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AUTOANTIBODIES ARE INDUCED DURING CHRONIC VIRAL INFECTION AND ACCOUNT TO CD8+ T CELL EXHAUSTION

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CD8+ T cell exhaustion is a hallmark of chronic viral infection. Mechanisms underlying CD8+ T cell exhaustion, is still moot. Upregulation of inhibitory receptors (i.e. PD-1, CTLA-4, Tim3) is the major explanation how CD8+ T cells are dampened during chronic viral infection. However, PD-1 is up-regulated on basically all activated CD8+ T cells and *in vitro* data showed limited inhibition of proliferation in the presence of its ligand, PD-L1, so that it remains elusive whether other mechanisms contribute to PD-1 dependent failure of CD8+ T cell function. Commensurately, protective immune responses against viral infection are generally accompanied with production of autoantibodies that might jeopardize the host. In the current study, we propose that induction of autoantibodies during viral infections might attack CD8+ T cells, through binding to the cytotoxic T-cells and deplete them by NK cell mediated cytotoxicity. The scope of our proposed study is to delineate the underlying mechanism of T cells attack/exhaustion via NK cell mediated cytotoxicity and to find out if the depletion of NK cells, B cells or lack of Fc-receptor signaling blunt CD8+ T cell deletion, culminating in robust CD8+ T cell response and effective control of viral infection.

Biography

Thamer A Hamdan has completed his Bachelor's degree in Medical Laboratory Sciences from Jordan University of Science and Technology in 2005. In 2007, he affiliated the same institute to pursue his Master's degree major in Clinical Microbiology and Immunology and obtained the degree in 2010. From 2006-2011, he has worked as Medical Laboratory Technologist at King Abdulla University Hospital, Jordan. Later, he has worked as a Lecturer in Faculty of Applied medical Sciences in University of Tabuk, Kingdom of Saudi Arabia, from 2011 till 2016. Since October 2016, he has commenced his PhD studies at the Institute of Immunology, Medical Faculty, University of Duisburg-Essen, Germany. He has PhD scholarship from DAAD (Deutscher Akademischer Austauschdienst) (German Academic Exchange Service).

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