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CCL27: Novel cytokine with potential role in pathogenesis of multiple sclerosis

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Abstract

© 2015 Svetlana F. Khaiboullina et al. Multiple sclerosis (MS) is an autoimmune and neurodegenerative disease of unknown etiology. Leukocyte infiltration of brain tissue and the subsequent inflammation, demyelination, axonal damage, and formation of sclerotic plaques is a hallmark of MS. Upregulation of proinflammatory cytokines has been suggested to play an essential role in regulating lymphocyte migration in MS. Here we present data on serum cytokine expression in MS cases. Increased serum levels of IL-17 and IL-23 were observed, suggesting activation of the Th17 population of immune effector cells. Additionally, increased levels of IL-22 were observed in the serum of those with acute phase MS. Unexpectedly, we observed an upregulation of the serum chemokine CCL27 in newly diagnosed and acute MS cases. CCL27 is an inflammatory chemokine associated with homing of memory T cells to sites of inflammation. Therefore, its upregulation in association with MS suggests a potential role in disease pathogenesis. Our data supports previous reports showing IL-17 and -23 upregulation in association with MS and potentially identify a previously unknown involvement for CCL27.

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