

**PAPANICOLAOU (PAP) SMEAR: CERVICAL SCREENING IN TERTIARY CARE HOSPITAL IN SURAT, GUJARAT.**

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ABSTRACT **Objective:** To Study the role of Pap smear in detecting neoplastic and non-neoplastic lesions of cervix. **Methods:** This is prospective study of 300 women with age group 20 to 70 years was carried out from January 2025 to March 2025 cytology section of pathology department, SMIMER Hospital, Surat, India. Pap smears were prepared, fixed, stained and carefully examined. **Results:** In this study, Negative Intraepithelial Lesion was the most common with 146 cases (48.66%) followed by Reactive Cellular changes with 96 cases (32%), then Atrophy with 28 cases (9.33%), Low-grade squamous intraepithelial lesions with 7 cases (2.3%), High grade squamous intraepithelial lesions with 4 cases (1.3%). The average age of women for all the epithelial abnormalities were more than 40 years. **Conclusion:** This study will increase awareness of the Pap test and cervical cancer thereby paving a way for the prevention of Cervical Cancer.

KEYWORDS : Cervical Cytology, Cervical Carcinoma

INTRODUCTION:

In India, cervical cancer is the most common woman-related cancer, killing 1 woman every 8 minutes. According to a recent study the burden of cancer of the cervix is increasing in India.

The Papanicolaou cervical cytology test is capable of detecting cervical cancer at an early stage and is used widely in developed countries, where it has decreased both the incidence and mortality of cervical cancer.¹⁻³ Even today, many developing countries lack the facility to carry out widespread Pap screening.⁴

Histopathological examination is the gold standard. This correlation is also useful for continuous quality improvement and better management system which is must for many cytological laboratories that apply the Bethesda system in their diagnosis.⁵⁻⁶

AIM AND OBJECTIVE:

To Study the role of Pap smear in detecting neoplastic and non-neoplastic lesions of cervix in various age groups to see the spectrum of lesions in female patients.

MATERIAL & METHODS:

Study Setting: The Study was conducted at SMIMER, Surat, Gujarat.

Study Design: Prospective Observational Study

The present study is prospective study and carried out in the duration of January 2025 to March 2025 Pap smear of total 300 women with age ranges from 20 -70 years during routine Cytological screening at Gynaecology OPD in SMIMER, Surat, India were taken. A detailed clinical history was taken in each case and prior to bimanual examination; a scrape smear was taken from the squamocolumnar junction of the cervix with the help of Ayre's spatula and immediately fixed in absolute alcohol. The smears were stained with Papanicolaou technique and cytologically graded according to the Bethesda system of classification of 2014^[6].

The epithelial cell abnormalities particularly the squamous epithelial abnormality has been categorized into atypical squamous cells (ASC) including ASC of undetermined significance (ASC-US) and ASC cannot exclude high grade squamous intraepithelial lesions (ASC-H) and squamous intraepithelial lesion (SIL). SIL was again subdivided into low-grade squamous intraepithelial lesion (LSIL) and high-grade squamous intraepithelial lesion (HSIL). Frank invasive malignancy was termed as squamous cell carcinoma. Suspected cases were counselled and were advised to undergo colposcopic examination and biopsy for histopathological examination.

Four different types of STDs were also investigated into these smears namely Trichomonas vaginalis, Candida albicans, Herpes simplex and HPV infection.

Inclusion Criteria:

All female came for Pap smear test were included in the study irrespective of presence of co-morbid medical illnesses like diabetes mellitus, hypertension, thyroid disease, renal conditions, etc. Those who presented with excessive white discharge per vaginum, bleeding per vaginum, irregular menstruation, pelvic pain and dyspareunia were considered as symptomatic.

Exclusion Criteria:

Pregnant women and hysterectomy women were excluded from study.

Before taking the Pap smear we ensured that the patient was not menstruating.

RESULTS:

The chief complaints of the women were vaginal discharge followed by pain in abdomen, intermenstrual bleeding, post coital bleeding and others.

