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Commentary OMICS International

Short-Term Impact of Fampridine on Motor and Cognitive Functions, Mood and Quality of Life among Multiple Sclerosis Patients

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Commentary

Multiple sclerosis (MS) is a progressive, inflammatory and neurodegenerative disease affects young adults [1]. Symptoms of MS depend on the location of demyelination and include abnormal function of the motor, sensory and visual system. Ataxia and vertigo are frequently seen. Impairments of bladder, bowel and cognition are also common [1,2]. However, mobility and balance are the most important function among MS patients. Moderate and sever mobility problems occur in more than 60% of MS patients. It has a major impact on quality of life on MS patients. Until recently only different rehabilitation, strategies can improve walking ability.

SR Fampridine is an inhibitor of voltage gated potassium channels that can improve conduction of action potential in demyelinating fibres [3]. Several clinical trials have shown that 35 to 43% of MS patients treated with SR Fampridine can improve walking speed by 20 to 25%, evaluated by Timed 25 foot walking test (T25WT) [4,5]. A few studies demonstrated broader effects of SR Fampridine. Goodman et al. found improvement in muscle strength evaluated by lower extremity manual testing [5].Very similar were the results of Jansen et al. Improvement in the strength in the lower extremities has effects on improvement of walking ability [2].

The Six Spot Step Test (SSST) asses lower-extremity function better than other walking tests, such as the T25FW and the 2 minutes walking test (2MW) [6,7]. Jansen et al. found that SSPT is more responsive to SR Fampridine treatment than T25W [2]. The reason for this is that with this test, we evaluate various factors that contribute to ambulatory ability, including coordination and balance.

According to the mechanism of action of SR Fampridine we would also expected improvement of arm/hand function. Goodman at al. failed to demonstrate the effect of SR Fampridine on arm/hand function [5]. On the contrary, a few other studies showed a significant improvement of arm/hand function, evaluated by 9 hole per test (9HPT) [2,8].

Up to 50% patients will have cognitive impairment within 5 years following clinically isolated syndrome and the prevalence increases with progressive stage of the disease. Ruck at al. found improvement of PASAT after SR Fampridine treatment [9]. Jansen at al. showed significant improvement in cognitive function after 28 day of SR Fampridine treatment, evaluated by Symbol Digit Modalaties Test (SDMT) [2]. SR Fampridine could also have a selective precognitive effect on phonological fluency in MS patients [9,10].

Improvement of quality of life is expected as SR Fampridine improves walking ability, arm/hand function and independence [10,11].

SR Fampridine does not improve only walking ability but may have positive effects on some other symptoms of the disease, such us balance, cognition and fatigue. In future studies the effects of SR Fampridine on these variables should be more specifically evaluated.

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