

# Is it time to review the recommended intervals of cervical cytology in women living with HIV (WLHIV)?

M Itty Samuel<sup>1</sup>, Kate Flanagan<sup>1</sup>, Lisa Hamzah<sup>1</sup>, Alejandra Castanon<sup>2</sup>, Verity Sullivan<sup>1</sup>, Chris Taylor<sup>1</sup>

<sup>1</sup>Department of Sexual Health & HIV, Kings College Hospital NHS Foundation Trust

<sup>2</sup>King's College London | Faculty of Life Sciences & Medicine, Guys Hospital, London SE1 9RT

## Background

Rates of cervical intraepithelial neoplasia (CIN) and invasive cervical cancer are higher in women living with HIV (WLHIV) compared to the non-HIV population and are associated with severity of immunosuppression. Effective antiretroviral therapy (ART) reduces the risk of abnormal cytology. The NHS Cervical Screening Programme (NHSCSP) guidelines recommend yearly cervical cytology tests for all WLHIV between the ages of 25-65 years. However, the Centre for Disease Control and Prevention (CDC) recommend that after 3 consecutive normal annual cytology results or where one cytology result is normal and subsequent high-risk human papilloma virus (hrHPV) testing is negative, the screening interval may be extended to three-yearly.

## Aim

To determine the need for annual cervical screening in WLWH.

