ORIGINAL ARTICLE

Pap Smear Screening Programme for Detection of Abnormal Cervical Cytology

SANIA TANWEER KHATTAK*, IMRAN-UD-DIN KHATTAK**, TABASSUM NAHEED KAUSAR***, *MUKAMIL SHAH*****

ABSTRACT

Aim: To find the presence of cervical cancer in Pap smears taken from women of this region (Malakand division).
Study design: Descriptive, cross-sectional.
Place and duration of study: Study was carried out in the departments of Gynecology and Pathology, Saidu Teaching Hospital, Swat from January 2013 to December 2013.
Methodology: It was hospital based study on patients who attended the Out Patient Department of Saidu Teaching Hospital, Swat. Patients presenting with vaginal discharge, dyspareunia, post-coital bleeding and backache or pain hypogastrium were included. Patients having vaginal bleeding other than post-coital were excluded from the study. The smears were analyzed in Pathology department of Saidu Medical College Swat.
Results: Three hundred and ninety two patients were included in the study. One hundred and sixty nine (43.1%) patients had complaints of vaginal discharge, 43(11%) post-coital bleeding, 133(33.9%) dyspareunia and 47(12%) backache or pain hypogastrium. Regarding contraception, 41(10.5%) patients were pill users, 48 (12.3%) were on inject able contraceptives, 49(12.5%) were using barrier method of contraception, 55(14%) patients were having an intrauterine contraceptive device and 199 (50.8%) patients were not using any method of contraception. Pap smears revealed that 11 (2.8%) patients were having cervical intra-epithelial neoplasia. Among these , 2(18.2%) had intra-uterine contraceptive device, 4(36.4%) were on oral contraceptive pill, while 5(45.5%) were not using any contraceptive method. Two hundred and thirteen (54.3%) patients were having past history of genital infection whereas 179(45.7%) patients had no such history. **Conclusion:** Cervical intra epithelial neoplasia is not uncommon in our set up. It can be diagnosed early by Pap smears.
Key words: Cervical smear, Pap smear, Intra epithelial neoplasia.

INTRODUCTION

Cervical carcinoma is one of the most common gynaecological malignant tumors worlds wide and a leading cause of death from genital malignancies in women[1]. Cervical cytology is a simple, safe, non invasive and an effective means of screening for cervical premalignant and malignant condition.It is unfortunate that such an inexpensive test is not being implemented in a national screening programme in Pakistan[2]. Papanicolaou stained cervical smears (Pap smear) is a simple and highly effective procedure for detection of pre malignant cervical disease[3,4]. It is suggested that an opportunity to take a pap smear should not be missed[5]. Although cytology is a major source for (CIN) detection but recently it has been criticized because of its unacceptably high false negative rates[6]. Cervical smears should be taken in a proper way by an experienced person so as to avoid inadequate material[7]. It is now recommended that all patients with abnormal cytology should undergo further investigations. Preferred terminology recommended by British Society of Clinical Cytology (BSCC) is, CIN of grade I, II, III as a replacement of the previous terminology of mild, moderate and severe dysplasia or carcinoma in situ (CIS).

**Associate.Prof. of Gynae/Obs. Saidu Medical College, Swat, Khyber Pakhtunkhwa*
***Associate.Prof. of Pathology, SMC Swat*
****Consultant Gynae LRH Peshawar*
*****Assistant Professor of Pathology, SMC, Swat.*
Correspondence to: Dr. Sania Tanweer Khattak, Associate Professor. Email: drsaniakhattak@gmail.com

METHODOLOGY

It was a hospital based study on patients who attended the Gynecology OPD, Saidu Teaching Hospital Swat, Pakistan, from January 2013 to December 2013. Patients presenting with complaints of vaginal discharge, backache, pain hypogastrium, dyspareunia and post-coital bleeding were included. Patients having vaginal bleeding, other than post-coital, were excluded from the study. Smears were collected by an Ayre's spatula after exposing the cervix by a Cusco's speculum. The samples collected

were transferred to glass slides. Two slides were prepared for each patient. The slides were fixed by 95% ethanol. Relevant information was obtained from the patient and recorded on a specially designed proforma. The same number was marked on the slides. The slides were then sent to Pathology Department. A cytotechnologist stained the slides with Papanicolaou stain. Each slide was then carefully examined by a cytopathologist. Those slides which were normal or showed inflammatory changes were reported as class-I in Bethesda system of classification. It was clearly specified whether smear was satisfactory or not. Slides showing some abnormal changes in the cellular pattern were further scrutinized by a cytopathologist. He then further classified the slides to different classes as described in Bethesda system of classification.

RESULTS

A total of 392 patients were included in the study. Among these 159(40.6%) were below and 233 (59.4%) above the age of 20 years. One hundred and sixty nine (43.1%) patients had complaints of vaginal discharge, 43(11%) post-coital bleeding, 133 (33.9%) dyspareunia and 47(12%) backache &/or pain hypogastrium.

Table 1: Epidemiological variables in patients with abnormal smears.

Variable	%age
Age	
< 20 years	4(36.4%)
> 20 years	7(63.6%)
Economic group	
< Rs. 3000 / month	4(36.4%)
< Rs. 4500 / month	5(45.5%)
< Rs. 6000 / month	2(18.2%)
Method of contraception	
Intra-uterine device	2(18.2%)
Oral contraceptive pill	4(36.4%)
No Contraception	5(45.5%)
Age at first coitus	
< 20 Years	7(63.6%)
> 20 Years	4(36.4%)
Vaginal discfharge	
Abnormal vaginal discharge	8(72.7%)
No vaginal discharge	3(27.3%)

Regarding contraception, 41(10.5%) patients were pill users, 48(12.3%) were on injectable contra-ceptives, 49(12.5%) were using the barrier method of contraception and 55(14%) patients were using an intrauterine contraceptive device. One hundred and ninety nine (50.8%) patients were not using any method of contraception. Two hundred and thirteen (54.3%) patients were having past history of genital infection whereas 179(45.7%) patients had no such history. Age at first coitus was below 20 years in 315(80.4%) patients whereas it was above 20 years in only 77(19.6%) patients. All the 392 patients belonged to poor socioeconomic class. (Table 1) Results of Pap smears revealed that 11(2.8%) patients were having cervical intra-epithelial neoplasia. (Table 2).

