Brain insulin dysregulation: implication for neurological and neuropsychiatric disorders.


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Abstract

Arduous efforts have been made in the last three decades to elucidate the role of insulin in the brain. A growing number of evidences show that insulin is involved in several physiological function of the brain such as food intake and weight control, reproduction, learning and memory, neuromodulation and neuroprotection. In addition, it is now clear that insulin and insulin disturbances particularly diabetes mellitus may contribute or in some cases play the main role in development and progression of neurodegenerative and neuropsychiatric disorders. Focusing on the molecular mechanisms, this review summarizes the recent findings on the involvement of insulin dysfunction in neurological disorders like Alzheimer's disease, Parkinson's disease and Huntington's disease and also mental disorders like depression and psychosis sharing features of neuroinflammation and neurodegeneration.