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PAP SMEAR IS A TOOL IN FIGHT: PAP SMEAR AS A SCREENING MODALITY FOR CERVICAL CANCER

Gynaecology

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ABSTRACT

Objective: To investigate the prevalence of abnormal Papanicolou smear collected from cytology laboratory. These samples have been taken from the women who attended the gynecological clinics and opportunistic screening done.

Material and methods:Source of Data: Paper smear collection was done in Kamla Raja Madhav Dispensary OPD, G.R. Medical College & J.A. Group of Hospitals, Gwalior (M.P.).

Methods of collection of Data: A prospective study with study period of 18 months. Sample size was 500 cases who fulfilled selection criteria. Inclusioncriteria:1. Recurrent episodes of white discharge per vagina, 2. Intermenstrual bleeding, post-coital bleeding or post menopausal bleeding, 3. Suspicious looking cervix (leukoplakia, cervical ectopy etc.). Exclusion criteria:1. Pregnant women, 2. Clinically visible growth on cervix, 3. Unmarried

Procedure: Written and informed consent were obtained from all the participants after brief explanation of the procedure.

Results: Maximum cases (65%) were from rural area.Majority of the study group were Para 2 (27%) and para 3 (29%) Severity of cervical lesions increased with higher parity. Mean age of marriage was 17.8(2.4) years. Maximum no. of high grade preinvasive (25%) and invasive lesion (1.2%) were found in women married before18 years. Dysplasia and malignancy were significantly associated with consummation of marriage at early age. Non users of contraceptive were associated with high incidence of high grade preinvasive lesion (32%) & invasive lesion (1.2%). Leucorrhea was the leading clinical complaint (80%) while erosion of cervix was the commonest clinical finding. Overall incidence of CIN (cervical intraepithelial neoplasia) was 44.5%. CIN-I was found in 24%,CIN-II in 14%, CIN-III in 6.5% and invasive carcinoma in 0.8%.

Conclusion: Low educational level and low socioeconomic status leading to poor genital hygiene, marital status and early age of marriage explaining earlier and longer sexual life, high parity with unattended delivery and presence of infection were the main contributing factors for incidence of dysplasia and invasive carcinoma.

KEYWORDS

Pap smear, dysplasia, preinvasive lesions, CIN, carcinoma

INTRODUCTION

A regular screening program is capable of reducing the incidence of invasive cervical cancer. Cancer cervix is the commonest type of malignancy of the female genital tract in India. Cytology is most effective and practical method for cervical cancer screening, as it is simple, relatively inexpensive, reliable, less time consuming and generally applicable. The diagnostic cytology is based on interpretations of cells from the human body that either exfoliate (desquamate) from the epithelial surface or are removed from various tissue sources by various clinical procedures. The best weapon against gynecological cancer is early diagnosis.

The incidence is very high in women from economically backward and populous countries like India where it ranks first among all sites of cancer in female and appears at an early age. The objective of this study was to evaluate different possible high risk factors involved in premalignant and malignant lesions of cervix.

MATERIAL AND METHODS

It is a prospective study done over a period of 18 months. The target population in which the present study was carried out comprised of 500 women of different age, parity, religion, educational & socioeconomic status, who have been attending Madhav dispensary, J. A. Group of Hospitals, for various Gynecological complaints after screening high risk female for cytological diagnosis by proper history taking and examination.

Inclusion criteria:

1. Recurrent episodes of white discharge per vagina
2. Intermenstrual bleeding, post-coital bleeding or post menopausal bleeding
3. Suspicious looking cervix (leukoplakia, cervical ectopy etc.).

Exclusion criteria:

1. Pregnant women
2. Clinically visible growth on cervix
3. Unmarried

Procedure: Written and informed consent were obtained from all the participants after brief explanation of the procedure. Pap smear was taken.

RESULTS

Table 1: Distribution of cases according to Age

Age Group	Number of Cases (n=500)	Percentage
16-24 yrs	42	8.4
25-34 yrs	175	35
35-44 yrs	150	30
44-54 yrs	88	17.6
> 55 yrs	45	9

Table 1 shows that maximum number of cases were found to be in the age group 25-34 years (35%). The mean age was 38 years.

Majority of cases i.e. 325(65%) were from the rural population compared to 175(35%) from urban population

Table 2 : Distribution of cases based on age at first intercourse

Age at first intercourse	Number of cases	Percentage
Less than 20 years	365	73
More than 20 years	135	27

In 73% cases, the age of first intercourse is < 20years. Majority of the study group were Para 2 (27%) and para 3 (29%).

Table 3: Distribution of cases based on contraceptive use

Contraception	Number of cases	Percentage
Non user	290	58
CuT	27	5.4
OCP	25	5.0
Barrier(condom)	68	13.6
Permanent	90	18

In present study 58% cases were not using any method of contraception

Table 4 : Distribution of cases based on symptoms

Symptoms	Number of cases (n=500)	Percentage
Recurrent white discharge	400	80
Pain In Abdomen	92	18.4
Itching In Private Parts	90	18.0
Menstural irregularities	168	33.6
Irregular bleeding(metorrhagia)	120	24
Postcoital bleeding	50	10
Post menopausal bleeding	42	8.4
Backache	15	3.0
Burning micturation	22	4.4
OTHERS	28	5..6

The commonest symptom was recurrent white discharge per vagina (80%) followed by menstrual irregularities in 168 (33.6) of cases. Coital frequency was 5-9 acts per months in 36% cases and 10-14 acts per months in 31% cases.3% cases had multiple sexual partners.

