Prevalence of Cervical Cancer in Developing Country: Pakistan

By Rubina Mukhtar (MCPS), Rubaida Mehmood (MSc), Shahida Parveen (FCPS), Mukhtar Hussain (FCPS) & M. Arif (MS)

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Methodology: This retrospective descriptive study was conducted at the Multan instituite or Nuclear Medicine and radiotherapy (MINAR) for a period of five years. The clinical records of all patients diagnosed with carcinoma of the cervix were reviewed with regard to sociodemographic and reproductive parameters. Frequency of Ca -cervix and stage of disease at the time of presentation were recorded. The data was collected on pre-designed Performa and analysed Statistically.

Results: There were a total of 537 cases presented at MINAR during the study period. Presenting symptoms (PS) were irregular vaginal bleeding (IVB) in 78% patients including intermenstrual (IMB), post menopausal bleeding (PMB), epimenohrea and post coital bleeding (PCB). Vaginal discharge was PS in 29% while pelvic pain was PS in only 3% patients. Squamous cell carcinoma corresponds to 460 (86.5%), adeno carcinoma to 55 (10.8%) cases and Poorly differentiated/other rare Tumours 22 (4%). Only 102(19%) cases were in Stage Ib, while 247 (46%) were in Stages IIa and Stage IIb respectively, 118 (22%) cases were in Stages IIIa and Stage IIIb whilst 57 (10.8%) cases were in advanced stage (1V).

Keywords: cervical cancer, prevalence, stage at diagnosis.

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Prevalence of Cervical Cancer in Developing Country: Pakistan

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Conclusion: Squamous cell carcinoma accounted for 86.5% of cases with mean age of 51 years, most patients 74.98% presented in stage II, III and IV resulting in high morbidity and morbility. No patient was diagnosed at stage 1a that is because of lack of screening programmes and public awareness. Diagnosis at early stage needs implementation of large scale educational and screening programme on national level to save the lives of Pakistani women.

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I. Introduction

Cervical cancer is the second most common cancer among women and the third leading cause of cancer deaths among women globally. The global burden of cervical cancer is 500,000 cases every year, with 270,000 women dying of it globally — that is one death every two minutes. Approximately 80 per cent of deaths related to cervical cancer occur in developing countries such as Pakistan. Typically in Pakistan, a woman would be susceptible to this cancer from marriage onwards, with commencement of sexual relations. But unfortunately studies have shown that a lack of awareness — of both the disease as well as availability of the preventive vaccine — is steadily increasing the incidence of cervical cancer in Pakistan (1).

Cervical cancer is an important public health problem for adult women in developing countries in South and Central America, sub-Saharan Africa, and south and south-east Asia, where it is the most or second most common cancer among women. The vast majority of cervical cancer cases are caused by infection with certain subtypes of human papilloma virus (HPV), a sexually transmitted virus that infects cells and may result in precancerous lesions and invasive cancer. (2)

Cervical cancer remained the most common genital female malignancy and it is the second most common malignancy in women, after breast cancer.(3-6)

Invasive cervical cancer is second only to breast cancer as a leading cause of worldwide cancer-related mortality in women.(7-8).

The highest incidences of disease tend to occur in populations that have low screening rates combined with a high background prevalence of human papillomavirus (HPV) infection and relatively liberal attitudes toward sexual behavior.(4) Cervical cancer was once one of the most common causes of cancer death for American women. Between the years 1955 and 1992, the cervical cancer death rate declined by almost 70%. The main reason for this change was the increased use of the Pap test for early detection of this disease(3,4) but still it is one of major causes of cancer related morbidity in developing countries due to lack of screening programs.

II. Materials and Methods:

It is a hospital based retrospective study conducted to evaluate trends of cervical cancer in terms of the presentation, outcomes and other epidemiological factors. All Patients with tissue

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diagnosis of cervical cancer reported to our hospital during last 5 years were evaluated for their ages of presentation, menarche, marriage, menopause and clinical presentation, stage of disease their management and outcome.

