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CYTOMORPHOLOGICAL EVALUATION OF PAP SMEAR IN HIV POSITIVE PATIENTS IN A TERTIARY CARE HOSPITAL

Pathology

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KEYWORDS

INTRODUCTION

HIV positive women are more likely to have cervical dysplasia than HIV negative women. Incidence of Human Papilloma Virus (HPV) related dysplasia increases as immune function declines. [1] Patients with HIV are more likely to have persistent HPV infection with one or more oncogenic HPV subtypes which is a major factor in the pathogenesis of premalignant and malignant cervical disease. [2]

Pap smear examination is a simple, cheap, safe diagnostic tool for early detection of cervical cancer, that is to detect the presence of abnormal, atypical cells. Pap smear also initiates the immunological clearance of HPV, thereby it helps to decrease morbidity and mortality due to cervical cancer in HIV-positive females. [3]

METHODS AND METHODOLOGY

This is a hospital based cross sectional study done in a tertiary care hospital. A total of 100 cervical smears were obtained from HIV positive patients and received in our department, Department of Pathology, Gauhati Medical College and Hospital. The smears were stained with Papanicolaou stain and evaluated under the microscope. The data collected were tabulated and analysed. The data were then categorised as per the Bethesda System and correlated with the immune status of the patients, CD4 counts.

RESULTS

The result and observation are as follows:

Table 1: Age wise distribution of cases

Age	No of cases	Percentage
≤30	29	29%
31-50	55	55%
51-70	16	16%
Total (n=100)	100	

The age group (31-50) years had the maximum number of cases (55%) followed by the age group ≤30 years.

Table 2: Distribution of cases with respect to presenting complaints

Presenting complaint	No of cases	Percentage
Asymptomatic	68	68%
Discharge per vagina	16	16%
Post coital bleeding	2	2%
Irregular bleeding per vagina	4	4%
Pruritus	1	1%
Pain abdomen	9	9%

Maximum number of patients (68%) in the study were asymptomatic followed by patients presenting with discharge per vagina.

Table 3: Distribution of cases with respect to per speculum examination findings

Per speculum examination	No of cases	Percentage
Normal cervix	74	74%
Erosion	21	21%
Bleeds on touch	5	5%
Growth	0	0%

The most common finding on per speculum examination is normal finding followed by erosion

Table 4: Distribution of cases with respect to PAP smear findings

Sl no	Categories		No of cases	Percentage
1	Negative for inflammation or malignancy (NILM)		79	79%
	A.	No inflammation	28	
	B.	Inflammation	47	
	C.	Inflammation with organism	4	
2	Atypical squamous cells of undetermined significance (ASCUS)		14	14%
3	Low grade squamous intraepithelial lesion (LSIL)		3	3%
4	High grade squamous intraepithelial lesion (HSIL)		2	2%
5	Squamous Cell Carcinoma (SCC)		0	0%
6	Inadequate Smear		2	2%

The most common PAP smear finding was NILM (79%) followed by ASCUS (14%)

Table 5: Distribution of cases with respect to CD4 counts

Cd4 counts	No of cases	Percentage
<200 cells/cumm	13	13%
200-500 cells/cumm	42	42%
>500 cells/cumm	45	45%

Maximum number of patients had CD4 counts >500cells/cumm

Table 6: Correlation between PAP smear findings and CD4 cell counts

Pap smear findings	CD4 cell counts		
	<200 cells/cumm	200-500 cells/cumm	>500 cells/cumm
Normal	1	9	18
Inflammation	2	26	23
ASCUS	7	5	2
LSIL	1	2	0
HSIL	2	0	0

Table 7: Correlation between PAP smear and Highly active antiretroviral therapy (HAART)

PAP smear findings	Cases on HAART	Cases not on HAART
Normal	18	61
Epithelial abnormality	6	13
Total	24	74

Table 8: Age wise distribution of cases with respect to epithelial abnormalities

Epithelial abnormality	Age distribution		
	≤ 30yrs	31-45yrs	46-65yrs
ASCUS	3	8	3
LSIL	0	1	2
HSIL	0	1	1
IC	0	0	0

