Abstract

Introduction. TLRs play a role in host defense in HIV infection recognizing the viral DNA or RNA. Their activation induces a signaling pathway that includes the proteins MyD88, IRAK4, TRAF6 and the transcription factor NF-kBp65. Objective. To determine the expression of TLR7, TLR8 and TLR9, and activation of its signaling pathway in monocytes from patients infected with HIV.

Methods. Expression of TLR7, TLR8 and TLR9 was determined in monocytes from HIV-infected patients (n = 13) and control subjects (n = 13), which were activated with specific ligands. The expression of MyD88 and NF-kBp65 were determined by flow cytometry; IRAK4 and TRAF6 were studied by immunoblotting. Results. No statistical difference was found in the expression of TLR7, TLR8 and TLR9 in monocytes from patients compared to controls, but we observed the non-significant increased expression of TLR9 in patients. The activation showed no significant difference in the expression of MyD88 and NF-kBp65 in patients when compared to controls, but were decreased in stimulated cells over nonstimulated cells. IRAK4 and TRAF6 were not detected.

Conclusions. No statistical difference was observed in the expression of intracellular TLRs, MyD88 and NF-kBp65 in monocytes from patients compared to controls. This was probably due to effective antiretroviral therapy being received at the time of study entry. Additional studies are needed (ARTV) under controlled conditions that include infected patients with and without ARVT, responders and non-responders, and work with different cell populations.

Keywords

Innate immunity, monocytes, toll-like receptors, HIV.