III. Results

Total 537 patients were enrolled in last 5 years. Mean age of presentation was 48 years with 70% patients presenting at the age of more than 40 years and 30% less than 40 years. 86% patients have mean age of menarche 13 years with minimum age of 11 years. Majority of them (88%) were married at age of less than 18 years. Patients presenting in premenopausal age were only 31% while 69% presented in post menopausal age. Presenting symptoms (PS) were irregular vaginal bleeding (IVB) in 78% patients including intermenstrual (IMB), post menopausal (PMB), epimenohrea and post coital bleeding(PCB). Vaginal discharge was PS in 29% while pelvic pain was PS in only 3% patients. Thorough clinical examination, routine investigations including complete blood counts (CBC), complete urine examination (CUE), blood sugar (BS), ultrasonography (USG) and computed tomography (CT) scan was done. Disease was staged according to FIGO staging system. None of them was diagnosed in stage 1a. 19% cases diagnosed at stage 1b, 46% at stage 11, 40.5% of which were in stage 11b and only 5.5% were in stage 11a.Total patients in stage 111 were 22 %, 3% in stage 111a and 19% in 111b. 10.8 % of patients diagnosed in stage 1Va but none presented in stage 1Vb. Squamous cell carcinoma (Ca) was the histopathology in 86.5% and adeno carcinoma in 10.8% patients. Remaining was poorly differentiated ca. Only 22% patients had Total abdominal hystrectomy at the time of presentation. Management of these patients included combination of external radiotherapy (ERT) and Intra cavitary brachytherapy. 100% resolution of mass was achieved in 27% patients. Mortality was 8% due to renal failure and intestinal complications of radiotherapy.

IV. Discussion

Cervical cancer is an important cause of morbidity and mortality among females worldwide, more so in developing countries. In parts of the developing world, cervical cancer is the major cause of death in women of reproductive age (8).

The incidence of invasive cervical cancers in economically disadvantaged and developing countries is 78% of worldwide incidence. (3-4, 7) This disease accounts for 15% of all cancers in women. The associated lifetime risk of invasive cervical cancer in such countries is about 3%. In developed countries, the disease accounts for 4.4% of all new cancers in women, and it is associated with a lifetime risk of about 1.1%. This disparity is attributed to the lack of effective screening programs and awareness in developing countries.

Preinvasive disease is asymptomatic and is usually detected during routine cervical cytological screening. Early invasive disease may not be associated with any symptoms and is also usually detected during screening examinations. Approximately 20% of patients who have invasive cervical cancer are asymptomatic when the disease is diagnosed by means of a Pap smear or routine clinical examination (6, 7). Approximately 80-90% of patients with cervical cancer experience a form of abnormal vaginal bleeding such as postmenopausal bleeding, irregular menses, heavy menstrual flow, painless metrorrhagia, or postcoital bleeding. In some case series and in geographic regions where endometrial cancer is not common, postmenopausal bleeding is the most common presenting symptom of cervical cancer. Abnormal vaginal discharge is a presenting symptom in about 10% of patients; the discharge may be watery, purulent, or mucoid. Pelvic or abdominal pain and urinary or rectal symptoms occur in advanced cases (6). Pelvic pain may result from loco regionally invasive disease or from coexistent pelvic inflammatory disease. Flank pain may be a symptom of hydronephrosis, often complicated by pyelonephritis. The triad of sciatic pain, leg edema, and hydronephrosis is almost always associated with extensive pelvic wall involvement by tumor. Patients with very advanced tumors may have heamaturia or incontinence from a vesicovaginal fistula caused by direct extension of tumor to the bladder. External compression of the rectum by a massive primary tumor may cause constipation, but the rectal mucosa is rarely involved at initial diagnosis.

