

central nerve, such as the presence of a tight blood-brain barrier and the lack of a brain parenchymal lymphatic system, a more complex fluid transport network is needed to maintain this basic function. The network includes fluid production (choroid plexus epithelium and blood-brain barrier), fluid flow (perivascular space and polarized expression of AQP 4 water channels at the feet of astrocytes), and fluid outflow (venous sinuses, dural lymphatic vessels, and perineural pathways). Reduced function of the cerebral lymphoid system has been documented in experimental models of Alzheimer's disease, Parkinson's disease, traumatic brain injury, and subarachnoid hemorrhage. Cerebral water metabolism disorders may not be the direct cause of the disease, but it can cause disorders of solute homeostasis in the fluid, cause abnormal brain states, and eventually lead to the deterioration and progression of the disease. Brain water metabolism is involved in most physiological and pathological processes in the CNS, covering various fields of neurology, which provides us with new perspectives on the interpretation of certain phenomena. However, there is a lack of definite conclusion about the mechanism of brain water metabolism, which requires further study and discussion.

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