Acute cytomegalovirus infection is associated with increased frequencies of activated and apoptosis-vulnerable T cells in HIV-1-infected infants.

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Abstract:
Cytomegalovirus (CMV) coinfection is associated with infant HIV-1 disease progression and mortality. In a cohort of Kenyan HIV-infected infants, the frequencies of activated (CD38(+) HLA-DR(+)) and apoptosis-vulnerable (CD95(+) Bcl-2(-)) CD4(+) and CD8(+) T cells increased substantially during acute CMV infection. The frequency of activated CD4(+) T cells was strongly associated with both concurrent CMV coinfection (P = 0.001) and HIV-1 viral load (P = 0.05). The frequency of apoptosis-vulnerable cells was also associated with CMV coinfection in the CD4 (P = 0.02) and CD8 (P < 0.001) T cell subsets. Similar observations were made in HIV-exposed uninfected infants. CMV-induced increases in T cell activation and apoptosis may contribute to the rapid disease progression in coinfected infants.