Int. j. adv. multidisc. res. stud. 2024; 4(2):1521-1522

Received: 08-04-2024
Accepted: 15-04-2024

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Letter to the Editor

Before Diagnosing Motoric Cognitive Risk Syndrome, Neurological and Psychiatric Diseases must be excluded

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DOI: https://doi.org/10.62225/2583049X.2024.4.2.2724
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We read with interest Demirdel *et al*'s article on a retrospective record-keeping study of the prevalence of motoric cognitive risk syndrome (MCRS) in 577 community-dwelling older adults [1]. The frequency of MCRS in this cohort was 7.8% [1]. The MCRS group was predominantly older, female, and unmarried, with polypharmacy and higher Deyo-Charlson comorbidity index and Yesavage geriatric depression scale scores than the control group [1]. In the multivariate model, advanced age and polypharmacy were risk factors for MCRS [1]. The study is impressive, but some points require discussion.

Gait is dependent not only on motor functions but also on several other influencing factors, such as the extrapyramidal system, the cerebellum, the vestibular system, the eyes, and sensory input, and on vegetative functions. Therefore, it is imperative to rule out visual disturbances, dizziness, extrapyramidal dysfunction, vertebrostenosis, myelopathy, spinal infarction, radiculitis, plexitis, neuropathy, myasthenia and myopathy before attributing gait disturbance to MCRS.

A major limitation is that the included patients were not systematically examined by a neurologist and psychiatrist and did not systematically undergo cerebral and spinal imaging, electrophysiological and CSF analysis to exclude any CNS cause of subjective cognitive dysfunction and gait disturbance. The sole assessment of gait disorders using the 5/15 step waking test is not sufficient. To determine whether a patient actually suffers from a gait disorder, a detailed computer-assisted gait analysis is mandatory.

We disagree with the method to assess cognitive functions through the use of the MMSE alone. The MMSE can only assess a limited number of cognitive domains and is therefore not sufficient to assess whether cognitive impairment is present or not. All included patients should have undergone a detailed neuropsychological evaluation to not only rule out depression but also to assess which specific aspects of cognition were affected.

The title is misleading because the authors did not record the incidence of MCRS in Turkey but only the frequency of MCRS in 557 community-dwelling old adults from a single centre. This sample is too small to draw conclusions about MCRS across Turkey. In addition, incidence is defined as number of patients/100000/years. Therefore, no incidence was calculated as pretended.

Another limitation is that not only the number of drugs should be included in the assessment, but also the type of medications. A single drug can cause motor and cognitive impairment, while five drugs can have no effect on motor and cognitive functions.

Another point of discussion is that comorbidity burden was assessed using the Deyo-Charlson index [1]. The Deyo-Charlson index calculates the mortality risk based on the type and number of comorbidities. Co-medication and mood and cognitive functions were not taken into account. Therefore, it is of limited value for assessing the influence of comorbidity on the risk of developing MCRS.

Since the study period (November 2016 to February 2023) covered the period of the COVID-19 pandemic, it would be interesting to know how many of the included patients experienced MCRS due to subclinical or mild SARS-CoV-2 infection. We should know how many patients tested positive for SARS-CoV-2 after January 2020 and whether the frequency of MCRS was higher in SARS-CoV-2 positive patients than in negative ones.

It is surprising that depression had not impact on a patient's MRCS classification since depression is often accompanied by slowness, bradyphrenia, and lack of drive. What was the explanation that depression not being a risk factor for developing MRCS? What was the reason that mood disorders had no impact on MRCS risk?

In summary, neurological and psychiatric causes should be thoroughly ruled out as alternative causes of MRCS before attributing subjective cognitive decline and gait disturbances to MRCS.

Declarations
Ethical approval: Not applicable.

Consent to participation: Not applicable.

Consent for publication: Not applicable.

Funding: None received.

Availability of data and material: All data are available from the corresponding author.

Completing interests: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author contribution: JF was responsible for the design and conception, discussed available data with coauthors, wrote the first draft, and gave final approval. SM: Contributed to literature search, discussion, correction, and final approval.

Acknowledgements: None.

Keywords: MRCS, Gait Disturbance, Cognition, Advanced Age, Polypharmacy

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