FREQUENCY OF PREINVASIVE CERVICAL LESIONS AND ASSOCIATED RISK FACTORS

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ABSTRACT

Objective: To determine the frequency of preinvasive cervical lesions and associated risk factors in asymptomatic women so as to emphasize the need for an organized screening program.

Study Design: Cross sectional epidemiological study

Place and duration of study: Obstetrics and Gynaecology Outpatient Department, Lahore General Hospital Lahore from June2005- May 2006

Methodology: One thousand married women of age 18-60 years were selected after informed consent. Relevant information was recorded on pre designed proforma, Pap smear taken, fixed in 95% ethyl Alcohol and, sent to pathology department. Frequency and predisposing factors were analyzed

Results: About 30% of the cases were lost to follow up. In rest of the cases frequency of preinvasive cervical lesion was 1.25% (33.3% CIN I, 44.5% CIN II, and 22.2% CIN III). Mean age of women with preinvasive lesions were 34-yearsand 45% had Parity >7.All of the women with abnormal smears were Muslims**,** 89% were poor and 78% uneducated. Regarding husband profession about 67% were unskilled laborers while all women were house wives. Mean age at marriage was 18-years and in 45%either or both partners were married twice. 44% of the couples were not practicing contraception. About 33%subjectswere Smokers, None had Pap smear previously and11% had reduced immunity.

Conclusion: Abnormal cervical cytology is linked with multiparity, low socioeconomic status, illiteracy and early age at marriage in this study. Selective cervical screening is essential for high risk population even in under resource settings. Meanwhile alternative cost effective techniques should be evaluated.

Keywords: Pap smear, Cervical cancer Screening, CIN.

INTRODUCTION

Currently, cervical cancer is the fourth leading cause of cancer death in women worldwide, causing more than 275,000 deaths annually.[1] Globallycervical carcinoma alone is responsible for about 5% of all cancer deaths in women.

Over 85% of cases are found in developing countries[2]among which 60-80% arein advance stage that is III and IV if ever diagnosed, consequently with low probability of long term survival

Cervical cancer constitute a disease continuum ranging from cervical intra-epithelial neoplasia (CIN) grades I, II and III to micro invasive and finally fully invasive cancer

Human papillomavirus is recognized as one of the leading causes of cervical cancer However, other risk factors, age of first sexual contact, number of sexual partners, multi-parity, diet, and environment, non-use of condoms and cigarette smoking, HIV infection (immunosuppression), use of oral contraceptive and low socioeconomic status are also associated with cervical cancer[3-6]. .

Pap smear is universally accepted screening test. Recent meta-analysis reports show that the range of sensitivity and specificity of a single screening Pap test for detecting CIN grade I and II is from 14 to 99% and from 24 to 96%respectively[7].

It has been shown that the degrees to which the incidence rate falls in a population is related to the percentage of the population that has been screened and length of the screening interval.

As our target population is uneducated and poor, they need a lot of motivation to participate in a screening program. If we know frequency of positive cases in this population and the prevalence of risk factors, this information can be used to formulate a primary prevention program and to plan the optimum screening interval and protocol of management in available resources and it will also add substance to our counseling to the said population.

Objective of this study was to find out the frequency of pre-invasive lesions in women screened for cervical cancer and to assess the risk factors involved in positive cases

Methodology

This cross-sectional epidemiological study was conducted in the Department of Obstetrics and Gynaecology, Lahore General Hospital, Lahore from June 2005 to May 2006.

All married women who were aged 18-60 years and able to provide informed consent were enrolled for this study. Pregnant subjects were also included. Patients presenting with active vaginal bleeding,previousPap smear within one year, acute pelvic inflammation, leaking per vaginum and Placental Previawere excluded from study.

Table 1: Results of Cytology n = 700

Report	Number	Percentage
Normal	91	13.0
Inflammatory	588	84.0
CIN/ Dyskariosis	9	1.25
Unsatisfactory	12	1.72
Total	**700**	**100.0**

Table 2: Distribution of Patients According to Severity of CIN n = 9

Severity of CIN	Number	Percentage
Mild	3	33.3
Moderate `	4	44.5
Severe	2	22.22
Total	**9**	**100**

Table 3: Demography / High Risk Characteristics of Positive cases n = 9

Demography/ Risk Factors	Characteristics	No of Positive cases	percentage
Age in years	< 20	1	11.1
	21-30	3	33.3
	31-40	3	33.3
	41-50	1	11.1
	51-60	1	11.1
Parity	0	2	22.2
	≤ 6	3	33.3
	≥7	4	44.4
Religion	Islam	9	100
Husband's Occupation	Driver	2	22.2
	unskilled labourer	6	66.6
	professional	1	11.1
Socioeconomic status	Low	8	88.8
	middle	1	11.1
Qualification	Illiterate	7	77.7
	Primary	1	11.1
	Matric	1	11.1
Age at marriage	<15	1	11.1
	16-20	7	77.7
	>20	1	11.1
No of marriages	01	5	55.5
	02	4	44.4
Contraception	OCP	1	11.1
	Barrier method	3	33.3
	IUCD	1	11.1
	female sterilization	1	11.1
smoking	Smoker	3	33.3
Previous Pap smear		0	00
Reduced immunity	Pregnancy	1	11.1
	Malignancy	0	
	Radio therapy / Chemotherapy	0	

Subjects were explained about the importance of Pap smear and method of collection of sample. After emptying the bladder, patient was put into dorsal position, cervix was visualized with the help of Cusco's speculum in good light. Sample was taken with the help of Ayer's spatula (ensuring inclusion of squamo-columnar junction) spread on a clean glass slide, fixed with 95% ethyl alcohol, labeled and sent to pathology

department of postgraduate medical institute. Detailinformation was provided on the predesigned proforma to the cytologist. After receiving the report it was analyzed by Statistical analysis Computer software SPSS ver. 10.Frequency distribution and percentage of variables given in proforma were calculated.

