

DETECTION OF ABNORMAL CERVICAL CYTOLOGY BY PAP SMEARS

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ABSTRACT

Background: Cervical intra-epithelial neoplasia and cervical cancer remain important health problems for women worldwide. Cervical cytology by Papanicolaou stained smears is an effective means of screening for cervical pre-malignant and malignant conditions. This study was designed to determine the prevalence of cervical intra epithelial neoplasia in this region and the role of pap smears for its detection.

Material and Methods: It was hospital based study on patients who attended the Out Patient Department of Lady Reading Hospital, Peshawar, Pakistan, from January to September 1997. Patients presenting with vaginal discharge, dyspareunia, post-coital bleeding, backache or pain hypogastrium were included. Patients having vaginal bleeding other than post-coital, were excluded from the study. Relevant information was obtained from the patients and recorded. Samples were collected and transferred to glass slides, fixed and stained by Papanicolaou stain. Each slide was carefully examined.

Results: Three hundred patients were included in this study. One hundred and twenty three (41%) patients had complaints of vaginal discharge, 39 (13%) post-coital bleeding, 108 (36%) dyspareunia and 30 (10%) backache &/or pain hypogastrium. Regarding contraception, 37 (12.33%) patients were pill users, 31 (10.33%) were on injectable contraceptives, 32 (10.67%) were using barrier method of contraception, 34 (11.33%) patients were having an intrauterine contraceptive device and 160 (55.33%) patients were not using any method of contraception.

Pap smears revealed that 8 (2.67%) patients were having cervical intra-epithelial neoplasia. Among these patients, 1 (12%) had intra-uterine contraceptive device, 3 (38%) were on oral contraceptive pill, while 4 (50%) were not using any contraceptive method. One hundred and seventy eight (59.33%) patients were having past history of genital infection where as 128 (42.67%) patients had no such history. Age at first coitus was below 20 years in 268 (89.33%) patients whereas it was above 20 years in only 32 (10.67%) patients. All these patients belonged to poor socio-economic class.

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

Key words: Cervical smear, Papanicolaou stain, Intra epithelial neoplasia.

INTRODUCTION

Cervical intra epithelial neoplasia (CIN) and cervical cancer remain important health problems for women worldwide with high morbidity and mortality for advanced lesions.¹ Cervical cytology is an effective means of screening for cervical pre-malignant and malignant conditions. Papanicolaou stained cervical smears (Pap smear) is a simple and highly effective procedure for detection of pre-malignant cervical disease.^{2,3} It is suggested that an opportunity to take a pap smear should not be missed.⁴ Although cytology is a major source for CIN detection but recently it has been criticized because of its unacceptably high false negative

rates.⁵ Cervical smears should be taken in a proper way by an experienced person so as to avoid an inadequate material.⁶ 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). Co-existing infections may obscure the picture so that the cytologist cannot make a definite diagnosis. In such cases a repeat smear is advisable, preferably after treating the infection.³

The present study was conducted to determine the prevalence of cervical intra epithelial neoplasia in this region and the role of pap smears for its detection.

MATERIAL AND METHODS

It was a hospital based study on patients who attended the Gynaecology Clinic, Lady Reading Hospital, Peshawar, Pakistan, from January 1997 to September 1997.

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 classi-

fied the slides to different classes as described in Bethesda system of classification.

RESULTS

A total of 300 patients were included in the study. Among these 139 (46.33%) were below and 161 (53.67%) above the age of 20 years. One hundred and twenty three (41%) patients had complaints of vaginal discharge, 39 (13%) post coital bleeding, 108 (36%) dyspareunia and 30 (10%) backache &/or pain hypogastrium.

Regarding contraception, 37 (12.33%) patients were pill users, 31 (10.33%) were on injectable contraceptives, 32 (10.67%) were using the barrier method of contraception and 34 (11.33%) patients were wearing an intrauterine contraceptive device. One hundred and sixty six (55.33%) patients were not using any method of contraception.

One hundred and seventy eight (59.33%) patients were having past history of genital infection where as 128 (42.67%) patients had no such history.

Age at first coitus was below 20 years in 268 (89.33%) patients whereas it was above 20 years in only 32 (10.67%) patients. All the 300 patients belonged to poor socio-economic class. (Table-1)

Results of Pap smears revealed that eight (2.67%) patients were having cervical intra-epithelial neoplasia. Rests of the 97.4% smears were either inflammatory or normal 95% (C.I. 28.5–97.7, odd ratio 6.54). (Table-2)

Table-1: Incidence of various epidemiological variables in patients with abnormal smears.

Epidemiological Variables		Number & Percentage
Age	Below 20 years	3 (38%)
	Above 20 years	5 (62%)
Economic group	< Rs. 2000 pm	3 (38%)
	< Rs. 3000 pm	4 (50%)
	< Rs. 3500 pm	1 (12%)
Method of contraception	Intra-uterine contraceptive device	1 (12%)
	Oral contraceptive pill	3 (38%)
	No Contraception	4 (50%)
Age at first coitus	< 20 Years	5 (62%)
	20 – 30 Years	3 (38%)
Vaginal discharge	Abnormal vaginal discharge	6 (75%)
	No abnormal vaginal discharge	2 (25%)

Table-2: Results of Papanicolaou stained smears.

Result of Smear	Number (n = 300)	Percent-
Normal	185	61.6%
Inflammatory	98	32%
Viral change HPV+HSV	1	0.3%
Dysplasia (I and II)	5	1.66%
CIN III	2	0.6%
Carcinoma in situ (CIS)	1	0.3%
Adenocarcinoma	2	0.6%
Atypical squamous cells of undetermined significance (ASCUS)	1	0.3%
Atypical glandular cells of undetermined significance (AGUS)	1	0.3%
Inadequate specimen	4	1.33%

Among these patients, 1 (12%) had intra-uterine contraceptive device, 3 (38%) were on oral contraceptive pill, while 4 (50%) were not using any contraceptive method.

Positive relationship was found in age at first intercourse; 62% patients having CIN lesions had age at first coitus below 20 years. Incidence of genital infection in these patients was 48.3%.

DISCUSSION

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 Gynaecology clinics are illiterate housewives belonging to poor socio-economics 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.⁸

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 upto 88% patient compliance has been reported when family physicians were involved.⁹

Cervical intra-epithelial neoplasia (CIN) was seen in 2.6% of patients; 38% were below the age of 20 years and 62% above the age of 20 in our study. Rests of the 97.4% 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 62% patients having CIN lesions had age at first coitus below 20 years. Same relationship was found by Bajwa.¹⁰ 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 Naheed.² (Table-2)

Inflammatory smears were seen in 32% of cases. Viral changes were reported in 0.4% of cases. Dysplastic lesions were found in 1.76% cases among which 1.60% were CIN I and II and 0.6% CIN III. Carcinoma in situ (CIS) was seen in 0.3% and frankly invasive adenocarcinoma in 0.6% patients. Patients with invasive adenocarcinoma 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.

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