Outcomes of cervical cancer screening among women with HIV in the Netherlands

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Abstract (299/300 words)

Background: Women with HIV have an increased risk of high-grade cervical dysplasia and invasive cervical cancer. Therefore, more intensive cervical screening for women with HIV is recommended. However, national and international screening guidelines for women with HIV vary widely. To identify for which women increased screening may be indicated, we assessed the incidence of high-grade cervical intraepithelial neoplasia (CIN) among women with HIV in the Netherlands. Additionally, we assessed risk factors for incident high-grade CIN.

Methods: Data from the ATHENA cohort and Palga were combined. All data on cervical cancer screening between 2000 and 2023 were included. We assessed the frequency and time between screenings and the incidence of CIN2+. Time at risk started at the first registered screening moment and ended when the endpoint, date of death, date of disengagement from care or emigration, or censoring date of the study (i.e., 31 December 2023) was reached. We assessed determinants of CIN2+ using multivariable Poisson regression.

Results: Data of 3,619 women with HIV registered in ATHENA were combined with pathology results from Palga. Median follow-up time was 7.7 [IQR=2.1-13.7] years. Median nadir CD4 and CD4 at first cervical screening were 230 [IQR=110-380] cells/mm3 and 480 [320-670] cells/mm3, respectively. The median time between screening episodes was 1.8 years [IQR=1.0-3.7]; 641 (18%) women had one or more intervals between screening episodes exceeding 5 years. During 26,127 person-years 522 incident CIN2+ were detected (incidence rate (IR)=2.0/100 person-years, 95%CI=1.83-2.18). Smoking status, fewer years with a suppressed viral load, a lower nadir CD4 count, and a lower CD4 count at screening were associated with CIN2+ detection.

Conclusion: Incidence of high-grade CIN was high among women with HIV in the Netherlands, compared to the general population. We found several HIV-related factors which could be taken into account when aligning screening recommendations for women with HIV.