The generation of autoantibodies to C1q and their usefulness in diagnosing lupus nephritis

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SLE is a multisystem autoimmune disorder with a broad spectrum of clinical presentations including kidney disease in the form of lupus nephritis. Due to the heterogeneity of the disease and the absence of a single diagnostic test, the diagnosis of lupus nephritis in SLE patients remains challenging. The first component of complement—C1q plays a major role in removing apoptotic cells and immune complexes from the circulation of autoimmune patients. We and others have suggested that post-translational modifications of C1q upon exposure to free radicals could generate antigenic neo-epitopes that may lead to the generation of autoantibodies that may be useful in diagnosing lupus nephritis and also explain how changes in C1q structure may lead to breakdown of immune tolerance and impair C1q’s ability to resolve inflammation.

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