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Oral presentation

Perturbations in the CD4+CD25+ regulatory T cell population of the GALT during acute SIV infection

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CD4+CD25+ regulatory T cells (Tregs) suppress the activation and proliferation of effector lymphocytes. Dysregulation of these cells in the peripheral blood and lymphoid tissue has been reported in HIV-1 infection. To elucidate the role of Tregs in HIV-1-induced GALT depletion of CD4+ T cells, we used the SIV/pigtailed macaque model of HIV-1 disease to determine the distribution of Tregs in a setting of acute infection, using FoxP3 as a marker for Tregs. CD4+ T cells from the ileum, lymph nodes, and peripheral blood were isolated on day 4 (n = 3), 14 (n = 3), and 114 (n = 6) post-inoculation from SIV-infected pigtailed macaques. Real-time RT-PCR was used to quantitate FOXP3 copy number in SIV-infected and uninfected control macaques (n = 5). Expression of FoxP3 in the ileum was decreased at all stages of infection when compared to the levels in uninfected macaques. In addition, functional analysis of ileal lamina propria CD4+ T cells from SIV-infected macaques revealed a lack of suppressive activity, suggesting the absence of Tregs in that compartment. These results indicate that Tregs are depleted in the GALT of SIV-infected macaques suggesting a role for the loss of Treg-mediated suppression in the pathogenesis of the disease.