Cognitive and Emotional Abnormalities in People with Systemic Lupus Erythematosus

by

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Systemic lupus erythematosus (SLE) is a multi-system autoimmune disorder characterized by the production of autoantibodies (ABs). Approximately 30-50% of patients produce ABs directed against N-Methyl-D-aspartic acid receptors (NMDARs). Previous research with animals has identified these ABs as being associated with amygdala damage and a deficit in fear conditioning. People with SLE can have damage to the amygdala. This study aimed to determine if emotional processing deficits occur in people with SLE and to associate such deficits, if they exist, with anti-NMDAR AB presence, length of disease, cognition, and mood. Fifty-eight (11 AB+, 24 AB-, 23 healthy) women participated in tasks assessing emotional facial recognition, attention to emotional stimuli, and emotional learning, and underwent cognitive testing, including measures of working memory, processing speed, executive functioning, language, visuospatial processing, and memory. Lupus patients were slower than healthy participants in identifying emotional faces. Measures of processing speed and executive functioning proved to be significant predictors of recognition of emotional faces and speeded reactions to emotional pictures. The results do not provide robust evidence for the existence of emotional processing deficits in people with lupus. The results are discussed within the context of the complex neuroanatomical system involved in cognition and affective processing. Future studies aimed at identifying dysfunction in the cognitive-affective control network are necessary to elucidate dysfunction in this patient group.