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|---|---|
| Title: | Divergent Effects of a Transient Corticosteroid Therapy on Virus-Specific Quiescent and Effector CD8+ T Cells |
| Authors: | Kumar, Dhaneshwar (/jspui/browse?type=author&value=Kumar%2C+Dhaneshwar)<br>Sehrawat, S. (/jspui/browse?type=author&value=Sehrawat%2C+S.) |
| Keywords: | Investigated<br>Treatment<br>Influence |
| Issue Date: | 2019 |
| Publisher: | Frontiers in immunology |
| Citation: | Frontiers in Immunology, 10. |
| Abstract: | We investigated the influence of a transient treatment of corticosteroid on CD8+ T cells during herpesvirus infection. Dexamethasone, a synthetic corticosteroid, induced apoptosis of naïve and memory CD8+ T cells but virus-specific effector cells were spared. CD8+ T cell susceptibility was directly correlated with the expression of nr3c1. Both α-(HSV1) and γ-(MHV68) herpesvirus infection expanded CD8+ T cells down regulated nr3c1 indicating corticosteroid-mediated effects were not limited to one pathogen or the specific clonotype. Dexamethasone compromised anti-viral immunity to subsequent infections, likely through reductions in the naïve cell pool. Dexamethasone augmented the function and inflammatory tissue homing potential of effector cells via upregulation of CXCR3. Accordingly, an antibody neutralization of CXCR3 diminished dexamethasone-induced migration of CD8+ T cells to tissues resulting in increased virus burden. Our study therefore suggests that even a transient corticosteroid therapy influences both ongoing CD8+ T cell responses as well as the size of the naïve and memory repertoire. |
| URI: | https://www.frontiersin.org/articles/10.3389/fimmu.2019.01521/full (https://www.frontiersin.org/articles/10.3389/fimmu.2019.01521/full)<br>http://hdl.handle.net/123456789/2289 (http://hdl.handle.net/123456789/2289) |
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