

Are microRNAs the Molecular Link Between Metabolic Syndrome and Alzheimer's Disease?

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Abstract

Alzheimer's disease (AD) is the most common cause of dementia in people over 65 years of age. At present, treatment options for AD address only its symptoms, and there are no available treatments for the prevention or delay of the disease process. Several preclinical and epidemiological studies have linked metabolic risk factors such as hypertension, obesity, dyslipidemia, and diabetes to the pathogenesis of AD. However, the molecular mechanisms that underlie this relationship are not fully understood. Considering that less than 1 % of cases of AD are attributable to genetic factors, the identification of new molecular targets linking metabolic risk factors to neuropathological processes is necessary for improving the diagnosis and treatment of AD. The dysregulation of microRNAs (miRNAs), small non-coding RNAs that regulate several biological processes, has been implicated in the development of different pathologies. In this review, we summarize some of the relevant evidence that points to the role of miRNAs in metabolic syndrome (MetS) and AD and propose that miRNAs may be a molecular link in the complex relationship between both diseases..