Table 2: Results of papanicolaou stained smears (n=392)

Results of smear	n	%age
Normal	209	53.3
Inflammatory	161	41.1
Viral change HPV+HSV	2	0.5
Dysplasia (I and II)	6	1.5
CIN III	3	0.8
Carcinoma in situ (CIS)	2	0.5
Adenocarcinoma	2	0.5
Atypical squamous cells of undetermined significance (ASCUS)	1	0.3
Atypical glandular cells of undetermined significance (AGUS)	1	0.3
Inadequate specimen	5	1.3

DISCUSSION

In developed countries women having abnormal cytological reports are subjected to colposcopy and cervicography which provide direct visualization of squamo columnar junction with the advantage of direct biopsy from abnormal sites. A combination of colposcopy and cervical smear is likely to improve screening sensitivity[8]. Pap smear screening program should be a well oriented and financially supported program by the government and health care professionals. In our setup common people have scarce knowledge and information about cervical cancer and its risk factors. Majority of women attending Gynecology clinics are illiterate housewives be- longing to poor socioeconomics class. In our study 100% women were from poor socio-economic class. Poor socio-economic status by itself is a risk factor for development of cervical neoplasia[9,10].

The cost of Pap smear in our set up ranges from 250 to 500 Pakistani rupees per test. Unless this facility is financially supported by the government, the screening program will be ineffective. Getting a pap smear done is not a difficult task. An ordinary lady health worker or nurse can be trained to get a pap smear. General practitioners and family physicians should not miss the opportunity to take a pap smear from the patient. In Netherlands, up to 88% patient compliance has been reported when family physicians were involved[1].

Cervical intra-epithelial neoplasia (CIN) was seen in 2.8% of patients; 40% were below the age of 20 years and 60% above the age of 20 in our study.

Rests of the 97.2% smears were either inflammatory or normal 95%. In our study, positive relationship was found in age at first intercourse and incidence of genital infection (48.3%). In our study, 60% patients having CIN lesions had age at first coitus below 20 years. Same relationship was found by Bajwa[11]. Contraceptive use among patients having CIN was 50% and Barrier method users were significantly found to be protected 9.7%. IUCD use does not increase CIN incidence[11].

Hormonal contraceptive had no impact on CIN lesion. As shown in many international studies CIN lesions behave as sexually transmitted disease[12]. History of genital infection was present in 74% of patients having CIN lesions. 61.6% of smears were reported normal in our study as compared to 58% in a study by Zamani[3]. Inflammatory smears were seen in 41% of cases. Viral changes were reported in 0.51% of cases. Dysplastic lesions were found in 2.30% cases among which 1.53% were CIN I and II and 0.77% CIN III. Carcinoma in situ (CIS) was seen in 0.51% and frankly invasive adenocarcinoma in 0.51% patients. Patients with invasive adeno-carcinoma also had abdominal hysterectomy and the diagnosis confirmed by histopathology report. Four smears in the study were reported as unsatisfactory and were repeated and found normal.

CONCLUSION

Cervical intra epithelial neoplasia is not uncommon in our set up. It can be diagnosed early by Pap smears.

REFERENCES

1. Mansoor M, Suleman B, BanoAK, Jaleel S, Mansoor S and Saeed M. Pap Smear Screening in Hospital Based Population. 2006; 45: 66-70
2. Anwar S. Cervical Smear: A Screening test for carcinoma of the cervix. J Coll Physc Surg Pak.1994; 4: 92-7.
3. Zamani N. Management of abnormal cervical cytology. J Coll Physc Surg Pak. 1994; 4: 28-29.
4. Yousaf AW, Yousaf NW. Review of cervical intra epithelial neoplasia (CIN) latest concepts of screening and management protocol. Pak J Obstet Gynaecol 1992; 5: 23-25.
5. Rizvi JH. How to take a Pap smear. JAMA 1989; 142.
6. Koss LG. The papanicolaou test for cervical cancer detection. A triumph and tragedy. JAMA 1989; 261: 737-43.
7. Macgregor JE. What constitutes an adequate cervical smear? Br Obstet gynaecol 1991; 98: 6-7.
8. Giles JA, Hudson E, Crow J, William D, Walker P. Calposcopic assessment of the accuracy of cervical cytology screening. Br Med J 1988; 296:1099-1102.
9. Khan MS, Raja FY, Ishfaq G, Tahir F, Subhan F et al. Pap smear screening for pre cancerous conditions of the cervical cancer. Pak J Med Res 2005; 44: 111-3
10. Palm BT. The effect of the family physician on improving follow up after an abnormal pap smear. Int J Oral Health Care. 1996; 9: 277-82.
11. Bajwa R, et al. Human papilloma virus infection (condyloma), cervical intra-epithelial neoplasia and invasive carcinoma in Lahore. Pak Postgrad Med J 1992; 2-3 (1-4, 1.2): 58-62.
12. Kaplan B, et al. The impact of intra uterine con-traceptive devices on cytological findings from routine Pap smears testing. Eur J Contracept Reprod Health Care 1998; 3: 75-77.