ORIGINAL ARTICLE
FREQUENCY OF PREMALIGNANT LESIONS IN WOMEN SCREENED BY PAP SMEAR

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Background: Cervical cancer related morbidity and mortality among women are major health problems in developing countries. Premalignant lesion of the cervix, i.e., intraepithelial neoplasia precedes cervical cancer and can be detected by Pap smear test. This study aimed to determine the prevalence of premalignant lesion of cervix in District Quetta. **Methods:** This study was based on 100 cases from the Outpatient Department of Obstetrics and Gynaecology at Combined Military Hospital Quetta. The selection criterion was sexually active patients presenting with complaints of vaginal discharge, dyspareunia, menorrhagia and lower abdominal pain. Patients less than 20 years of age, known cases of intraepithelial or invasive malignancy, and natives outside District Quetta were excluded. After fixation and staining, each smear was carefully examined according to criteria laid down by The Bethesda System for reporting cervical cytology. **Results:** Mean age of the patients was 47 years. The presenting complaints in descending order of frequency included lower abdominal pain 39%, vaginal discharge 29%, menorrhagia 28% and post coital bleeding in 4%. Out of 100 cases, 17 (17%) cases were positive for premalignant lesions and 79 (79%) were negative, whereas 4 (4%) were inadequate for analysis. **Conclusion:** Pre-malignant lesions of the cervix are common in District Quetta and can be diagnosed early by Pap smears.

Keywords: Papinocolaou smear, cervical intraepithelial neoplasia, cervical cancer

INTRODUCTION

Cervical cancer is the third most commonly diagnosed cancer worldwide and the fourth leading cause of cancer related deaths in women.[1] Cervical cancer causes around 3 million deaths worldwide.[2] The mortality rate is ten times higher in developing countries compared with the UK.[3] It has been proven that the cervical screening programme is associated with improved rate of cure of cervical cancer.[4] Cervical cancer is fourth most common cancer in women in Pakistan[5] and is ranked 7th in the world in cervical cancer related deaths. Almost 75% or more are in stage III at the time of diagnosis.[6]

Papinicolaou smear as a cancer screening tool for the cervix has been evaluated time and again by various studies.[7,8] The method has benefitted the developed world and resulted in sharp decline in cervical cancer related morbidity and mortality.[9,10] The data on the prevalence of cervical intraepithelial abnormalities in various population in our country is not known. There is need for initiation of community screening and educational programs for the screening and prevention of cervical cancer in Pakistan and specifically in Quetta region of Baluchistan. It was, therefore, decided to find out the frequency of premalignant lesions in women screened by Pap smear in District Quetta, Pakistan.

MATERIAL AND METHODS

This descriptive, study was carried out from January to December 2016, after approval from local Ethical Committee. Total 100 women with complaints of menorrhagia, vaginal discharge, dyspareunia and lower abdominal pain presenting at the Outpatient Department of Obstetrics and Gynaecology, Combined Military Hospital, Quetta were included. Patients less than 20 years of age, already diagnosed cases of intraepithelial or invasive malignancy, and natives outside Quetta region were excluded.

Informed written consent was taken from each patient and Pap smear was done by the consultant gynaecologist. Cervical scrape smears were collected using Ayer's spatula or endocervical brush. The material thus obtained was quickly, but gently smeared on a clean glass slide. The glass slide was then immediately put into the Coplin jar containing 95% ethyl alcohol for fixation. The prepared smears were then stained according to Papanicolaou's technique. The epithelial abnormalities were classified according to The Bethesda System 2001.[11]

Data was analysed using SPSS-22. Descriptive statistics were used to analyze the data. Mean and standard deviation were calculated for quantitative variables. Frequencies and percentages were calculated for qualitative variables.

RESULTS

The ages of the patients ranged from 20 to 67 years. Mean age was 47 years. Maximum number of patients (41%) were in the fourth decade, followed by 34 (34%) in the third, 21 (27%) in the fifth, 3 (3%) in the sixth and 1 (1%) in the third decade of life.

The presenting complaints in descending order of frequency included lower abdominal pain (39%), vaginal discharge (29%), menorrhagia (28%), and post coital bleeding (4%). Majority (43%) patients belonged to low socioeconomic status followed by middle (34%) and upper (23%) economic group.