FIGO has defined the most widely accepted staging system for carcinomas of the cervix.(9) FIGO stage is based on careful clinical examination and the results of specific radiologic studies and procedures.

Between 80% and 90% of cervical carcinomas are squamous cell carcinomas. A number of studies suggest that the incidence of one subtype of cervical cancer, cervical adenocarcinoma, has been increasing, particularly among women in their 20s and 30s. (10-11)

Several investigators have reported similar survival rates for patients with squamous carcinomas and those with adenocarcinoma.(12-14) However, many other investigators have drawn the opposite conclusion, the 5-year survival rate was lower for patients with adenocarcinoma than for patients with squamous cell carcinoma. The difference in survival rates between squamous cell carcinoma and adenocarcinoma was found mainly in stage I and stage II, where radiotherapy was used as the primary treatment. We speculate that this difference in survival rates between cervical adenocarcinoma and squamous cell carcinoma was due to the relative ineffectiveness of radiotherapy as a

primary treatment in cases of adenocarcinoma, (15) noting unusual high pelvic relapse rates in patients treated with surgery for adenocarcinomas and poorer survival rates in patients treated with surgery or radiation for adenocarcinomas.(16)

The prognosis of cervical cancer is relatively good in low-risk countries, with a reported 5-year survival rate of 72% for all stages combined(7). The 5-year survival rate is reported about 48% in developing countries, where patients are likely to seek medical attention when the cancer is more advanced (3, 7, 17). Five years survival rate for early invasive cancer is 92% and that for pre-invasive cancer is nearly 100%(7).

In our study 5 year survival rate is 52% which more or less corresponds to data available for under developed countries but unluckily no patient was diagnosed in early or Preinvasive stage that is all because of lack of proper screening programs that requires man power of skilled personals and a lot of budget. The main cause of its failure is lack of resources in developing countries.

For developing countries, HPV vaccination can have important implications for improvement in women's health and lowering of mortality from cervical cancer. Obstacles such as lack of routine and organized screening, advanced presentation of cervical cancer and minimal physician visits by many women make HPV vaccination an attractive adjunct in the fight against cervical cancer. The vaccine must also be made more cost effective, affordable and accessible to the public in order to realize the envisaged impact of the vaccine in the developing countries.(18)

V. Conclusion

Presentation and etiological factors of cervical cancer are same in developing countries as in developed countries but early diagnosis and management of cervical cancer is a major problem and reason for poor out come and low 5 years survival rates. This needs nationwide awareness and screening programs that can be made successful with co-ordination of non governmental organizations working for women health services.

Table I : Demographic characteristics and symptoms

Characteristic	No & %
Symptoms	
Intermenstural bleeding	200(38%)
Postmenopausal bleeding	188(35%)
Epimenorhea	14(2.7%)
Post coital bleeding	14(2.7%)
Vaginal Discharge	15(2.9%)
Pelvic Pain	14(2.7%)
Histopathology	
Sq. cell Ca	460(86.50%)
Adeno Ca	55(10.80%)
Poorly differentiated/other rare Tumours	22(10%)

