Cancer of the Cervix in Eastern Province of Sri Lankan Women-Hospital Based Study

Thirukumar M[1*], Ahilan S[2]
[1]Consultant and Senior Lecturer in Obstetrics and Gynaecology, Department of Clinical Science, Faculty of Health Care Science, Eastern University, Sri Lanka
[2]Consultant pathologist, Teaching Hospital, Batticaloa

Original Research Article

*Corresponding author
Thirukumar M

Email:
dr.thiru10@yahoo.com

Abstract: The most common gynaecological malignancy is the Cancer of the cervix and it is the second most frequent cancer in women worldwide. Cancer of the cervix is one of the commonest gynecological cancers in Sri Lanka. The squamous cell carcinoma (SCC) is the predominant histologic type of cervical cancer seen across the globe. This retrospective Hospital based study was conducted for five and a half years period. During this period 508 cervical specimens were taken for analysis. A total of 52 cases of cancerous lesions of uterine cervix were undertaken in the department of pathology for this study. Remaining lesions were benign. There were 508 cervical tissue specimens were analysed during this period. Only 52 were malignant and remains were benign. Majority of cervical cancers were met during (96.2%) cervical biopsy either punch or cone biopsy. Patients' ages ranged from 29-77 years with peak age incidence of cancer was 50-59 years. Majority of patients (36.5%) presented with per vaginal whitish discharge and it is followed by (32.7%) irregular/excessive per vaginal bleeding. Squamous cell carcinoma was the most common histological type; followed by adenocarcinoma 11.5%, and other1.9% infrequent tumour subtypes. According to Broder's grading system, moderately and poorly differentiated at the time of initial diagnosis and constituting cases as20%,71.1%) and8.9% respectively. During the study period and SCC is the commonest histological type. Most of the women presented late. Therefore public health must be reinforced to detect them in premalignant stage through regular PAP smear programme. Further when women present with abnormal menstruation always to visualize the cervix with speculum examination suspicious lesion need biopsy. There is a need to establish a rational and organized national and local screening program to reduce the prevalence of cancer of the cervix in our community.
Keywords: Cervical cancer, abnormal menstruation, Batticaloa, Sri Lanka.

INTRODUCTION

The most common gynaecological malignancy is the Cancer of the cervix and it is the second most frequent cancer in women worldwide [1]. The incidence is much higher in the developing world as the widespread cervical smear screening has markedly lowered the incidence in the developed world [2]. Annually approximately 529,800 cases diagnosed in the worldwide and more than 85% have been reported from developing countries [3, 4].

The introduction of human papillomavirus (HPV) vaccination in developed countries will further amplify the cervical cancer gap between developed and developing countries. Furthermore, the global HIV pandemic also increases the burden of cervical cancer in the third world, as cervical cancer is an AIDS‐defining malignancy [5]. In addition cancers of the cervix and breast are the leading causes of cancer‐related death among women in developing countries [6, 7]. Human papilloma virus (HPV) have been unequivocally established as causal factors of the disease [6-8]. HPV type 16 accounts for 50 to 60% of the cases in most countries, whereas HPV-18 accounts for 10 to 12%, and HPV‐31 and 45, 4 to 5% each [9].

HPV is a sexually transmitted infection and the chance of spread is more if the first occurrence of sexual intercourse at an early age, multiple sexual partners or a consort with multiple sexual partners, and an uncircumcised male partner. Cigarette smoking, low socioeconomic status, oral contraceptive use, and immunosuppression are also factors known to influence the risk of cervical cancer positively [10, 11].

The squamous cell carcinoma (SCC) is the predominant histologic type of cervical cancer seen across the globe. However recent reports indicate a rising incidence of adenocarcinoma relative to SCC with similar epidemiologic risk factors [12-14]. The increase has been attributed partly to an increasing prevalence of HPV and partly to the improvement in screening for cervical cancer [15].

The aim of this article is to analyze the frequency and morphological patterns, as well as to compare our findings with other studies from different geographical locations of the world.

MATERIALS AND METHODS

This retrospective study was conducted in Teaching Hospital Batticaloa for five and a half years period between January 2012 and June 2017. During this period 508 cervical specimens were taken for analysis. A total of 52 cases of cancerous lesions of uterine cervix were undertaken in the department of pathology for this study. Remaining lesions were benign.

The material for the study consists of cervical biopsy both from punch biopsy or cone biopsy and from cervical polypectomy. A relevant clinical profile of retrospective cases was taken from laboratory case 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.

Data were processed using SPSS version 21. Descriptive statistics methods were used to analyse the results as whole numbers, percentages, tables, and charts.

RESULTS

There were 52 cases of cervical cancers over five-and-a-half-year period thus contributing 10.2% out of total cervical lesions (Non-neoplastic and Neoplastic) encountered during this study period. Table-3 shows that there were 508 cervical tissue specimens were analysed during this period. Only 52 were malignant and remains were benign.

Majority of cervical cancers were met during (96.2%) cervical biopsy either punch or cone biopsy (Table-1). Patients' ages ranged from 29-77 years with peak age (40.4%) incidence of cancer was 50-59 years (Table-2).