Table 5: Pap smear results

Outcome	Number of cases (n=500)	Percentage
Normal	17	3.4
Inflammatory	300	60
ASCUS	45	9
LSIL	74	14.8
HSIL	63	12.6
Cervical carcinoma in situ	1	0.2

Pap smear revealed that 60% had an inflammatory smear and 27.6% had a positive Pap smear. The result of Pap smear was considered positive if it revealed LSIL, HSIL, carcinoma in situ or invasive cancer. Among 138 positive cases, there were 74 LSIL, 63 HSIL and 1 case of cervical in situ.

DISCUSSION

The incidence of cervical cancer can be reduced by as much as 80% if the quality, coverage and follow- up of screening methods are of high standard.[1] Frequently repeated cytology screening programs have led to a large decline in cervical cancer incidence and mortality in developed countries. Cytology based screening programs have achieved very limited success in developing countries like India due to lack of trained personnel, laboratory facilities, equipments, high cost of services and poor follow-up. It has become necessary to find out alternative screening procedure to cytology which has high sensitivity and specificity.[1]

Age:

In the present study, the maximum number of patients was in the age group of 25-34 years (35%) and mean age was 38 years. The predilection for this group for the squamous intraepithelial lesions has been postulated by Rawson *et al*.[2] Sedlis *et al* stated that the highest rate of dysplasia is found in 20-29 years age group.[3] The mean age of squamous intraepithelial lesion is higher in our study than the mean age in other studies. This may be because the patients in our study usually came for other gynaecological problems at a later age and not specifically for screening.

Parity:

Majority of the study group were Para two (33%) and Para three (34%).

All patients of severe dysplasia were multiparous. It is similar to the findings of Christopherson and Parker.[4] Purandare *et al* in their study found a stepwise chronological progression in severity of epithelial abnormalities increasing with abnormal smear in the years of married life. The number of epithelial abnormalities increased with the parity.[5]

Symptom:

In present study, in all cervical lesions discharge per vaginum was the most common complaint 80%. Menstrual irregularities were found in 33.6% cases. There were 50 case of post coital bleeding and 42 cases of postmenopausal bleeding. In a study by Saminathan *et al* discharges per vagina was the most common complain, yet post menopausal bleeding was the harbinger of malignancy.[6]

Regarding residential status

The incidence of cervical dysplasia was higher in rural population (65%) as compared to the urban population (35%). This is accordance to epidemiological study by Srivastav *et al*, who showed the incidence of cervical cancer and carcinoma in situ in rural population to be higher as compared to urban population.[7] This may be explained by the better accessibility of health services and hence early detection of disease. There is also lack of personal hygiene in setup further contributing to infectious lesions and hence dysplastic changes

Regarding age at Marriage

In our study majority of cases were (49.4%) found in women who had there marriage before 20 years of age. When studied according to the age at first intercourse, majority of cases of dysplasia (50.60%) were found in women who had the first intercourse before 20 years of age.This is comparable with the study of Prabhakar and Menon.[8] In this study most of the case of dysplasia were found in women with early marriage, early childbirth, high parity and multiple sexual partners.

In present study, only 15 (3%) gave history of more than one sexual partners since they were widow and were remarried. 97% of subjects single sexual partner. Odds of having abnormal Pap smear findings among those having multiple sexual partners was high and statistically significant. Similar findings were reported by Liu *et al*, who found that there was a non-linear relation of the number of sexual partners with both non-malignant cervical disease and invasive cervical carcinoma.[9]

Correlation of cytology and colposcopy

In present study comparing the results of cytology with colposcopy for low grade dysplasia; Cytology detected 74 cases of LSIL out of which only 37 (50%) were positive in colposcopy, shows 50% correlation. Whereas colposcopy alone detected 120 cases of CIN 1 of which 83 were negative on cytology.

For high grade lesion- cytology detected 63 cases of HSIL of which 60 were positive on colposcopy, shows 96% correlation. Whereas 112 cases of high grade lesion diagnosed by colposcopy 60 were positive cytology. Guerra *et al* found 97.1% concordance with few false positive (2.5%) and false negatives (0.2%).[10] Abnormal cytology and colposcopy had similar concordance but the risk of underestimation by cytology was significantly higher.

CONCLUSION

Pap smear is a simple method to pick up high grade squamous intraepithelial lesions or early invasive cancer of cervix. Pap smear can be practiced by clinicians or paramedics on wide scale to screen cervical malignancy and precancerous lesions.

Modern colposcopy is an intermediate link between cytology and histopathology. Colposcopy is a highly sensitive tool in the early diagnosis of dysplasia and invasive cancer. Colposcopic guided biopsy is a gold standard for confirmation of diagnosis of CIN. Colposcopic diagnosis of high grade lesion is more spectacular, the only drawback being possibility of over interpretation of low grade lesions which regresses in due course of time with treatment/ observational follow up.

There is high non compliance during follow up, due to maximum patients being from rural area immediate colposcopy with pap smear sampling can solve this problem of poor follow-up non compliances, specially in rural population. It is also recommended, that Combined use of pap smear colposcopy and colposcopic guided biopsy can be the protocol to evaluate all suspicious cervices. Hence "SINGLE VISIT" screen and treat strategy can be cost effective as well as time saver. Which is crucial to bring down the incidence and mortality due to cervical cancer.

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