Letter by Blackburn et al Regarding Article, “Is the Montreal Cognitive Assessment Superior to the Mini-Mental State Examination to Detect Poststroke Cognitive Impairment? A Study With Neuropsychological Evaluation”

To the Editor:

We read with interest the recent publication by Godefroy and colleagues. The authors show that the Montreal Cognitive Assessment (MoCA) with a cut-off of 27 (which is the cut-off used in memory clinics to detect mild cognitive impairment) detects more poststroke patients with cognitive impairment (82%) than does the Mini-Mental State Examination (MMSE; 45%). Godefroy et al show that the MoCA with a cut-off of 27 has a sensitivity of 1.00, but low specificity of 0.13. However, using a cut-off of 23 gives a sensitivity of 0.84, specificity of 0.81, positive predictive value of 0.91, and negative predictive value of 0.71. It is surprising that the final message from the authors is that the MMSE using a cut-off <29 is as acceptable as is using the MoCA <27. A previous attempt to validate the MMSE, which performed neuropsychological validation on the same day as the MMSE (6.6±2.9 days after stroke), found MMSE with a cut-off <24 had sensitivity of 0.35 and specificity of 0.70. The study by Godefroy et al performed the MMSE and MoCA screening 6.5±3.5 days after stroke and the neuropsychological validation 24.1±6.4 days after stroke. Previous work has suggested that maximum cognitive recovery occurs within the first month poststroke. Thus, MoCA may be accurately detecting cognitive impairment in >80% of stroke survivors in the first week of stroke, but there is considerable improvement at 1 month. A recent presentation at the European Stroke Conference found that MoCA performed in acute stroke setting was a better predictor of cognitive outcome at 3 months poststroke compared to MMSE.

There is a real danger that patients with cognitive impairment will be discharged and presumed to be cognitively normal if using the MMSE. A good cognitive screening tool should have a sensitivity of >80% and specificity of >60%. As the authors point out, the MoCA has more tests of executive dysfunction, which they (and others) have shown is very common poststroke (46%). The MMSE, with a cut-off of 24, has previously been shown to misclassify as cognitively normal 69% of patients with reasoning disturbances and 64% with executive disorders in the acute stroke setting. Patients with mild strokes are often discharged very quickly. Executive dysfunction may be present in mild strokes, and these patients often struggle with complex activities, such as work and leisure. These patients are often discharged with little or no follow-up because on the surface, without accurate assessment, they appear to be functioning well. It is very important not to miss patients with undiagnosed cognitive impairment, especially executive dysfunction, which results in such significant morbidity and may be predictive of longer-term cognitive impairment.

We believe the MoCA should still be used more so than the MMSE, and agree that additional work to validate it should also investigate a lower cut-off than is used in memory clinics (23 instead of 27) because we believe it is has a higher sensitivity than MMSE, with acceptable specificity. The cut-off of 27 would result in 80% of stroke patients being sent for neuropsychological validation, which is probably not feasible in most stroke services.

Disclosures

None.

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