of the squamous cell carcinoma occurred among 50-69 years of age group and adenocarcinoma was among 50-59 years It could be due to delayed health seeking behaviour of the patients commonly seen in low resource countries. Therefore, they did not avail themselves of any hospital treatment until their disease became in advanced stage. In a study done by Dhakal et al., squamous cell carcinoma and adenocarcinoma was during 5th decade. This study also shows the same results (16).

In this study most (32/45) of the squamous cell carcinoma were moderately differentiated according to Broder's grading system. Similar results were shown in a study done by Husin N et al., highest occurrence of moderately differentiated

squamous cell carcinoma (17). On the other hand, Abudu EK et al., has shown the highest occurrence of well differentiated squamous cell carcinoma (18).

There were 456 histological samples with confirmed non-neoplastic cervical lesions during the study period. Therefore, nonneoplastic lesions of the uterine cervix form the majority of the gynaecologic specimens in histopathology departments (19). The most cases were found in 40-49 years of age group in the present study and it correlated well with the study of Omoniyi-Esan et al. (20).

In present study, inflammation of the cervix was found in 41.4% of all non-neoplastic cervixes and this finding is in contrast to the observations in a study by Mandakini Patell, et al which was 48.07% (21). Omoniyi et al. reported incidence of chronic nonspecific cervicitis was 82 % of all non –neoplastic lesions (20). This was twice than our study where we observed 37.1% of chronic nonspecific cervicitis. Olutoyin et al. reported only 2 % of acute cervicitis (22) and this finding is similar to our study which is present in 1.53% of cases.

In the present study endocervical hyperplasia was seen in 9.2%.and endocervical polyp in 19.7% cases of the non-neoplastic lesions. These findings are in contrast to findings of study done by Pallipady et al., where endocervical hyperplasia seen in 4.3% and polyp in 1.87% of nonneoplastic cervical biopsy (19). A study conducted by Barut MU et al. (23) revealed that endocervical polyps occurred in 2%–5% of multigravida women in the age group of 30–59 years.

Conclusion

The main aim of taking biopsy from the uterine cervix is to exclude malignancy. The main presenting complaints of blood-stained vaginal discharge or abnormal uterine bleeding should be investigated to exclude malignancy. Further, the main age group with the diagnosis of cervical carcinoma is 50 to 59 years. It could be due to the delayed health seeking behaviour of the studied population. Therefore, public health education should be intensified to encourage early health seeking behavior especially when they have clinical symptoms of blood-stained vaginal discharge or

abnormal uterine bleeding. The cervical carcinoma is an easily preventable by vaccination and regular pap smear programme, the policy makers should address it in the health system.

Conflict Of Interest

None

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