Review of: "LC, POTS, and ME/CFS: Lifting the Fog"

Hansotto Reiber

Potential competing interests: No potential competing interests to declare.

ME/CFS as phase transition of the immunological network

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Review to

LC, POTS, and ME/CFS: Lifting the Fog

by Patrick Chambers

Dear Patrick Chambers

You make a general theory that covers a range of chronic diseases. I restrict my commentary to one of them, the frequent ME/chronic fatigue syndrome. My considerations refer on the one hand to the misinterpretation of the blood-brain barrier function and on the other hand to the, in my opinion, insufficient integration of the immune system.

1. It is not necessary to refer to the Circum-Ventricular Organs (CVO) with their fenestrated capillaries to explain the passage of blood-derived molecules and cells to the brain and Cerebrospinal fluid. It is important to understand that all blood components can pass through the entire BBB area i.e., through all endothelial cell walls of all brain capillaries. This is just a question of time and gradients. Even the largest proteins such as IgM pass through the intercellular tight junctions and other molecules are transported transcellularly into the brain and CSF. So, it is not necessary to limit your theoretical concept to the CVO.

2. The most ME/chronic fatigue syndromes were observed in association with an immune system associated pathology (ISAP). The symptoms appear delayed, a few weeks after an infection or, most important from a theoretical point of view, also after a vaccination. There is no association to a particular antigen found. The missing specific antibody response in these diseases can be explained on the base of the network model of immune reactions as an unspecific phase transition of the regulation, with the antigen as an unspecific trigger. The actual cytokine research seems to support this network model. The long-lasting stability of the ME/CFS, i.e. the resilience against any cure, fits the idea of a chronic disease as a stable state with an attractor, a term for dynamic stability from complexity science.

A particular, pathological attractor (for ME/CFS), as an alternative to the normal healthy state, could be based on a genetic predisposition or an epigenetic preference, as you have considered it in your different approach.

I hope to have extended the view for a critical consideration of your hypothesis. The mentioned references may also point

to an experimental approach by involving Cerebrospinal fluid analysis.

References

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