

Prevalence of Preinvasive Cervical Lesion by Paps Smear - A Tertiary Care Study**Yashodhara Gaur¹, Rothang Puii Sailo², Neha Katare², Garima Yadav^{2*}**¹*Professor OBG, Gajra Raja Medical College, Gwalior, M.P., India*²*Senior Resident, OBG, Gajra Raja Medical College, Gwalior M.P., India***Received: 12-07-2020 / Revised: 03-09-2020 / Accepted: 08-09-2020****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. Study Design: Prospective study B. Study Period: 18 months C. Sample Size: 500 cases who fulfilled selection criteria. 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. **Results:** Mean age of study population was 38 years and most of the patients belonged to age group of 25-34 years(35%). High grade dysplasia was found in age group of >55 years. Population from Low socioeconomic status (60%) had high incidence of high grade pre-invasive (29.8%) and invasive lesions. Majority of population (53%) was illiterate. Dysplasia and malignancy were widely prevalent among illiterate rural population. Maximum cases (65%) were from rural area and 35% belonged to urban area. Maximum no. of women with high grade lesion(21.5%) & invasive cancer (1.2%) 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. Maximum no. of high grade lesion & invasive cancer were found in P4 & P>5. 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 18 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%). Leucorrhoea was the leading clinical complaint (80%) while erosion of cervix was the commonest clinical finding. Overall incidence of CIN 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: Jaundice, viral hepatitis, SGOT, SGPT.

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Introduction

A regular screening program is capable of reducing the incidence of invasive cervical cancer. Cancer is one of the 10 leading causes of death today in India and is also advancing every year[1].

Most commonly involved sites are:- Uterine cervix in women and oropharynx in both sexes[2]. Cancer cervix is the commonest type of malignancy of the female genital tract in India. Among all cancers of females, the cervix uteri are 39 percent. 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

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human body that either exfoliate (desquamate) from the epithelial surface or are removed from various tissue sources by various clinical procedures[3]. Today the foremost field by application of vaginal cytology is in screening for cancer cervix, since it is the site of origin of one of the most common malignant diseases in the female. Patients in our country seek medical advice only after the disease has far advanced. The best weapon against gynecological cancer is early diagnosis[4]. Other environmental variables include race, socioeconomic status, occupational, education and religion. Early marriage and trend towards sexual promiscuity are factors that place groups in to high-risk population. 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.

Objectives

To study different possible high risk factors involved in premalignant and malignant lesions of cervix.

Material and methods

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 Madho dispensary, J. A. Group of Hospitals, for various Gynecological

complaints after screening high risk female for cytological diagnosis by proper history taking and examination.

Patients Selection

It is a prospective study conducted in women in reproductive age group, pre and post menopausal age groups having cancer and precancers lesion [Table 1,2]

Method of taking vaginal smear

For the collection of vaginal secretions various workers have devised different technique and used different instruments. Two methods were commonly performed. aspiration from the posterior fornix Cervical scraped method

Results

This prospective study was carried out in the Department of Obstetrics & Gynaecology, Gajra Raja Medical College, Gwalior over a period of January 2016 to January 2019. The study comprised of 500 patients of reproductive age group and menopausal age group who were attending Madho Dispensary and Kamla Raja Hospital, Gynae Department of various Gynecological Complaints. Cervical Smear was taken from all these cases. Distribution of cases depending on cytology report

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

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

Table 2: Distribution of cases based on residential area

Residential area	Number of cases	Percentage
Rural	325	65
Urban	175	35

As shown in the table in our study majority of cases i.e. 325(65%) were from the rural population compared to 175(35%) from urban population

Table 3: Distribution of cases according to education

Education	Number of cases	Percentage
Illiterate	265	53
5 th Std	128	25.6
10 th Std	67	13.4
Above 12 th Std	40	8.0

It is evident from above table illiteracy were significantly associated maximum number of cases

Table 4: Distribution of cases based on Socioeconomic Status(according to Modified Kuppuswamy Scale)

Socioeconomic Class	Number of cases	Percentage
Upper	20	4.0
Upper Middle	68	13.6
Lower Middle	112	22.4
Upper Lower	179	35.8
Lower	121	24.2

Maximum number of cases were found to be in the Upper Lower (35.8%) Socioeconomic Status as per Modified Kuppuswamy Scale.

Table 5: 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.

Table 6: Distribution of cases based on parity

Parity	Number of cases (n=500)	Percentage
Nullipara	0	0
Para one	33	6.6
Para two	135	27
Para three	145	29
Para four	107	21.4
>Para four	80	16

Majority of the study group were Para 2 (27%) and para 3 (29%).

