Research Paper

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A Comparative Study of Pap Smear Abnormalities in Hiv Sero-Positive And Normal Women in North Coastal Ap

Medical Science

KEYWORDS : HIV sero positivity,PLWHA, Bethesda system, HAART, PAP smear, cervical cytology abnormalities.

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ABSTRACT

Background :

Cancer of cervix is the most common genital malignancy in women worldwide [1]. Though cervix is an easily accessible organ for examination and the disease has a prolonged latency period between HPV infection and invasive cancer, the incidence is increasing. The burden of invasive cancer cervix in India accounts for 25%of the global incidence.Screening for cancer cervix is becoming the need of the country's health policy and should be taken up as a part of family welfare programmes.

HIV /AIDS is a global pandemic with India in second position worldwide in having maximum number of people living with HIV and AIDS. [2]. 50% of people living with HIV and AIDS are women in their reproductive age . HIV/AIDS is an important risk factor for cancer cervix. The human papilloma virus and its association with pre-malignant and malignant disease of cervix is now well established. The cross linkage of HPV and HIV organisms is well hypothesized and researched. Therefore HIV seropositive cases stand vulnerable to HPV induced invasive cancers of cervix.

PAP smear screening is most successful method of cancer screening. It can detect > than 98 % cases of cancer cervix in their premalignant stage. [3]. ACOG and FOGSI recommends annual screening for all women in their reproductive age (15-44) to undergo PAP smear screening for minimum 3 times. This statement applies more so for HIV/AIDS women.

In this background, the study has undertaken in north coastal AP district Visakhapatnam, which has high prevalence of HIV.

AIMS & OBJECTIVES :

This is a cross -sectional comparative cohort study to assess the prevalence of PAP smear abnormalities in normal population and in female people living with HIV and AIDS (PLWHA). 50 women with HIV sero positivity were enrolled for PAP smear examination and the slides were studied by cyto pathology team. The results were compared another group of healthy women for whom PAP smears were taken in a screening camp. The scoring and abnormalities on PAP smears were reported as per modified Bethesda system. The results were analysed and tabulated. The prevalence of PAP smear abnormalities was found to be 18% which is 2.6 fold increased risk as compared to general population. Our study also showed an increased incidence of AGUS and ASCUS abnormalities higher in the study group. Age, CD4 count,HAART treatment status were also influencing the cytological abnormalities.

Thus this study highlights the need for periodic examination of HIV sero positive women for screening with PAP smear examination since they comprise a high risk population for invasive cervical cancers.

Materials and methods:

This is a cross- sectional study in 50 HIV/AIDS women who attended gynaecology OPD, ART centre and STD OP at KING GEORGE HOSPITAL, Visakhapatnam, from Jan 2015 to March 2015. All the recruited cases were already diagnosed cases of HIV and on regular follow up at ART centre, KGH , Visakhapatnam.The women were counselled and after taking the informed consent, the study was undertaken.

Detailed socio-demographic data, history, relevant clinical details,their CD4 count status, ART status were collected. PAP smears taken as per the conventional technique. The slides were immediately fixed in 95% ethyl alcohol solution and air dried.The slides were stained with Papanicolaou stain and cytological features were reported by the Department of pathology, Andhra Medical College, Visakhapatnam in accordance to modified Bethesda system.

The people living with HIV and AIDS who are grossly sick and already known cases of cancer cervix; were excluded from our study.An equal no. of reports of PAP smears collected from a normal healthy population at a cancer screening camp at suburban of Visakhapatnam city were used for comparing the results.

Results :

The scoring and abnormalities of pap smears were reported as per modified Bethesda system.

Conclusion:

Thus this study highlights the need for periodic examination of HIV sero positive women for screening with PAP smear examination since they comprise a high risk population for invasive cervical cancers.

Table - 1

Results and observations:

S.No.	Parameters	Cases		Controls	
		No.	%	No.	%
1	Average age	34		42	
2	duration and disease				
	< 5years	35	70		

	>5 years	15	30		
3	**CD4 count**				
	< 250	20	40		
	>250	30	60		
4	**HAART status**				
	yes	**20**	40		
	no	**30**	60		
5	**clinical history :**				
	positive leucorrhoea	20	40	2	4
	cervix morphology				
	Healthy	30	60	48	96
	Un healthy	20	40	2	4
	Suspicious of malignancy and bleed on touch	1	2	1	2
	Erosion	19	38	2	4

Table – 2 PAP smear results:

S.No.	Parameters	Cases		Controls	
		No.	%	No.	%
1	**NIL M**	**17**	**34%**	**36**	**72%**
2	**inflammatory**	**24**	**48%**	**10**	**20%**
3	**LSIL**	**4**	**8%**	**3**	**6%**
4	**HSIL**	**1**	**2%**	**1**	**2%**
5	**ASCUS**	**4**	**8%**	-	-
6	**AGUS**	-	-	-	-

Discussion:-

Out of the 50 women enrolled in the study group only 34 % showed normal cytology as compared to 72 % in the healthy population. This is almost 2.6 fold increase in abnormal PAP smear cytology reports in seropositive women.

