

Dawson fingers point to dielectrophoretic force in the etiology of multiple sclerosis disease

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Thus far, Dawson fingers (DFs), which are periventricular, ovoid and oriented perpendicularly to the ventricular surface, have been assumed to be the lesions of multiple sclerosis. These lesions have been characterised as mechanical damage resulting from the differences in blood pressure along the Virchow-Robin spaces, or the spaces around the veins. After a Magnetic Resonance Imaging (MRI) scan, formations similar to DFs can be seen in the shape of a wedge in some regions of the brain: in particular, in the ependymal surfaces, the vertex of the blood vessels, and some areas around the posterior and anterior horns. These DF-like formations in the brain cannot be explained by mechanical damage. The purpose of this study is to determine the main formation mechanism of these DF-like formations in the brain. The main cause of DFs is secondary electromagnetic radiation from the collecting veins, which are perpendicular to the ventricular surface. In this context, the antenna model approach to DFs is crucial; in fact, it is the tenth new clue of the Canbay hypotheses on the etiology of multiple sclerosis (MS). Using the Canbay hypotheses, the potential places for the initiation of these plaque formations can be estimated.