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LETTER

Potential contribution of diabetes mellitus to orthostatic blood pressure fall and conversion of mild cognitive impairment to dementia

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Sevilay Muratli[1]
Fatih Tufan[1]
Ozlem Soyluk[2]
Gulistan Bahat[1]
Mehmet Akif Karan[1]

[1]Department of Geriatrics, [2]Department of Endocrinology, Istanbul Faculty of Medicine, Istanbul University, Istanbul, Turkey

Dear editor

We read the article "Orthostatic blood pressure in people with mild cognitive impairment predicts conversion to dementia" by Hayakawa et al[1] with interest. It is well-known that many individuals with mild cognitive impairment (MCI) progress to dementia.[2] However, we do not exactly know which risk factors increase this risk and to what extent. Hypertension is a risk factor for Alzheimer's disease and vascular dementia. However, the findings of this study make us consider hypotension as a new risk factor for dementia. Furthermore, a recently published 6-year prospective general population cohort study suggested that not only orthostatic hypotension (OH), but also symptoms of OH seemed to be risk factors for cognitive decline.[3] Notably, in the study by Elmstahl et al[3], hypertension and diabetes mellitus (DM) were more common in subjects with dementia. We would like to make some comments on this well-designed study.

The prevalence of DM is rather high in elderly individuals, and diabetic autonomic neuropathy may cause significant autonomic dysfunction. Furthermore, reactive hypoglycemic attacks and glucose variability may also increase the risk of Alzheimer's disease in subjects with DM.[4–6] Glucose variability and hypoglycemic attacks precipitated by insulin resistance may also affect conversion of MCI to dementia.[7] Accurate diagnosis of DM is especially important in older adults who may not experience typical symptoms of hyperglycemia and may even have normal fasting blood glucose levels. Thus, the diagnosis of DM may be easily overlooked in elderly subjects.[8] However, in the study by Hayakawa et al[1], a detailed assessment for the presence or absence of DM is not reported and the rate of DM in the study population seems to be lower than anticipated. We suggest that for an accurate diagnosis of DM, checking fasting glucose, postprandial glucose, and HbA_{1c} levels is essential.[8] In conclusion, undiagnosed DM, glucose variability, and postprandial hypoglycemia might have contributed significantly to OH and to conversion of MCI to dementia in this study.

Disclosure

The authors report no conflicts of interest in this communication.

Correspondence: Fatih Tufan
Department of Geriatrics, Istanbul Faculty of Medicine, Istanbul University, PO Box 34093, Sehremini, Fatih, Istanbul, Turkey
Tel +90 212 414 1500
Fax +90 212 414 2022
Email fatihtufan@gmail.com

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