

## **P1911 Estimation of the false recent rate for different types of recent infection testing algorithm at differentiation of recent and long-term HIV-1 infection**

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**Background:** Assessment of the incidence (as a proportion of cases of recent HIV infection among all newly detected cases), as one of the major indicators in epidemiology, allows to characterize the dynamics of the spread of infection, to evaluate the effectiveness of preventive actions. The serological tests for estimation of recent infection are widely used with known limitations, which can affect the assessment of incidence.

**Materials/methods:** Patients with long-term HIV infection representing a general population, i.e. including all patients applied to the Samara Regional Centre of AIDS Prevention, without taking into account age and gender, clinical stage, ART status, etc. (didn't not include children with vertical HIV transmission) and new developed kit "DS-EIA-AB-TERM" (RPC DS, Russia) as a specific test for recent HIV-infection were used for estimation of the false recent rate (FRR). The additional clinical parameters (CD4 T cell count, viral load, ART status) were used also in different combinations. Estimation of the FRR for the kit alone and as a part of recent infection testing algorithm (RITA) with additional clinical parameters was conducted considering the successful experience of international studies («When and how to use assays for recent infection to estimate HIV incidence at a population level» © World Health Organization 2011 UNAIDS/WHO Working Group on Global HIV/AIDS and STI Surveillance).

**Results:** The FRR for RITA based on a single assay for recent HIV-infection was 2.23%. The FRR for RITA based on a laboratory assay for recent infection and additional clinical-diagnostic information was ranged from 0.70% to 0.15% depending on the combination and the sequence of the additional data usage.

**Conclusions:** The FRR for the kit "DS-EIA-HIV-AB-TERM" and for the algorithm for recent HIV infection identification were estimated. The minimal and the optimal combinations of additional laboratory and clinical data were defined. The FRR of the combination, including three additional parameters, was established as 0.15% with specificity 99.85%. The assay described here compares well in specificity and false recency rate with that of other assays for identifying recent HIV infection.

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