Table 7: 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 8: 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
Menstrual 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.

Table 9: Distribution of cases based on coital frequency

Mean acts per month	Number of cases	Percentage
< 1	5	1
1-4	125	25
5-9	180	36
10-14	155	31
15-19	30	6
> 19	5	1

Coital frequency was 5-9 acts per months in 36% cases and 10-14 acts per months in 31% cases.

Table 10: Distribution of cases based on Female Sexual Behaviour

Multiple Sexual Partners	Number Of Cases	Percentage
Yes	15	3
No	485	97

In 3% cases had multiple sexual partners.

Table 11: 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.

Cervical lesions

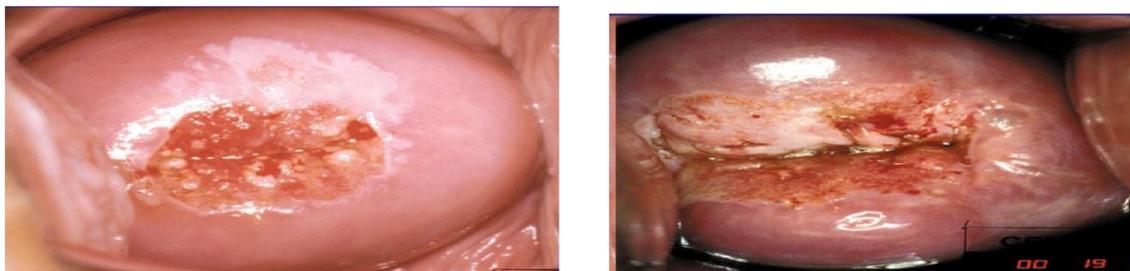


Fig 1: Cervical lesions

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[5]. 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[5]. The present prospective study was carried out at Kamla Raja Hospital, G.R. Medical

College & J.A. Group of Hospitals, Gwalior (M.P) for a period of 18 month from 2017-2019. five hundred cases who fulfilled the selection criteria were recruited for the study.

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 1957[6]. Sedlis et al (1979), stated that the highest rate of dysplasia is found in 20-29 years age group[7]. In a study by Deshpande Sonali et al, mean age of the study group was 36.5 years with a range of 21-63 years[8]. 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.

Table 12: Comparison of age predilection for CIN in various studies

S. No.	Studies	Age (yrs)
1.	Rawson et al[6]	30-40
2.	Sedlis et al[7]	20-29
3.	Deshpande et al[8]	30-40
4.	Our Study	25-34

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 1960[9]**.

Maliphant (1949), stressed the increasing risk of malignancy with each pregnancy. He found that the risk of malignancy in married women with children was twice as compared to the married women without children and it was ten times more when an unmarried women were taken into consideration[10].

Purandare et al (1977) 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[11]. Juneja et al in 1993, did a study concluding that the rate of malignancy was higher in women above 40 years and those with 2 children or more[12]. Sujathan et al concluded the those subjects with a parity of more than 3 and a marital life of more than 20 years had a significantly higher number of cytological abnormalities[13].

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 our study, the commonest symptom was recurrent white discharge per vagina (80%) similar to study done by Deshpande Sonali et al (85%)[8]. In the study by Swaminathan et al (1994) discharges per vagina was the most common complain, yet post menopausal

bleeding was the harbinger of malignancy. Similarly in the JIPMER 2000) presenting complaint was leucorrhea in 50% cases[14,15]. In the the Patiala study by Ashi R Shareen (2001) leucorrhea as the commonest overall complaint. Observation made by other authors as shown in table[16]:

Influence of Socioeconomic Status on Cervical Lesion

Maximum number of cases were found to be in the upper lower (35.8%) Socioeconomic Status as per Modified Kuppaswamy Scale. In present study there was significant association between low socioeconomic status and incidence of dysplasia and invasive cancer. 60% of diseased population was in low socioeconomic status. In the Patiala study by **Ashi R Sareen (2001)** more than 80% of diseased population belonged to low socioeconomic status[16]. Even in the study conducted by on 'Correlation between colposcopy, cytology and histology in cervical lesion'. Majority (60%) of study group comprised of low SES. In a study on detection of pathogenic organism in chronic cervicitis by clinicopathology 50% of cases belonged to low SES. There are consistent evidences from controlled studies that of cancer is higher in women of low SES.

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 practised 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 peps 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 cervixes. 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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