Can the Stroop test for dual task locomotor performance reveal the existence of cognitive decline?
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Object.– The Stroop test consists in a mental inhibition task that is affected by normal and pathological aging\cite{1}. The objective is to determine whether or not the Stroop interference effect is heightened in various walking situations according to the type of cognitive impairment and if it is able to detect cognitive impairment.

Method.–

Population
Thirty-five older aged, autonomous volunteers without any pathology likely to influence walking or posture, were given a psychometric test (MMSE, BREF, Dubois, WAIS, electronic version Corsi Block Test CBT) and an instrumented 10 m walking test (GaitRite). We divided the participants into subgroups by applying the Petersen criteria: 14 healthy older adults (HO), 7 amnestic MCI (aMCI), 6 multi-domain MCI (mdMCI).

Protocol
In dual-task (DT), we used a recently devised psychometric instrument (Walking Corsi Test: W-CBT) to assess the specific contribution of spatial memory to the complex task of retrieving route knowledge\cite{1}. We registered gait parameters of the subjects with an electronic carpet during displacement on stepping targets constituted by words and colors on the floor.

Results.– The decrease in comfortable gait speed and the increase in step width may be discriminant for the NPH diagnosis. In subjects with NPH, the relative contributions of cadence and step length to speed increase are spared, in contrast with moderate PD.

Conclusions.– The decrease in comfortable gait speed and the increase in step width may be discriminant for the NPH diagnosis. In subjects with NPH, the relative contributions of cadence and step length to speed increase are spared, in contrast with moderate PD.

References

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