



Cervical cytological abnormalities in HIV positive women in the HAART era

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Background

BHIVA and NHS Cervical screening programme (NHSCSP) recommend annual cervical cytology for all HIV-positive women. Previous studies have shown that the rates of progression of cervical intra-epithelial neoplasia (CIN) are higher and spontaneous regression lower in significantly immunosuppressed women^{1,2}. There is limited research specifically examining the association between cervical cytology and CD4 counts. This study aims to explore the correlation between CD4 counts and CIN by undertaking a retrospective review of case notes, the HIV databases, and cytology databases across two Genitourinary medicine clinic sites. It also aims to evaluate whether improvement in the CD4 count affects the outcome of CIN. In doing so, it will evaluate the need and cost-effectiveness of annual cervical cytology in HIV positive patients who are stable on HAART with high CD4 counts.

Methods

Eligible subjects were HIV positive female patients between the ages of 20 and 60 who had attended the HIV clinic at two genitourinary medicine clinic sites between December 2010 and December 2011. 100 patients who fulfilled the above criteria were selected from each site. A retrospective review of their case notes and the HIV and cytology databases was performed to identify the presence of cervical intraepithelial neoplasia at any time from their diagnosis with HIV. Corresponding CD4 cell counts, viral loads and length of time on HAART were also elicited.

Results

Table 1. Demographics

	Clinic A	Clinic B	Total
ETHNICITY			
- Black African/ Caribbean	80	97	177
- White British	6	2	8
- Asian	3	0	3
- Other	11	1	12
AGE			
- 20-39	60	50	110
- 40-55	38	49	87
- 55-60	2	1	3
HAART STATUS			
- On HAART	67	82	149
- Not on HAART	33	18	51
CD4 COUNT AT LATEST SMEAR			
- ≤ 350	20	19	39
- >350	80	81	161

Table 2 Breakdown of abnormal cytology results in all patients with CD4>350 cells/μl (n=161)

Cytology result	No.	%	(95%CI)
Mild	4	2.5	(0.09-4.91)
Moderate	0	0	
Severe	1	0.6	(-0.59-1.79)
Borderline	6	3.7	(0.78-6.62)
Carcinoma	0	0	
Total abnormal	11	6.8	(2.91-10.69)

Table 3. Breakdown of abnormal cytology in all patients with CD4 ≤350 cells/ μl at most recent cervical screen (n=39)

	No.	%	(95% CI)
Mild	10	25.6	(11.9-39.3)
Moderate	3	7.7	(-0.67-16.07)
Severe	1	2.6	(-2.39-7.59)
Borderline	2	5.1	(-1.8-12.0)
Cancer	1 (CD4=31)	2.6	(-2.39-7.59)
Total Abnormal	17	43.6	

Table 4. National results of adequate tests for women aged 25-64³

Result	2009-10 (%)	2010-11 (%)
Negative	92.8	93.4
Borderline changes	3.7	3.5
Mild dyskaryosis	2.1	1.9
Moderate dyskaryosis	0.6	0.5
Severe dyskaryosis	0.7	0.6
Severe dyskaryosis/ Invasive carcinoma	0.0	0.0
Glandular neoplasia	0.1	0.0
Total abnormal	7.2	6.6

Rates of regression of CIN linked to CD4 not HAART

On analysis 80/200 of the patients had had an abnormal smear in the past. 86% of those on HAART had experienced regression of their cervical intra-epithelial neoplasia. 16 of the 80 patients remain off HAART. 81% of them have experienced regression of their lesions while 19% have experienced progression. Of the 16 patients not on HAART, 12 of them have CD4 counts of >350.

Discussion

The prevalence of abnormal cervical cytology in HIV positive women with CD4>350 is in line with the national average of 6.6% (2010-2011). Most of the abnormal cytology was seen in women with CD4 counts of ≤350 (43.6%). We propose that annual cervical screening may not be necessary for HIV positive women who are established on HAART with CD4 counts of >350. However more work is needed to support this.

References

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