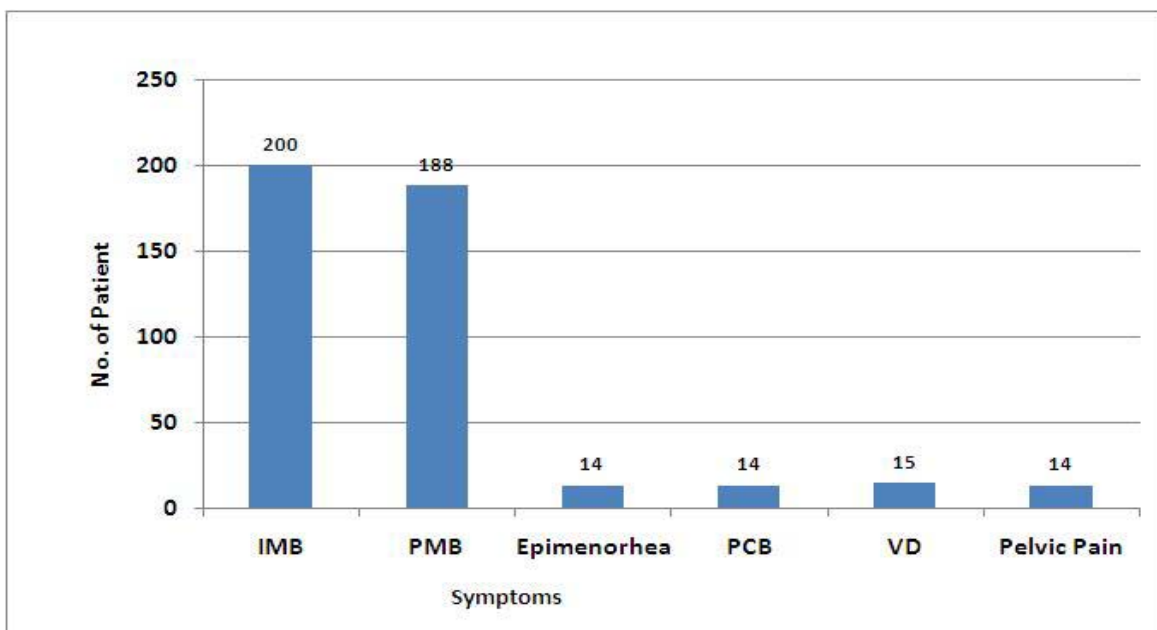*The results are expressed in numbers and percentage.*

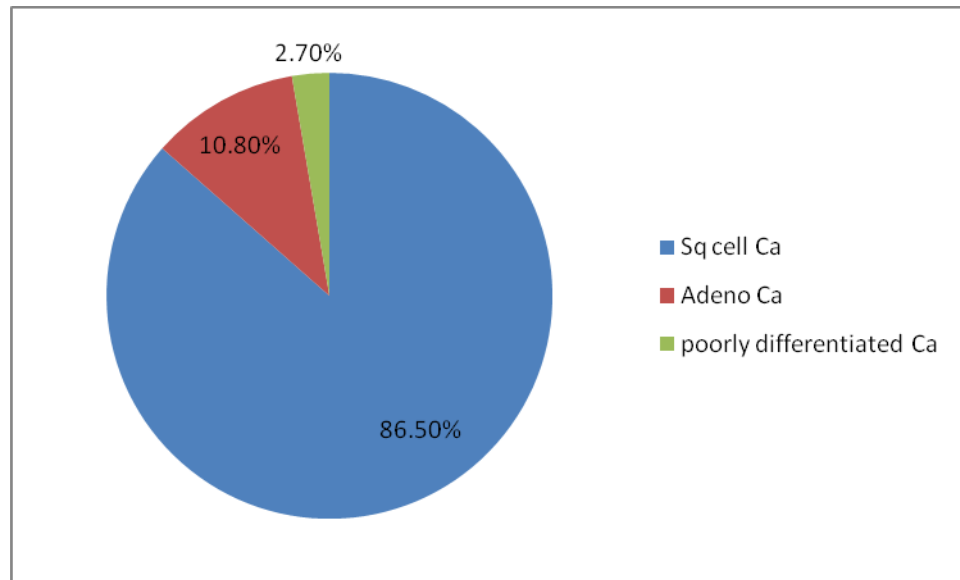*Figure :* Clinical Presentation of Patients

Figure : Stages of carcinoma of cervix

Incidence of different types of cervical cancer

Sr. No	Stage of disease	No. of Patients		Percentage
1-	Ib	102		19%
2-	IIa	217	247	46%
	IIb	30		
3-	111a	15	118	22%
	111b	103		
4-	IV (all IVa)	57		10.8%

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