RESULTS

A total of 1000 patients coming to Obstetrics and Gynecologyout Patient departmental of Lahore General Hospital were included in this study. Out of total participants 300 (30%) were lost to follow up.

Out of 700 patients, majority of the cases were inflammatory smear(84%) while 9 cases (1.25%) were of varying degrees of dyskariosis (CIN). (Table 1).Out of the 9 cases, majority of the cases (44.5%) were of CIN II (Table II).

The data collected on the Proforma was analyzed to highlight high-risk factors for pre-invasive disease amongst the smear positive cases (Table III)

The majority of subjects (67%) were among the age range of 21-40 years with mean age of 34 years. About 45% of cases were of Parity >7, all were Muslims.89% were of low socioeconomic status and 78% were uneducated. Regarding husband's profession 67% were unskilled laborers and 22% were drivers.7 patients (77.7%) were married between 16-20 years and mean age at marriage was 18-years while in 45% of cases either or both partners were married twice. 44%.of the couples were not using any sort of contraceptive methods.

In smear positive cases 33% were smokers, none had a Pap smear previously and 11% had reduced immunity.

DISCUSSION

Cervical cancer prevalence varies from country to country and so does prevalence of CIN lesions. Our study revealed1.25% of pre invasive lesions. The frequency of abnormal cytology in other studies were1.6% by Jamal A,[8]0.5% quoted by wasti s[9] and 8% by B Zahid.[10].The reported figure from India was 5.9% [11]

These variations may be due to demographic differences in the study population.

In present study, inflammatory smears were the most common finding which is comparable with a study conducted in another tertiary care center at Lahore[10]About 13% were normal smears in our study in contrast to, 30.55% in a study conducted in Abbasi Shaheed Hospital Karachi.[12] This study also had 4.86% of unsatisfactory / inadequate smears, which is a little higher than our study.

Our study reveals mean age of 34 years and 67%of subjects in age range of 21-40 years where75% were in this age group in a local study by Das CM.[13]

Multiparity is considered an important demographic factor responsible for cancer of cervix in Pakistani Population. A higher percentage of multiparty in our study is comparable to other local studies in which about 52% of cases of abnormal smear were multipara.[14, 15]

Religion was mentioned to assess the protection provided by circumcision but all of our patients with positive results were Muslims who are circumcised religiously. It is obvious that other risk factors for cervical cancer are more important than having a husband who is circumcised.

In the present study the higher percentage of low economic status and illiteracy is comparable to other local studies.[13, 16] In industrialized countries where nationwide screening programme is practiced prevalence of not having been tested in the previous three years was highest among low-income women[17]

As for as education of the female is concerned in a study carried out in Columbia, it was found that 30% of husbands of poorly educated women harbored HPV DNA compared with 10% of husbands of educated women[18].Illiteracy has an effect on women's nutrition, perineal hygiene, age of marriage, parity, contraceptive choices, access to health facilities and health seeking behavior.

None of the patients belonged to commercial sex work groups, all were housewives. None of the participants agreed to extra marital sexual relationships. A significant percentage of husbands of the positive cases were drivers/unskilled laborers. It has been since long known that wives of long distance lorry drivers and unskilled laborers had higher incidence of cervical cancer, which increase the chances of extra marital sexual relations.

A high percentage of women were married at an early age in our study which indicates that our females are at a high risk of developing cervical cancer and should receive regular cervical cancer screening. This finding was also confirmed by Das CM[13].and Sohail R[19].

Contraceptive practices of our population greatly vary. In this study nonusers of contraceptive methods were 44% in contrast to 78% in other local study in Sindh[13]

It is a common belief that smoking is uncommon in female population of Pakistan but in present study 33% of the subjects were smokers whilea study conducted in a rural population of NWFP, Pakistan [20]revealed 36% smokers.

The problem of being lost to follow up just in this study is also reported in study conducted at Hyderabad Sind.[13].The reason may be that, most of our population is illiterate, poor, rural dwellers, who have to travel long distances and pay high fares. Other factors may be gender bias, social taboos and social pressures. In our community women seek help from spiritual healers, hakims and quacks and reach hospital as a last resort when every other effort has failed.

Unfamiliar surroundings of hospitals, overcrowding in outpatient departments, long hours of waiting, attitude of health providers and repeated follow up visits require taking time off, from heavy burden of domestic work including large number of children, in-laws and being dependent on male members to be accompanied and brought to the hospital who in turn have to take leave from their job thereby losing one-day's wages and ultimately further aggravation of their financial problems.

Keeping these facts in mind, a single visit approach of visual inspection with acetic acid and cryotherapy is being recommended for resource poor countries.[21]

My study had certain limitations. These included failure of the patients to return for a follow up visit after the initial visit. 30% of the patients did not report to the laboratory with Pap smear sample, most probably because of financial constraints because compliance greatly enhanced once smear was offered free of cost. History taking regarding sexual behavior had its limitations. Direct questioning in this context could not be put forward due to our social prohibitions. Even when tried, the answers obtained could not be relied upon. An accurate estimation of HPV infection could not be made which is considered the most important risk factor for cervical cancer because facilities for HPV detection were not available.

CONCLUSION

Frequency of pre-invasive lesions in this study is low. Abnormal cervical cytology is linked with multiparity, low socioeconomic status, illiteracy and early age at marriage in this study. Selective cervical screening is essential for high risk population even in under resource settings. Meanwhile alternative cost effective techniques should be evaluated.

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