An important research paper investigating immunological abnormalities in CFS/CFIDS/ME was published in the May 2011 issue of the Journal of Translational Medicine. The paper, "Immunological abnormalities as potential biomarkers in Chronic Fatigue Syndrome/Myalgic Encephalomyelitis", was authored by a team of scientists at Bond University in Australia and by Dr. Nancy Klimas, a respected and long-time CFIDS researcher in Florida.

The study is one of the most recent, major research papers investigating detailed immunological abnormalities and functioning in CFS/CFIDS/ME. The study builds on two decades of past research into impaired immune function in the illness, but also presents some new findings regarding certain immune processes.

Moreover, the 52 citations of major research papers present an important review of research bearing on immunological abnormalities in CFS/CFIDS/ME.

The study included 95 Australian subjects who met the 1994 CDC criteria for CFS and 50 qualified healthy controls. It found that CFS/ME patients had significantly higher levels of the anti-inflammatory cytokine interleukin-10 (IL-10) and two pro-inflammatory cytokines gamma interferon (IFN-γ) and tumor necrosis factor alpha (TNF-α), as well as increases in CD4+CD25+ T-cells and expression of FoxP3 by T regulatory cells and VPACR2.

Previous CFS/CFIDS/ME research has indicated a shift in patients' immune response from the TH-1 to the TH-2 system. This study documented anomalies in both systems with a resulting imbalance between the systems. However, "...increases in IL-10 [TH-2] are suggestive of a chronic infectious state..." and "...increased levels of IL-10, IFN-γ [TH-1] and TNF-α indicate the presence of a
fungal, bacterial, or viral infection."

One previous study found decreases CD8+ T-cell activity when comparing CFS/ME patients with healthy controls. Previous studies also found that cytotoxic activity of natural kill cells (NK) and CD8+T cells and NK phenotypes, in particular the CD56bright NK cells, were significantly decreased in CFS/ME patients. Both of these findings were confirmed in this study.

Therefore, the researchers asserted"...Reduced cytotoxic activity may...be an important component in the immune dysregulation seen in CFS/ME."

The authors conclude, "These results illustrate a severely compromised immunomodulation mechanism in CFS/ME where attempts to regulate and restore immune homeostasis appear to be impaired."

Please click the link for the ProHealth Summary by the authors.