Table 9: Age wise distribution of cases with relation to PAP smear findings

Pap smear findings	Age groups

	≤30 years	31-50 years	51-70 years
Epithelial anbormality	3	10	6
NILM	6	21	1
Inflammatory	18	23	9
Inadequate	2	0	0

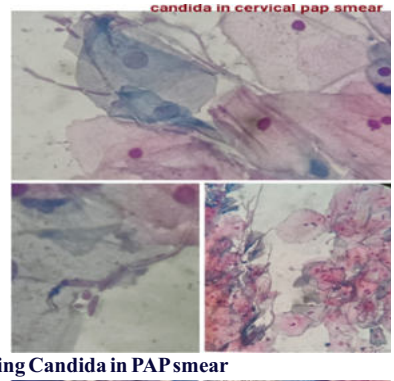


Fig: showing Candida in PAP smear

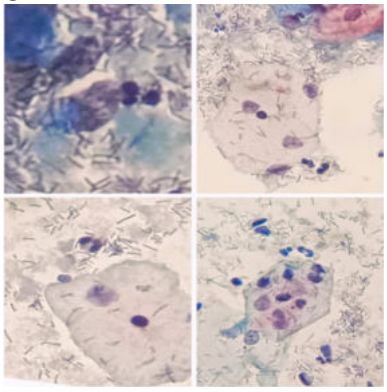


Fig: showing Trichomonas vaginalis in PAP smear

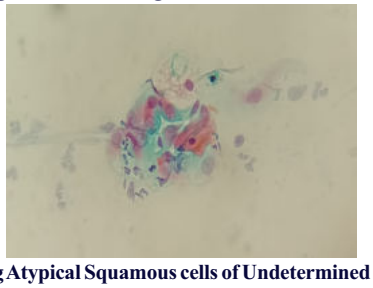


Fig: showing Atypical Squamous cells of Undetermined Significance (ASCUS)

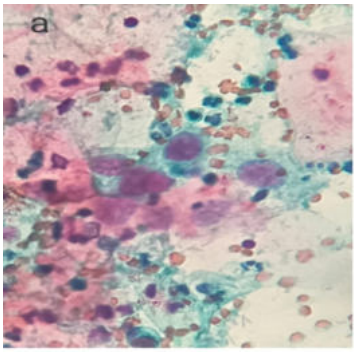
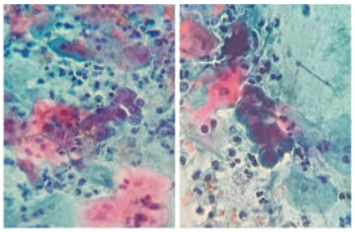


Fig: showing Low grade Squamous Intraepithelial Lesion (LSIL)



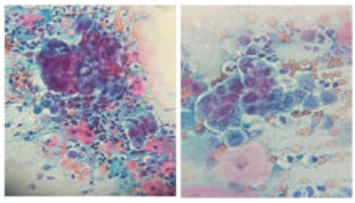


Fig: showing High grade Squamous Intraepithelial Lesion (HSIL)

DISCUSSION

Maximum number of cases belonged to the age group of 31-50 years. Most of the patients were asymptomatic and most patients showed normal cervix on per speculum examination. NILM was the most common finding (79%) which is consistent with the study done by Apeksha Madan et al. [3]

The percentage of ASCUS, HSIL, LSIL were 14%, 2% and 3% respectively which is consistent with the study done by Apeksha Madan et al. [3] The highest incidence of intraepithelial lesion in HIV positive patients was in the age group of 31-50 years which was statistically significant, $p<0.01$. This finding is consistent with the study done by Gupta K et al. [4]

The most common PAP smear finding in patients with CD4 counts >500cells/mm^3 was inflammatory smear (48%) which was statistically highly significant, $p<0.0001$.

CONCLUSION

Routine PAP smear examination is advocated in HIV positive patients as it helps in early detection of precancerous lesions. Thus early diagnosis and intervention helps in prevention of malignancy and mortality in HIV positive patients.

REFERENCES

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2. William R Robinson, "Screening for cervical cancer in patients with HIV infection and other immunocompromised states".
3. Apeksha Madan et al, "A Study of Pap Smear in HIV-Positive Females".
4. Gupta K et al, "A Study of Pap Smears in HIV-Positive and HIV-Negative Women from a Tertiary Care Center in South India".