Table-1: frequency of sampling method of cervical specimen.

Sampling method	Frequency	Percentage (%)
Cervical biopsy	50	96.2
Polypectomy	1	1.9
Amputated cervix	1	1.9
Total	52	100.0

Table-2: Age distribution of study sample

Age group	Frequency	Percentage (%)
29-39	4	7.7
40-49	11	21.2
50-59	21	40.4
60-69	11	21.2
>=70	5	9.6
Total	52	100.0

Table-3: frequency of types of histopathological lesion of study sample

Histopathological lesions	Frequency	Percent
Inflammation	189	37.2
Polps	90	17.7
Metaplasia	11	2.2
Hyperplasia	42	8.3
Carcinoma	52	10.2
Koilocytic changes	3	.6
CIN- Low grade, High grade	17	3.3
Prolapse changes	4	.8
leiyomyoma	11	2.2
No significant abnormalities	89	17.5
Total	508	100.0

Majority of patients (36.5%) presented with per vaginal whitish discharge and it is followed by (32.7%) irregular/excessive per vaginal bleeding (Table-4).

Table-4: Frequency of clinical presentation of diagnosed cervical carcinoma patients

Clinical symptoms	Frequency	Percentage (%)
Whitish discharge	19	36.5
Mass	11	21.2
Irregular/excessive PV bleeding	17	32.7
Abdominal pain	1	1.9
Post coital bleeding	4	7.7
Total	52	100.0

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 other1.9% (1 case) infrequent tumour subtypes. In the present study squamous cell carcinoma was 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. Majority (40% out of 84.6%) of squamous cell carcinoma was encountered in the age group of 50-59 years.

Table-5:

Age	Type of cancer			Total	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		

Table-6: 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

DISCUSSION

Carcinoma of the cervix affects 12% of the women in world and constitutes the second commonest cancer in the world [16]. About 470000 new cases of the cervical carcinoma are diagnosed each year in the world [17].

In Sri lanka, the crude incidence rate (CR) for all cancers was 82.1 per 100,000 population and the age standardised rate (ASR) was 87.3 per 100, 000 population. The most common cancer among females was breast cancer with a CR of 23.1 and an ASR of 23.0. In srilanka, Cervix uteri Age standardized rate per 100,000 world population 8.4. There were total 847 cervical cancer detected in 2010. Among them Endocervix was 6 and Cervix uteri 8 41 [18].

This study shows that purulent vaginal discharge is the commonest presenting symptom (36.5%) and 32.7% of the patients presented with abnormal menstruation. Gaya et al has shown the commonest symptom at presentation was abnormalvaginal bleeding as seen in 63.9% of cases, though mostof them had more than one symptom at presentation [19]. Similar findings were reported by Oguntayo *et al.,* in Zaria [20] and Ijaiya *et al.,* in Ilorin [21].

In our study, 84.6% carcinoma were squamous cell carcinoma as compared to adenocarcinoma 11.5%. More or less similar results were shown by Haghdel M *et al.,* [12], Smith HO *et al.,* [13] and Ijaiya MA *et al.,* [14]. They showed that percentage of squamous cell carcinoma was more (84%) as compared to adenocarcinoma (16%) [22, 23, 21].

In our study, most of the squamous cell carcinoma occurred among 50-69 years of age group

and adenocarcinoma was among 50-59 years. But 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. I feel that good number of patients of my study 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 show the same results [24]. 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 [25]. On the other hand, Abudu EK *et al*., has shown the highest occurrence of well differentiated squamous cell carcinoma [26].

CONCLUSION
Cancer of the cervix is one of the commonest gynecological cancers in Sri Lanka. During the study period and SCC is the commonest histological type. Most of the women presented late. Therefore public health must be reinforced to detect them in premalignant stage through regular PAP smear programme. Further when women present with abnormal menstruation speculum examination must be done always to visualize the cervix so that suspicious lesion can be referred for cervical biopsy.

There is a need to establish a rational and organized national and local screening program that will incorporate population-based education and personnel training to medical officers to reduce the prevalence of cancer of the cervix in our community

CONFLICT OF INTEREST
None

REFERENCES
1. Denny, L. (2005). The prevention of cervical cancer in developing countries. *BJOG: An International Journal of Obstetrics & Gynaecology*, *112*(9), 1204-1212.

2. Walboomers, J. M., Jacobs, M. V., Manos, M. M., Bosch, F. X., Kummer, J. A., Shah, K. V., ... & Muñoz, N. (1999). Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. *The Journal of pathology*, *189*(1), 12-19.

3. Agosti, J. M., & Goldie, S. J. (2007). Introducing HPV vaccine in developing countries—key challenges and issues. *New England Journal of Medicine*, *356*(19), 1908-1910.

4. Ali, F., Kuelker, R., & Wassie, B. (2012). Understanding cervical cancer in the context of developing countries. *Annals of Tropical Medicine and Public Health*, *5*(1), 3.

