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Development of autoimmunity in patients with common variable immune deficiency

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Common variable immune deficiency (CVID) is a genetic disease associated with enhanced susceptibility to infection, autoimmunity, and decreased antibody production. Mutations in the tumor necrosis factor receptor superfamily member *TACI*, are associated with CVID and autoimmunity development. Interestingly, autoimmunity develops in CVID patients with only one mutated copy of *TACI*, and CVID patients with two mutated *TACI* alleles do not develop autoimmunity.

In this issue of the *Journal of Clinical Investigation*, Eric Meffre and colleagues at Yale University evaluated B cell activation and tolerance development in healthy individuals and CVID patients with one or two mutated copies of *TACI*. The authors found that CVID patients with a single altered *TACI* allele maintained some residual B cell responsiveness that promoted development of autoantibodies, whereas individuals with 2 mutated copies of *TACI* have complete impairment of B cell responses, which likely prevents autoimmunity.

In the companion commentary, Antonia La Cava of the University of California Los Angeles suggests that targeting residual B cell activity in CVID patients that are heterozygous for *TACI* mutations may provide clinical relief.

More information: CVID-associated TACI mutations affect autoreactive B cell selection and activation, *J Clin Invest*. DOI: 10.1172/JCI69854