evaluated on a 10 m walk along an electronic walkway system and by a posturographic test (force platform) in single task (ST).

In a first DT, the walking parameters were recorded on Walking Trail-Making Tests (W-TMT) similar to the Persad protocol [1]. Three walkways of increasing complexity were used: W-TMT N with numbers only, W-TMT A with numbers and distractors, W-TMT B where the participants choose a path connecting alternatively a number to a letter in an upwards progression.

In a second double task, the participants were asked to maintain their balance on a force platform while visually carrying out the 2 parts of the Trail-Making Test projected on a wall (P-TMTA and P-TMTB); they had been provided with an eye tracker.

Results.—The cost of DT W-TMTB calculated from double stance time is more discriminating ($P < 0.05$) than the walking speed parameter ($P \leq 0.04$) in specifying the EF capacities of the different subjects (low EF vs. other groups; middle EF vs. other groups).

Conclusion.—DT exercise allows for specification of the level of dysexecutive impairment.

References

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**Flexibility and dual task: The role of aging and executive functioning**

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**Keywords**: Aging; Flexibility; Dual task; Gait; Postural control

Aim.—There is growing evidence of the involvement of executive control in walking and balance in old age. The goal of this study is to assess flexibility in aging and his impact in dual task walking and posture. We hypothesized that mental flexibility, evaluated during dual task, will improve larger aging and his impact in dual task walking and posture. We hypothesized walking and balance in old age. The goal of this study is to assess flexibility in healthy young adults ($m_y = 24.9$) and fourteen older healthy adults ($m_o = 73.31 \pm 5.77$) and fourteen healthy young adults ($m_h = 24.9 \pm 1.94$) performed Trail Making Test part A and B, under single and dual-task conditions: standing up and walking. Firstly, participants executed the test with paper and pencil. Secondly, they executed it on a posturographic force plate with eyes tracking. Thirdly, based on the literature [1,2], participants stepped on the carpet with targets increasing sequential numbers (Walking TMT N et A) and alternating sequential numbers and letters (Walking TMT B). Postural control and gait have been evaluated in single task.

Results.—First, we can observe the aging effects with decreasing flexibility performance, postural stability and walking in single task. Then, we observe that all the population showed no flexibility impact on the postural performance during dual task condition. However gait speed and cadence decrease for the three WTMT in the older healthy adults.

Discussion.—The cognitive function flexibility contributes to the usual walking abilities. Flexibility is one of the executive function improving impairments in dual task in gait in healthy older adults. The adaptable nature of resource allocation developed over the life span is age-related.

Keywords: Progressive supra-nuclear palsy; Cerebral anoxia; Early rehabilitation

Introduction.—Progressive supra-nuclear palsy (PSP) is the second cause of Parkinson syndrome. We report a clinical case of PSP after a cerebral anoxia. Observation.—Mr G, 61 years old, was resuscitated after cardiac arrest of approximately 20 minutes long. He was admitted in a neurological early rehabilitation unit one month later. He presents an ophthalmoplegia, rare blinking of eyes, facial amimia, trunk and cervical extensive dystonia. Neuropsychological assessments conclude to dementia with confusional state, apathy, apraxia, verbal fluency decrease, difficulties to recognise things and people. He is dependent in all activities daily living (FIM admission = 19). MRI analysis shows specific PSP lesions:midbrain atrophy, fourth ventricle and Sylvius aqueduct extension, increase of interpeduncular angle. Dopaminergic supplementation has had no effect. Botulinum toxin injections in musculus splenius reduced dystonia. No functional gain is obtained at the end of the rehabilitation (FMI discharge = 24).

Discussion.—PSP belongs to the group of tauopathy, which is characterized by unusual tau phosphorylation, and neurofibrillary degeneration. Histopathological lesions typically concern midbrain, globus pallidus and nucleus subthalamicus. No effective pharmacological treatment exists.

Very few PSP clinical cases have been described after brain ischemia [1]. The rehabilitation of this patient has been very difficult, due to the severe cognitive impairments, and moreover his dependency hasn’t improved. Only botulinum toxin injections and physiotherapy may decrease pain and improve the patient’s comfort by reducing dystonia.

Reference

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