Among the abnormal reports inflammatory smear was seen in 46% as compared to 20% in healthy women showing seropositivity is independent risk factor for infections and inflammations of the cervical tissues.

Among the cytological abnormalities LSIL accounts for 8%, HSIL 2%, in the study group vs 6% and 2 % respectively in the control group.

Since our study group is small statistical significance of these figures cannot be derived for conclusion.

In the table I which analyses the socio demographic data, duration of the disease, clinical findings and immunological status of the women showed that HIV sero positivity in north costal Andhra Pradesh is seen at relatively younger age (average years 32 yrs). Most of the women enrolled in the study group have the disease for more than 5 years (50%) and similarly the CD4count were low in 40% of the study and all of them were on HAART treatment in ART centre attached to KGH, Visakhapatnam.

The prevalence of abnormal Pap smears from our study was found to be 18 %, which is a 2.25 fold increased risk as compared to the general population [4]. Studies from South Africa [5], Argentina [6], and Thailand [7] have reported a threefold to sevenfold increased risk of cervical cytological abnormalities in this group of women.

Prabha Devi et all showed a prevalence of abnormal pap smears from their study from Krishna dist, Andhra Pradesh at 7.17 %. [3].

Analysis of abnormal Pap smears showed that inflammatory smears accounted for the majority, i.e., 48 %, of cases, which is similar to other studies. LSIL lesions accounted for 8 % which is significantly higher than the 1.6-2.4 % reported in the literature from population based surveys [4]. HSIL reported from our study is 2 % which is comparable to other studies [5,6]. Gaym et al. [5] reported to have observed these lesions in women younger than 30 years, but in our study these lesions occurred at the usual age distribution for high grade lesions (around 35-40 years of age). The prevalence of ASCUS in our study was 8 % (2cases).

No case of invasive cervical cancer has been reported from our study, though studies [6, 7] have reported it at a rate of 0.2 - 0.4 %.

Worth noting is an important quality limiting factor when Pap smears are collected using the Ayre's spatula viz. a limited number of endocer-vical cells are collected.

The incidence of unhealthy cervix is thrice fold increased in study group as compared to normal population.

Few peculiar features of HPV infections in HIV positive women

1. HPV is more common in HIV

2. HPV is more persistent and progressive in HIV

3. Multiple and multifocal HPV in HIV

4. 9 times more common incidence of cancer cervix in HIV

5. Cancer cervix is AIDS defining entity

6. Cervical dysplasia is B condition

Pap smear screening in HIV positive women is a must and to be done immediately after diagnosis and annually there of until any abnormality is detected, as per CDC guidelines. (10, 13)

Role for HPV testing in women with HIV.

Increase interval for testing•

HPV Vaccine efficacy data in women with HIv•

New HPV vaccine 9 valent predicted to cover 85% of HPV infections (current 70%).

More specific HPV tests for infection (DNA methylation).

Annual Pap guidelines (12).

Women with HIV, CIN3 likely candidates for screening.

Better financial coverage for HPV co-testing.

Again not currently recommended in HIV.

Abnormal cervical cytology is more common among HIV-infected women (12)

Conclusion

Early diagnosis and treatment can be achieved only by routine

screening, ideally as part of primary care.

Complete pelvic exam needed to evaluate for uterine, vaginal,and vulvar

abnormalities, as well as vaginitis, condyloma HSV and other STDs.

At this time, annual Pap smears are the standard of care.

Role of HPV testing is limited in women with HIV.

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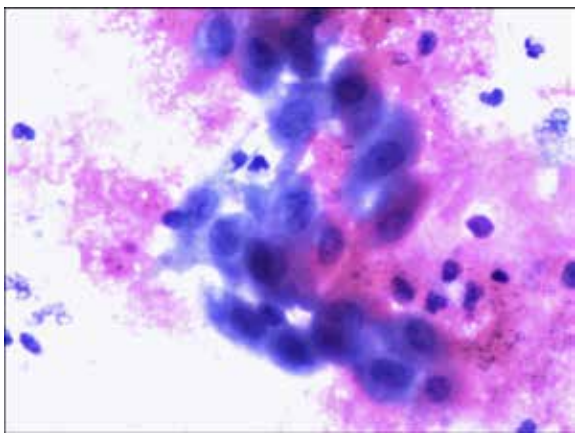
Triage of women with ASCUS.

Follow-up after colposcopy.

