

Abstract

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Title of diploma thesis: The possibility of determination of HIV antibodies avidity for early infection detection

The determination of early HIV infection in the Czech Republic is based on a combination of results of laboratory examination, clinical examination, and information from an epidemiological report. The identification of patient in the acute phase of the disease allows to search for targeted contact to reduce further spread of HIV, as patients in the early phase of the disease are the riskiest for transmission of infection.

One of the laboratory markers of the acute phase of infection is low avidity of antibodies, which expresses the strength of bonds between antigen and antibody. The determination of avidity is based on fact that avidity in recent infections is low because antibodies do not bind tightly enough to antigen and avidity increases when the immune response matures. Quantitatively, it is expressed by the avidity index, which determines what part of the antibodies (%) will remain bound in complex with the antigen after incubation with chaotropic agent, in our case with guanidine solution.

The predictive value of the avidity index is not absolute, but it is useful in addition to other parameters currently used to assess the stage of HIV infection.

Key words: HIV, avidity, antibodies, early detection, diagnostics