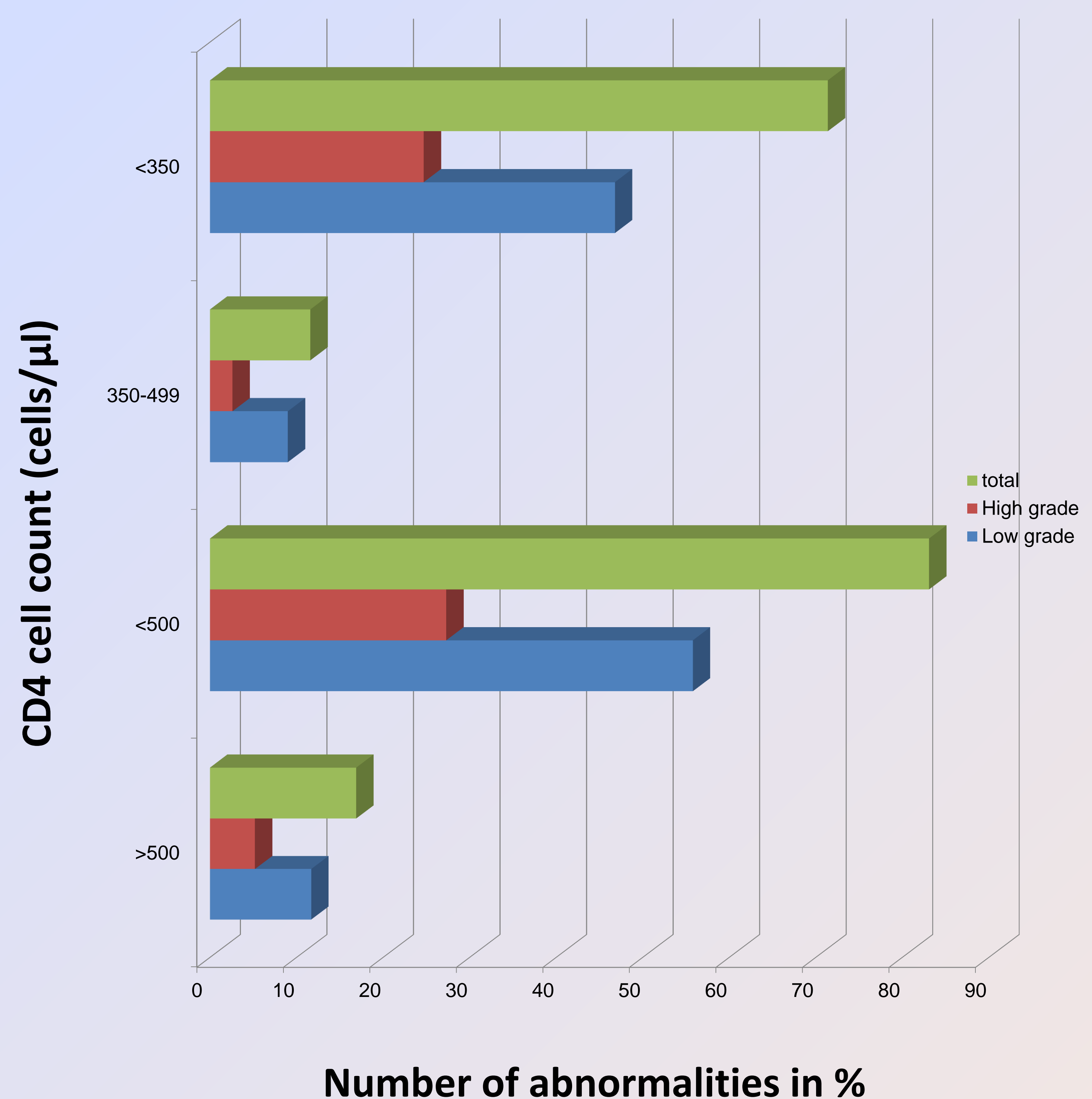
## Methods

A retrospective case note review of all HIV-positive women attending the nurse-led cervical cytology clinic of our HIV outpatient department between 01/01/14 and 31/12/18 was undertaken (48 months). Data of cytology results also collected prior to these period from clinical notes and electronic patient records. Patient demographics, HIV surrogate markers and cervical cytology results were analysed using SPSS

## Results

- 305 women attended the cervical cytology clinic during this period (mean age 44.4 years (SD 9.34)).
- 91% identified as black African or Caribbean ethnicity.
- Median CD4 count at the time of cervical cytology was 562 (IQR 318 -775) cells/ $\mu$ l. 78% had an undetectable HIV RNA.
- 78 (25.4%) had an abnormal cytology result of which 25 (8.2%) were high grade cytology with a median CD4 count was 213 (IQR 145-380) cells/ $\mu$ l.
- 143 (47%) had three normal consecutive annual cytology results and during follow up (ranging between 1-18 years) went on to have consistently normal cytology results. The median CD4 count of these women was 679 (IQR 450-889) cells/ $\mu$ l.
- 59 women did not attend every year for screening. Following three consecutive normal cytology results over a more extended time period they also went on to have consistently normal cytology results during follow up (1-7 years).
- The remaining 25 had normal cytology but less than 3 smear results.
- 10 women had three normal consecutive annual cytology results and subsequently developed an abnormal result during 1-8 years of follow up. These were low grade abnormalities which would have been identified at three yearly interval screening. 7 of these women went on to have a normal cytology results following this low grade abnormality.
- Cytological abnormalities were significantly higher in the women with CD4 count <500 (P=<0.001)

Figure 1: Cytological abnormalities among WLWH



- 31 women had had previous treatment for CIN and went on to have consistently yearly normal cytology results during follow up.
- 23 women who had normal smear following an abnormal smear and persisted normal during follow up (1-9 years).

## Conclusion

In our cohort, low grade (17.2%) and high grade (8.2%) cervical cytological abnormalities were found at a higher prevalence than in the general population (5% and 1.3% respectively). Results from this small retrospective cohort suggest that for those patients with an undetectable viral load and preserved CD4 count with three normal consecutive annual cytology results, longer intervals between cervical cytology screening may be appropriate. This would be cost saving for the department and reduce the number of outpatient appointments undertaken by WLWH. Further study is required, specifically to assess the significance of other risk factors for cervical abnormalities (e.g. smoking, hrHPV results) in this group.

## Limitations

Retrospective study, small numbers of patients, lacking data on other risk factors for cervical abnormalities such as hrHPV data and smoking.