Out of 100 cases, 17 (17%) were positive for premalignant lesions and 79 (79%) were negative, whereas 4 (4%) were inadequate for analysis. Out of 79 smears negative for intraepithelial lesion or malignancy, 41 cases revealed normal cytology and 38 smears showed inflammatory changes comprising of non-specific inflammation (32), *Gardenerealla vaginalis* (5) and *Trichomonas vaginalis* (1) infection. Seventeen percent cases constituting epithelial cell abnormalities included atypical squamous cells of undetermined significance (4), atypical glandular cells of undetermined significance (1), low grade squamous intraepithelial lesion (8), high grade squamous intraepithelial lesion (3), and squamous cell carcinoma (1).

Table-1: Frequency of cervical cytological findings in the cases (n=100)

Cytological Examination	n	%
Normal	41	41
Inflammatory changes	38	38
Epithelial cell abnormalities	17	17
Atypical squamous cells of undetermined significance	4	4
Atypical glandular cells of undetermined significance	1	1
Low grade squamous intraepithelial lesion	8	8
High grade squamous intraepithelial lesion	3	3
Squamous cell carcinoma	1	1
Inadequate for analysis	4	4

DISCUSSION

Cervical cancer prevention can be achieved using relatively inexpensive technologies to detect abnormal cervical tissue before it progresses to invasive cervical cancer.[12] Most developed countries like the United States witnessed dramatic reductions in the incidence and death rates from cervical cancer following the implementation of organized screening programme. Accessibility to treatment, early detection, reduction in parity, and other risk factors have contributed to this decline.[11]

The Pap smear is a simple, safe, non-invasive and effective method for detection of precancerous and noncancerous changes in the cervix and vagina.[13] In our study, 17% cases were positive for premalignant lesions, i.e., atypical squamous cells of undetermined significance (4%), atypical glandular cells of undetermined significance (1%), low grade squamous intraepithelial lesion (8%) and high grade squamous intraepithelial lesion (3%). Our results were similar to a study where, epithelial cell abnormalities were found in 5% smears, atypical squamous cells of undetermined significance (ASCUS) in 0.3%, squamous intraepithelial lesion (SIL) in 3.4% which includes low grade squamous intraepithelial lesion (LSIL) (2.7%) and high

grade squamous intraepithelial lesion (HSIL) 0.7%. Invasive carcinoma was seen in 1.3% cases.[14]

In a local study, total 981 women underwent Pap smear screening. One hundred and eighty (18.34%) smears were normal and 792 (80.7%) were abnormal. Among these abnormal smears, 739 (75.33%) smears were inflammatory while 4 (0.4%) women had carcinoma in situ and 4 (0.4%) had squamous cell carcinoma.[15] In another study on 280 patients, the cytological examination of the smears showed no changes (normal) in 100 (35.7%) cases, while 156 (55.7%) cases showed inflammatory changes, 10 (3.6%) showed dysplastic changes, of whom 8 cases had CIN-I (2.8%) and one case was of CIN-II (0.4%). One was having CIN-III/severe dysplasia (0.4%). Inadequate sample was reported in 14 (5%) cases.[16]

A study on 6,024 Pap smears, 62 (1.02%) demonstrated precancerous lesions of which 41(0.68%) were atypical squamous cell of undetermined significance (ASC-US), 11 (0.18%) were low grade squamous intraepithelial lesion (LSIL) and 10 (0.16%) were high grade squamous intraepithelial lesion (HSIL). No invasive cancer case was observed in that study.[17] Khan's study[18] at National Institute of Health, Islamabad, showed 55.31% cases with inflammatory changes, 3.12% cases had dysplastic changes, 1.83% had low grade squamous intraepithelial lesions (LSIL), and 1.29% had high grade squamous intraepithelial lesions (HSIL).

Krivak *et al*[19] in their study found an incidence of intraepithelial lesions of 5–6%. The incidence of ASC, LSIL and HSIL was 50–66%, 1–2% and 0.5–1% respectively. Mehdizadeh *et al*[20], and Allameh[21] found 0.5% and 0.7% incidences respectively. The most acceptable explanation for these differences is different sexual behaviours and socio-cultural status. Thistle *et al*[22] reported an intraepithelial incidence of 15.5% in the rural population of Zimbabwe. It seems that the higher incidence of lesions in their study might be because their study which was limited to women of reproductive age.

CONCLUSION

Pre-malignant lesions of the cervix are common in District Quetta and can be diagnosed early by Pap smears. It is recommended that Pap smear should be done routinely in every sexually active woman at intervals for proper screening as well as treatment of cervical cancer in these particular patients in order to reduce the morbidity of our population.

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