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As one of the worldwide? s most serious challenges for Health System, Human Immunodeficiency Virus (HIV) is characterized by some chronic immune dysfunctions, leading to poor diagnosis which will be more problematic when accompanied with disability in HIV control and undetectable viremia.

This study aims to investigate the correlation between immune effector cells functions and specific and sensitive sero-immunobiomarkers in screening and prognosis of HIV. Search method: PubMed, Scopus, Elsevier and Embase databases were searched in English with 5 keywords from 2014 up to November 2017. Initially, 56 articles were found and totally 37 articles were selected based on our inclusion criteria and exclusion criteria. Results: HIV-infection modulates both innate and adaptive immune responses, altering in the different cytokine patterns and cellular markers, representing immune condition of the patients and acting as an appropriate tool for HIV monitoring. IL-27, an immunomodulatory cytokine, with multiple anti HIV-1 replication potentials, is mostly produced by CD4+ T cells and APCs.

IL-27 secretion will be up-regulated in HIV infected patients, implying to early stage of immune response, diminishing HIV viral load. It is demonstrated that CD32a, a low affinity IgG receptor, has been proposed as a marker of enriched CD3+ CD4+ reservoir, highlights us a shining future of a cure for HIV infection. Increase in IP-10 levels, a member of the CXC chemokine family, at first stages of HIV infection, highlights IP-10 role in detecting HIV in febrile sero-negative patients, contributing to subsequent acute HIV infection diagnosis with viral load and preventing disease progression. Conclusion: Forcing global socio-medical burdens, exorbitant expenditures and poor

lifestyle of HIV patients, clinical researchers direct forward new optimistic views on more reliable immunobiomarkers, in which, an integrated collaboration between specialist and immunobiologists seems essential in order to qualify clinical outcomes.