

Abstract 33

Increased incidence of Sexually Transmitted Diseases (STD) in the recent years: data from the ICONA cohort

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Background: Sexually Transmitted Diseases (STDs) data collected in people living with HIV (PLHIV)

cohorts could be used as indicator of risky sexual behavior possibly linked to HIV transmission. We

described the STDs incidence over time and identified higher incidence factors.

Methodology: All PLHIV in the Icona Foundation Study cohort enrolled after 1998 were included. STDs considered: any-stage syphilis, HPV-diseases, gonococcal and non-g urethritis, HSV- genital ulcers, vaginitis, acute HBV- HAV-and HCV-infection (only for non IVDU individuals). More episodes of STDs per person were counted as events. STDs incidence rate (IR): number of STDs divided by person years of follow-up (PYFU). Calendar periods: 1998-2002, 2003-2007 and 2008-2012. Predictors of STDs occurrence were identified using Poisson regression and Sandwich estimates for the standard errors were used for multiple STD events.

Results: Data of 9,168 pts were analysed (median age 37.3 (SD=9.3), 74% male, 30% MSM). Over 46,736 PYFU, 1101 (2.4% 95% CI:2.2-2.5) episodes of STDs were observed (crude IR 17.3/1,000 PYFU). Median (IQR) CD4/mmc and HIV-RNA/ml at STD: 433 (251-600) and 10,900 (200-63,000). 430 (39%) episodes occurred while people were on ART (IR 13.7/31297 PYFU), 671 (60.9%) off-ART (IR 43.4/15439 PYFU). Highest crude IR were observed for any stage syphilis (3.95, 95%CI 3.59-4.35), HPV- diseases (1.96, 1.71-2.24), acute hepatitis (1.72, 1.49-1.99). At multivariable Poisson regression analysis (variables of adjustment showed in figure), age (IRR 0.82 per 10 years younger, 95%CI 0.77–0.89), having acquired HIV through men who have sex with other men (MSM) contacts (IRR 2.98, 95%CI 2.48–3.59 vs. heterosexual route), calendar period (IRR 1.67, 95% C.I. 1.42–1.96, comparing 2008-2012 with 1998 -2002) significantly increased the risk of acquiring STDs. Moreover, having an uncontrolled HIV infection (IRR 1.37, 95%CI 1.12–1.66 for HIV-RNA>50 c/ml compared to HIV-RNA<50c/ml) and current immunosuppression (CD4+ cell count<100/mmc: IRR 4.52, 95%CI 3.57–5.73, p<0.001 compared to CD4+ cell count>500) showed an increased risk of STDs. Being on ARV treatment significantly reduced the risk of developing an STD (IRR 0.37, 95%CI 0.32–0.43) compared to ART-naïve people, even in situation of temporary interruption of treatment (IRR 0.51, 95% 0.39–0.43). (see Figure)

Conclusions: The overall incidence of STDs has been increasing in the recent years.

Interventions to prevent STDs and potential further spread of HIV infection should target the recently HIV diagnosed, the young population, those with lower level of education and MSM. Being on ART (potentially an indicator of whether a person is regularly seen for care) seems to reduce the risk of acquiring STDs independently of its viro-immunological effect.