Medical Xpress

Are we closer to understanding the cause of deadly sepsis?

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Following an infection, dysregulation of the immune system can result in a systemic inflammatory response and an often fatal condition called severe sepsis or septic shock. Sepsis is not uncommon, yet its cause and underlying immune dysfunction remain poorly understood. Regulatory T cells (Tregs), a component of the immune system, now appear to have an important role in suppressing the immune response in advance of sepsis, and understanding this role may lead to new therapeutic strategies for improving patient outcomes, as described in a review article in *Journal of Interferon & Cytokine Research*.

Li-Na Jiang, Yong-Ming Yao, and Zhi-Yong Sheng, Chinese PLA General Hospital, Beijing, and Hebei North University, Zhyangjiakou, China, review the growing body of literature supporting a link between alterations in Treg function and the development of sepsis, based on animal studies and preliminary human studies. In the article "The Role of Regulatory T Cells in the Pathogenesis of Sepsis and Its Clinical Implications (online.liebertpub.com/doi/full … 0.1089/jir.2011.0080)," the authors suggest that accumulating experimental and clinical evidence indicates that manipulating Tregs may offer a promising strategy for treating patients with septic shock.

"Regulatory T cells are receiving much attention as important determinants of both beneficial and detrimental immune responses," says Co-Editor-in-Chief Thomas A. Hamilton, PhD, Chairman, Department of Immunology, Cleveland Clinic Foundation. "This review brings focus to the function of this important cell population in the context of sepsis, a condition more frequently associated with innate immunity."

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