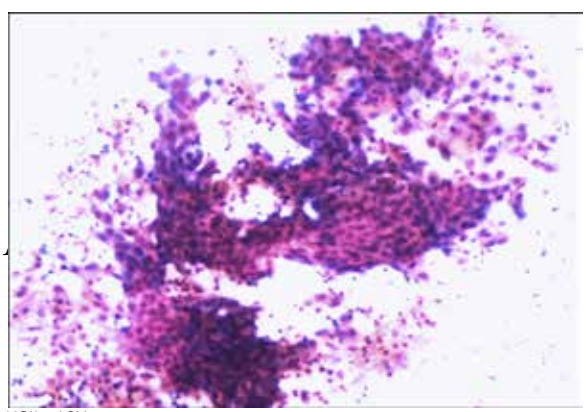
Be aware of and address cultural/individual factors that may be

interfering with screening (9).

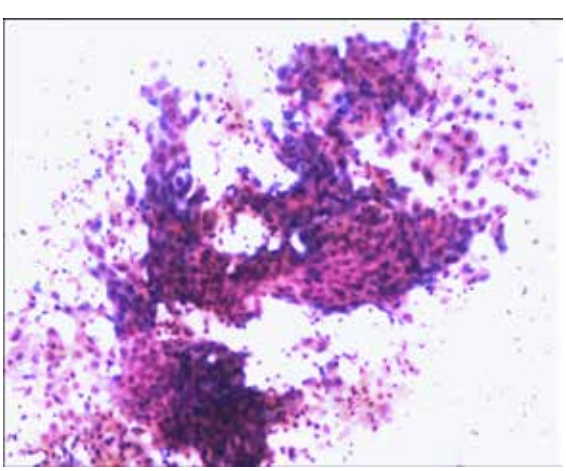
Refer to colposcopy for results of ASCUS (+/- HPV?) or worse (8, 11).



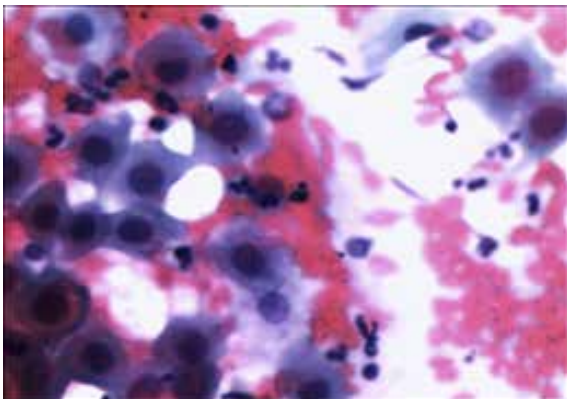
ASCUS 40X
sheets of pleiomorphic cells with high n/c ratio

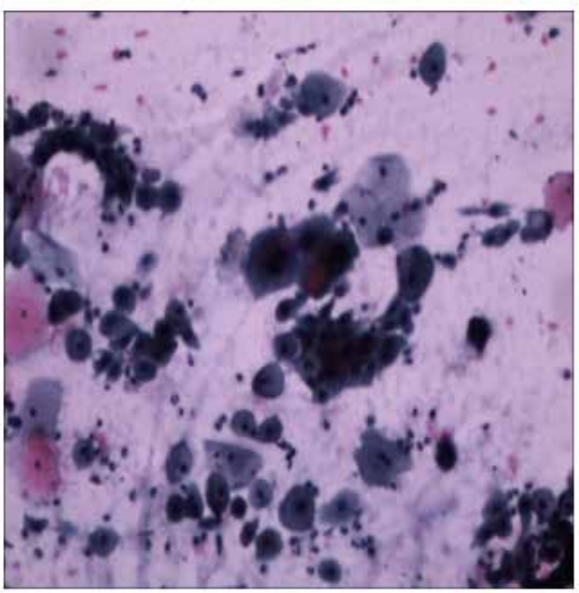


HSIL 10X
Sheets of malignant squamous cell

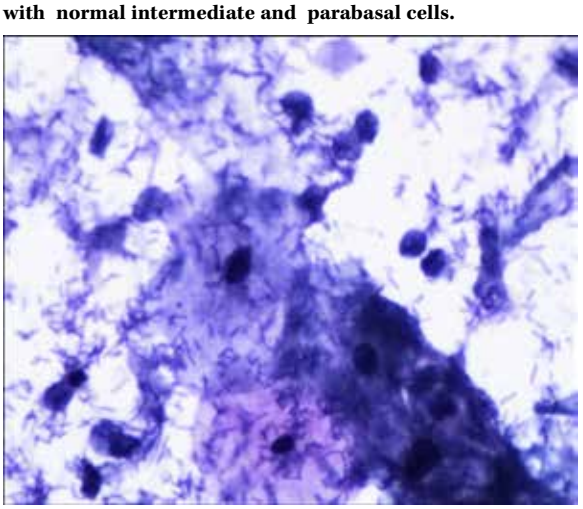


HSIL 10X
Sheets of malignant squamous cells





Isil 40x
Few cells with pleiomorphichy perchromatic nucleus along with normal intermediate and parabasal cells.



NILM 40X
Inflammatory smear with bacterial vaginosis

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