

Case Report

Temporary improvement of motor symptoms of a patient with Parkinson’s disease after accidental electric shock – Case report

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Abstract

Despite parkinson’s disease to be one of the most frequent movement disorders, with motor and non-motor symptoms and pharmacological and surgical treatments, we present a case of temporary improvement of motor symptoms after an accidental electric shock and we highlight the need for further studies to discuss possible mechanisms involved in this case.

Introduction

Parkinson’s Disease is one of the most frequent movement disorders, with well-established motor and non-motor symptoms. Therapeutic approach involves pharmacological and surgical treatments. We present a case of temporary improvement of motor symptoms after an accidental electric shock.

Case presentation

Male, 68 years-old, with diagnosis of parkinson disease since october 2013. he was on regular treatment with levodopa, rasagiline and rotigotine with partial improvement of symptoms. Despite de treatment he still had an asymmetric rest tremor, more severe in upper right hand, mild bilateral rigidity, bradykinesia and reduced arm swing on the righth side. he also presented non-motor symptoms, such as hyposmia, constipation and rem sleep behavior disorder.

In september 2017, he accidentally touched his right hand to the shock end of a military tactical lantern of 28000w (Figure 1), while cleaning it. He received an electrical discharge, after that, presented significant improvement of tremor and rigidity. He also reported a favorable change in the performance of activities such as writing and eating tasks, as well as driving a car. The improve persists for almost twelve months after the



Figure 1: Military Tactical Lantern of 28000w.



accident, when symptoms returned. There were no changes in the other symptoms.

He was submitted to magnetic resonance of the brain and electroencephalogram, which showed no lesions that could justify the clinical improve.

Discussion

Parkinson Disease (pd) is a neurodegenerative disease that has as main motor manifestations the rest tremor, rigidity and bradykinesia, already presenting non-motor manifestations [1]. Treatment of parkinson disease is symptomatic and aims to reduce progression of disease and symptoms [1]. However, the response to treatment decreases as the disease advances.

The main therapeutic measures are the pharmacological treatment and the surgical treatment, for a selected group of patients [1]. we report a case of temporary reduction in the parkinson disease motor symptoms after an accidental electric shock.

Some authors report the use of electricity in the treatment of different diseases, such as movement disorders and migraine [2]. the use of peripheral electrical stimulation demonstrated benefit in the tremor treatment in patients with parkinson's

disease on saavedra-escalona [3] study. on the other side, morris et al, report a case of parkinsonian syndrome initiated after electronic injury in the hand in a young patient [4].

Conclusion

The mechanism by which a peripheral electric injury can impact in the symptom of the parkinson disease is unknown. This interesting clinical response observed after an accidental electrical discharge highlight the need for further studies on this theme.

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