Table 1: Age- Wise Distribution Of Total Number Patients

Age (in years)	No. of cases	Percentage (%)
20-29	35	11.7
30-39	106	35.3
40-49	102	34
50 or >	57	19
Total	300	100

A total of 300 cases were analyzed for above mentioned period. The age of women range from 20 to 70 years with an average age of more than 40 years.

The most of the women who were attended were in age group of 30 - 39 years

Table 2: Finding Of Pap Smear Cytology.

Sr. NO	Diagnosis	No.	%
1	Unsatisfactory for Evaluation (U E)	16	5.3
2	Negative for Intraepithelial Lesion/Malignancy (NILM)	146	48.7
3	Reactive cellular changes	96	32
4	Atrophic Smear	28	9.3
5	ASCUS	3	1
6	Low grade Squamous Intraepithelial lesion (LSIL)	7	2.3
7	High grade Squamous Intraepithelial Lesion (HSIL)	4	1.3
8	Squamous Cell Carcinoma	0	0
9	AGUS	0	0
Total		300	100

In Pap Smear examined-16 (5.3%) smears were found to be unsatisfactory for evaluation. The negative for intraepithelial lesion were 146 cases (48.66%), reactive cellular changes associated with inflammation 96 cases (32%) and Atrophic changes 28 cases (9.33%). In Epithelial Cell Abnormalities: ASCUS was 3 cases (1%), LSIL 7 cases (2.3%), HSIL 4 cases (1.3%). (Table 2).

Table 3: Age Wise Finding Of Pap Smear Cytology.

Age (in years)	UE	NILM	Reactive	Atrophic	ASCUS	LSIL	HSIL	SCC	No. Of cases %
20-29	3	22	10	0	0	0	0	0	35 (11.7%)
30-39	3	42	56	4	0	1	0	0	106 (35.3%)
40-49	6	53	27	9	1	4	2	0	102 (34%)
50 or >	4	29	3	15	2	2	2	0	57 (19%)
Total	16	146	96	28	3	7	4	0	300 (100%)

The average age of women for all the epithelial abnormalities was 40 years.(Table 3)

Table 4: Colposcopy Biopsy For Confirmation.

PAP report	No Of case	Histopathological diagnosis
LSIL	7	Mild Dysplasia CIN I
HSIL	4	Severe Dysplasia CIN III

The cases which were diagnosed on smear as epithelial cell abnormalities were followed and colposcopy biopsy was done and the final histopathology biopsy was done showing that all 7 cases of LSIL were given CIN I and all 4 cases of HSIL were given as CIN III in histopathology.

Microscopy In Pap Smear:

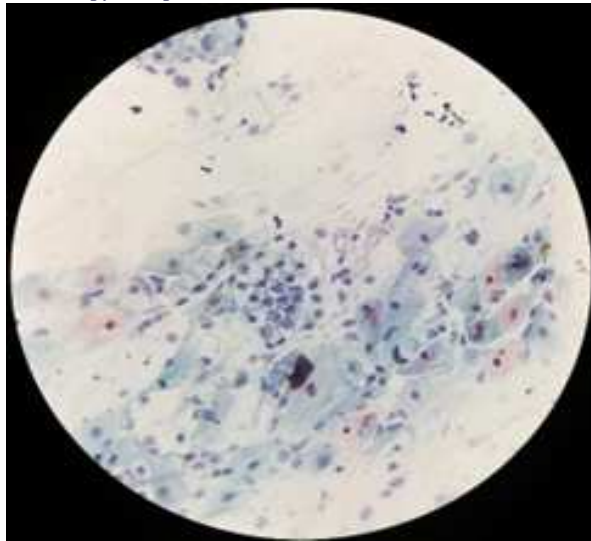


Figure 1: Reactive Changes In Pap Smear

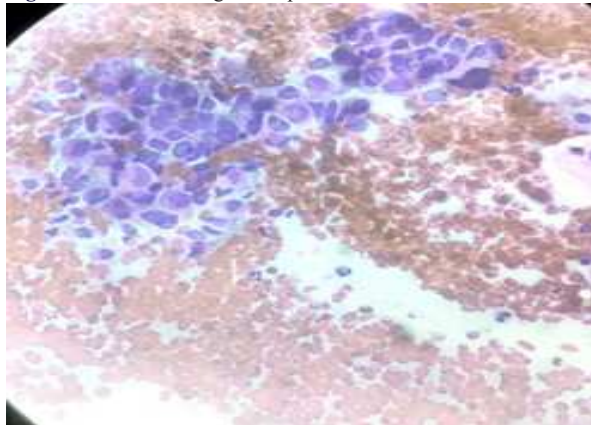


Figure 2: Atypical Squamous Cells Of Undetermined Significance

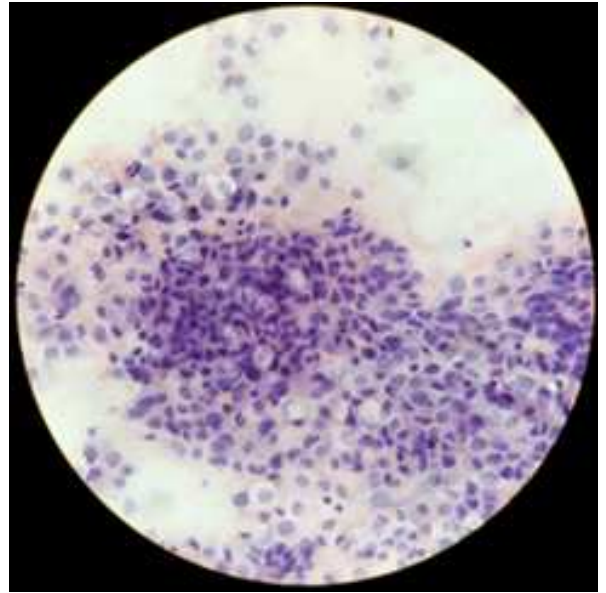


Figure 3: High Grade Squamous Intraepithelial Lesion

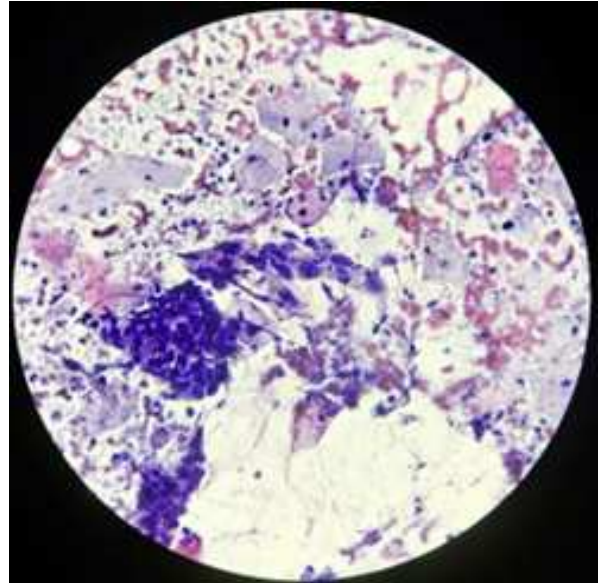


Figure 4: Squamous Cell Carcinoma

DISCUSSION

The results of present study and their correlation with other workers are discussed below in following Table 5. Our study was in concordance with study performed by Sachan lata et al⁷ And Malay Bajpai et al⁸ (Majority of cases were in age group of 30-39 years)

Age (in years)	Sachan et al ⁷ (n=806)	Malay Bajpai et al ⁸ (n=300)	Present Study SMIMER (n=300)
20-29	210	111	35
30-39	291	103	106
40-49	151	-	102
50 or >	154	86	57
Total	806	300	300

In the present study, Reactive cellular changes are reported more in age groups of 30 -39 years while Negative for Intraepithelial lesions are seen more in age group of 40 – 49 years.

LSIL and HSIL are seen more in age group of more than 40 years.

CONCLUSIONS:

Cervical cancer is the most common malignancy in women in developing country like India. Pap test is a cheap, safe and practical diagnostic tool for early detection of cervical lesions in high risk group, so it should be established routine screening procedure. This study emphasizes the importance of Pap smears for early detection of Premalignant and Malignant lesions of Cervix.

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