EVALUATION OF CERVICAL SMEAR IN WOMEN ATTENDING GYNECOLOGICAL OPD

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ABSTRACT

Objective   To find out results of cervical smear samples and to identify associated risk factors like smoking, oral contraception usage, sexual behavior in patients with abnormal smear.

Study design   Descriptive study

Place & Duration of study   Department of Obstetrics and Gynaecology, Services Institute of Medical Sciences Lahore from 30.10.2007 to 29.04.2008.

Patients and Methods   Five hundred patients were inducted from the gynecological outpatient department. For each patient, detailed history, demographic information, marriages of both partners and coital history were taken.

Results   Out of 500 cases, in 278 (55.6%) the smear was reported negative for malignancy. One hundred eighty two (36.4%) had an inflammatory smear, 30 (6%) had CIN and in 10 (2%) the smear was inadequate for cytological examination. In the study the mean age of diagnosis of cervical intra-epithelial neoplasia (CIN) was 39.06±5.36 years. Low socio-economic status and high parity were major risk factors.

Conclusions   Majority of women diagnosed as CIN were between 35-45 years of age. It is recommended that all women should have cervical smear at and above the age of 35 years.

Key words   Cervical smear, Risk factors, Human papilloma Virus.

INTRODUCTION:

Population based cytologic screening and early treatment reduces morbidity and mortality associated with cervical cancer.[1] A pre-malignant cervical lesion can be treated effectively.[2] Pap smear detects cervical cancer in its early stage.[3] Cervical smear technique was introduced in gynecological practice by George Papanicolaou in 1943. It is recommended that all sexually active women between 20 to 60 years should have cervical smear every three years as it detects pre-malignant lesions. If the smear is normal there are 0.1% chance of cervical intra-epithelial neoplasia (CIN) I or II. The chances for CIN II – III with an inflammatory smear are 6%, while with borderline nuclear changes 20-37%, with mild to moderate dyskaryosis 50-75% and for severe dyskaryosis these are 80-90% with 50% chances of invasive carcinoma.

Studies have shown an association of cervical cancer with several risk factors including human papilloma virus (HPV), smoking, oral contraception usage, and male factor. There

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is a strong association between human papilloma virus infection and cervical cancer. The prevalence of cervical cancer with HPV 16 is 46% - 63% and HPV 18 is 10% - 14%. The sexual behaviour of the male plays an important role in determining the risk of cervical cancer in female partner.[4] In developed countries with effective screening programme in place, awareness is created regarding screening for cervical cancer and associated risk factors. [5,6] Objectives of this study were to enlist the outcome of cervical smear in patients attending gynecological outpatient department and to identify risk factors in abnormal smear.

PATIENTS AND METHODS:
This was a descriptive case series conducted at the Department of Obstetrics and Gynaecology, Unit I, Services Institute of Medical Sciences, Lahore from 30.10.2007 to 29.04.2008. Five hundred women were enrolled from the gynecological outpatient department by non-probability purposive sampling. Inclusion criteria was married women between 20-60 years. Those with manifest cervical cancer, visible cervical lesion/ulcer, active bleeding or infective discharge and pregnancy were excluded. The outcome of cervical smear was reported as inflammatory smear, negative for malignancy, CIN I-III and invasive disease. Risk factors studied were multiparity, age at first intercourse (marriage), oral contraceptive (OCP) usage, smoking and socioeconomic status.

Informed consent was taken from all the patients after assuring confidentiality. Detailed history was taken including demographic information (address, age, parity, socioeconomic status, marital status, duration of marriage), and history regarding patient's and husband's marriages, menstrual history, coital history (frequency, postcoital bleeding, dyspareunia), family history of malignancy, history of vaginal discharge, smoking and oral contraceptive pill intake.

Data was transferred and analyzed by SPSS version 12.0. The variables analyzed were demographics, risk factors and cervical smear outcome. Quantitative data is presented as mean and standard deviation. Qualitative variable like outcome of smear, socioeconomic status, parity, smoking and oral contraceptive pills is presented as frequency and percentages.

