



Prospect of Moxibustion Treatment of T2DM-MCI

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Editorial

Type 2 Diabetes Mellitus (T2DM) is a chronic metabolic disease characterized by persistent hyperglycemia and insulin resistance, accompanied by multiple macrovascular and microvascular complications, which are important vascular risk factors for accelerating cognitive impairment and dementia. Dementia is an irreversible syndrome that affects a variety of cognitive functions. The main cause of dementia worldwide is Alzheimer's disease (AD) [1]. The early stage of dementia is Mild Cognitive Impairment (MCI). MCI is the precursor of Alzheimer's stage, but the MCI patients showed aphasia, decline in cognitive and behavioral abilities [2]. Those early symptoms are not enough to seriously affect the patient's mental function and daily life that is often overlooked, [3] at least 47% of MCI patients are likely to develop to dementia. So early detection and diagnosis of T2DM patients with MCI (T2DM-MCI) timely prevention and treatment is very important.

Varying degrees of decline executive ability, memory, listening and speaking ability, especially verbal memory and complex information processing ability. The mechanism of earlier cerebral senescence, multiple cognitive impairments and even dementia in T2DM patients remains unclear.

Among the researches on Chinese medicine treatment of AD, there are many researches on acupuncture and moxibustion, but now COVID-19 is an emerging, rapidly evolving situation. In order to reduce patients' home and hospital trips, moxibustion was more suitable than acupuncture which required professional acupuncturists to handle needles. According to the relevant retrospective literature, at present, the commonly used acupoints of moxibustion for the treatment of cognitive impairment are Baihui point 13 times (68%), Dazhui point 6 times (32%), Shenting point 5 times (26%) and Zusani point 5 times (26%) [4]. Therefore, Baihui point was selected as the treatment acupoint in this study. In the related animal experiments, moxibustion treatment for AD rates significantly reduced the escape latency time, at the same time improve the platform across goal quadrant of the frequency and time, and moxibustion can likely on the activity of neurotrophic proteins and heat shock protein increased, including Nerve Growth Factor (NGF plays) and Brain Derived Neurotrophic Factor (BDNF), Tropomyosin receptor kinase A (TrkA) and Tropomyosin receptor kinase B (TrkB), inhibit the AD process, reduce the inflammation [5].

Therefore, I think this is a very good direction. Disease prevention is more important than treatment, so early intervention and diagnosis are very important. However, due to the lack of reliable and sensitive biomarkers to differentiate, the current clinical manifestations and psychological diagnosis are the only method that can clearly diagnose MCI. Neurophysiological changes in patients with T2DM have been well documented [6], which may be a preclinical marker of macrostructural changes, in which the multi-system neurobiological dysfunction associated with T2DM, may be associated with defective large-scale brain networks, providing supplementary information for early detection of status, monitoring of progress and evaluation of interventions. Li Changd et al. [7] found in their study that T2DM may aggravate the atrophy of specific gray matter areas, which may be mainly related to MCI. This also provides a good direction for the future study of the corresponding imaging markers. T2DM and impaired glucose tolerance accelerate cognitive decline, and this cognitive decline may be used to predict microvascular lesions in older adults without dementia. Therefore, our team is committed to early detection of grey-white matter structural changes in T2DM-MCI by using brain MRI, and my current research topic is also in this direction. The treatment of moxibustion is convenient for propaganda and education, and treatment at home can achieve the purpose of long-term treatment, which is one of the most important advantages of moxibustion.

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