

Chronic fatigue syndrome: neurological findings may be related to blood-brain barrier permeability.

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Despite volumes of international research, the etiology of chronic fatigue syndrome (CFS) remains elusive. There is, however, considerable evidence that CFS is a disorder involving the central nervous system (CNS). It is our hypothesis that altered permeability of the blood-brain barrier (BBB) may contribute to ongoing signs and symptoms found in CFS. To support this hypothesis we have examined agents that can increase the blood-brain barrier permeability (BBBP) and those that may be involved in CFS. The factors which can compromise the normal BBBP in CFS include viruses, cytokines, 5-hydroxytryptamine, peroxy nitrite, nitric oxide, stress, glutathione depletion, essential fatty acid deficiency, and N-methyl-D-aspartate overactivity. It is possible that breakdown of normal BBBP leads to CNS cellular dysfunction and disruptions of neuronal transmission in CFS. Abnormal changes in BBBP have been linked to a number of disorders involving the CNS; based on review of the literature we conclude that the BBB integrity in CFS warrants investigation. Copyright 2001 Harcourt Publishers Ltd.