RESULTS:
Distribution of cases by age shows that maximum number of patients, 210 (43.2%) were between 35-45 years of age and minimum number of patients, 20 (4%) belonged to age group 56-60 years. The mean age was 37(38±9.57 years). Out of the total patients, 268 (53.6%) had risk factors for CIN and 232 (46.4%) were low risk. Low socioeconomic status was the most common risk factor present in 224 (44.8%) and smoking was the least common risk factor present in 28 (5.6%) patients (table-1).

Table-1: Distribution By Risk Factors	
High Risk Factors	Number (%)
Multiparity	192 (38.4%)
Early marriage	152 (30.4%)
OCPs	64 (12.8%)
Smoking	28 (5.6%)
Low socioeconomic status	224 (44.8%)

Table-2: Distribution by Smear Findings	
Smear findings	Number (%)
Inflammatory smear	172 (34.4%)
Negative for malignancy	278 (55.6%)
Inadequate	10 (2%)
CIN-I	20 (4%)
CIN-II	6 (1.2%)
CIN-III	4 (0.8%)
Invasive disease	0
Total	500

Majority of women with CIN 18 (60%) between 35-45 years. Four patients (13.3%) were less than 35 and 8 patients (26.7%) were more than 45 years, with mean age of 39.06±5.36 years. Out of 500 cases, 30 women (6%) had CIN and there was no woman with invasive disease. Ten (2%) smears were inadequate for cytological examination (table-2). Out of 30 patients of CIN, 24 (80.0%) had parity of more than 5.

Age at first intercourse in group was less than 20 in 13 women (43.3%). The majority, 86.7% of women with CIN, had never used oral contraceptives and only 4 patients (13.3%) used oral contraceptives. Regarding distribution of CIN according to history of smoking, only 8 out of 30 (26.7%) were smokers and the majority - 22 patients (73.3%), were non-smokers. All women with CIN belonged to a low socioeconomic class. Majority of women (n-24-80%) belonged to very low socioeconomic class (earning between 3000-5000 rupees per month).

DISCUSSION:
Among risk factors for developing CIN, the most important is human papilloma virus (HPV). Studies from developed countries show a strong association between cervical cancer and HPV. [7] In a study, HPV positivity amongst the group of women with no cervical abnormality was 43% while that in women with cervical dysplasia and cervical cancer was

81.2%. [8] As the facility of detecting HPV is not readily available in under-developed countries like Pakistan the next best and reliable method is cervical smear.

In this study majority of patients presented between 35-45 years of age and maximum risk of developing CIN was also between this age group. Low socioeconomic status was the most frequent risk factor. This is comparable to the study conducted in California which showed that low income women were at higher risk of developing cervical cancer. [9] Smoking is a potential risk factor for cervical disease and it is established that there is 12.7 fold risk of developing CIN after 12 years of smoking. This is because of reduction in Langer cells in cervical epithelial tissue. In this study group, only 28 patients (5.6%) were smokers. Among the 30 who were diagnosed as CIN, 8 patients (26.7%) were smokers. Jubelirer et al in 1996 reported that cervical cancer risk associated with smoking was up to 40% of screened female population.[10]

Regarding parity, it was seen that 24 out of 30 women who were diagnosed with CIN had more than five children. This study is comparable to other studies which show that high parity is a risk factor for cervical neoplasia.[11] Early onset of sexual activity is also a risk factor. In this study it was found that out of 30 cases of CIN, thirteen women were less than 20 years at the time of onset of sexual activity. A study carried out in Houston, USA suggested that age at first sexual intercourse under 18 years carried a high risk for developing CIN.[12]

CONCLUSIONS:
The majority of women diagnosed as CIN were between 35-45 years. It is recommended that all women should have cervical smear at thirty five year of age.

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