5. Jemal, A., Bray, F., Center, M. M., Ferlay, J., Ward, E., & Forman, D. (2011). Global cancer statistics. *CA: a cancer journal for clinicians*, *61*(2), 69-90.

6. Moodley, M., Moodley, J., & Kleinschmidt, I. (2001). Invasive cervical cancer and human immunodeficiency virus (HIV) infection: a South African perspective. *International Journal of Gynecological Cancer*, *11*(3), 194-197.

7. Munoz, N., Bosch, F. X., Castellsagué, X., Díaz, M., De Sanjose, S., Hammouda, D., ... & Meijer, C. J. (2004). Against which human papillomavirus types shall we vaccinate and screen? The international perspective. *International journal of cancer*, *111*(2), 278-285.

8. An, H. J., Kim, K. R., Kim, I. S., Kim, D. W., Park, M. H., Park, I. A., ... & Yoon, H. K. (2005). Prevalence of human papillomavirus DNA in various histological subtypes of cervical adenocarcinoma: a population-based study. *Modern pathology*, *18*(4), 528.

9. Shafi, M. I. (2012). Premalignant and malignant disease of the cervix. *Dewhurst's Textbook of Obstetrics & Gynaecology*, 747-759.

10. Bosch, F. X., & De Sanjosé, S. (2003). Chapter 1: Human papillomavirus and cervical cancer—burden and assessment of causality. *JNCI Monographs*, *2003*(31), 3-13.

11. Emembolu, J. O., & Ekwempu, C. C. (1988). Carcinoma of the cervix uteri in Zaria: etiological factors. *International Journal of Gynecology & Obstetrics*, *26*(2), 265-269.

12. Adeniji, K. A. (2001). Analysis of the histopathological pattern of carcinoma of the cervix in Ilorin, Nigeria. *Nigerian journal of medicine: journal of the National Association of Resident Doctors of Nigeria*, *10*(4), 165-168.

13. Parkin, D. M., Pisani, P., & Ferlay, J. (1999). Estimates of the worldwide incidence of 25 major cancers in 1990. *International journal of cancer*, *80*(6), 827-841.

14. van Bogaert, L. J., & Knapp, D. C. (2001). Opportunistic testing of medically underserved

women for cervical cancer in South Africa. *Acta cytologica*, *45*(3), 313-316.

15. Lăără, E., Day, N., & Hakama, M. (1987). Trends in mortality from cervical cancer in the Nordic countries: association with organised screening programmes. *The Lancet*, *329*(8544), 1247-1249.

16. Zur Hausen, H. (2002). Papillomaviruses and cancer: from basic studies to clinical application. *Nature reviews cancer*, *2*(5), 342.

17. Onajole, A. T., Ajekigbe, A. T., Bamgbala, A. O., Odeyemi, K. A., Ogunnowo, B. O., Osisanya, T. F., & Obilade, T. T. (2004). The socio-demographic characteristics and the level of awareness of the prevention of carcinoma of the cervix among commercial sex workers in Lagos, Nigeria. *Nigerian Medical Practitioner*, *45*(3), 52-56.

18. Cancer Incidence Data Sri Lanka. (2010) by National Cancer Control Programme.

19. Gaya, S. A., Yakasai, I. A., Muhammad, A. Z., Galadanci, H. S., & Garba, I. D. (2012). Cancer of the cervix in unscreened West African women. *Journal of Basic and Clinical Reproductive Sciences*, *1*(1-2), 44-48.

20. Oguntayo, O. A., Zayyan, M., Kolawole, A. O. D., Adewuyi, S. A., Ismail, H., & Koledade, K. (2011). Cancer of the cervix in Zaria, Northern Nigeria. *Ecancermedicalscience*, *5*.

21. Ijaiya, M. A., Aboyeji, P. A., & Buhari, M. O. (2004). Cancer of the cervix in Ilorin, Nigeria. *West African journal of medicine*, *23*(4), 319-322.

22. Haghdel, M., Ardakany, M. S., & Zeighami, B. (1999). Invasive carcinoma of the uterine cervix in Iran. *International Journal of Gynecology & Obstetrics*, *64*(3), 265-271.

23. Smith, H. O., Tiffany, M. F., Qualls, C. R., & Key, C. R. (2000). The rising incidence of adenocarcinoma relative to squamous cell carcinoma of the uterine cervix in the United States—a 24-year population-based study. *Gynecologic oncology*, *78*(2), 97-105.

24. Dhakal, H. P., & Pradhan, M. (2009). Histological pattern of gynecological cancers. *JNMA; journal of the Nepal Medical Association*, *48*(176), 301-305.

25. Husain, N., Helali, T., Domi, M., & Bedri, S. (2011). Cervical cancer in women diagnosed at the National Health Laboratory, Sudan: a call for screening. *Sudan JMS*, *2011*, 183-190.

26. Abudu, E. K., Banjo, A. A., Izegbu, M. C., Agboola, A. O., Anunobi, C. C., & Jagun, O. E. (2006). Histopathological pattern of carcinoma of cervix in Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria. *Nigerian Quarterly Journal of Hospital Medicine*, *16*(3), 80-84.