

Sudden Unexpected Death in Parkinson's Disease (SUDPAR): A Condition that Leads to Fatal Falls

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Letter to the Editor

In a recent article, Fasano and colleagues [1], demonstrated new insights into the pathogenesis of falls in Parkinson's disease (PD) from prodromal to advanced disease, considering risk factors, assessment, and classification as well as treatment. Generally, it is well established that falls impair quality of life, reduce mobility, increase morbidity, and reduce life expectancy of individuals with PD [1]. Concerning the causes of falls, several cardiovascular associations with falls were described in older adults, such as low blood pressure, heart failure, carotid artery stenosis, aortic valve stenosis, conduction defects, and supraventricular and ventricular arrhythmias [2]. Regarding the latter, heart rhythm changes have been also considered as one of the risk factors associated with falls in individuals with PD [1], making this disease multifaceted and in some cases, even fatal [3,4]. To prevent fatalities from ventricular arrhythmias in PD patients, long-term ECG recordings by means of an implantable loop recorder have been proposed. In case loop recording indicates conduction defects or malignant ventricular arrhythmias, implantation of a pacemaker or of an implantable cardioverter defibrillator (ICD) should be considered. If falls in PD patients result from severe heart failure, adequate treatment with beta-blockers, angiotensin-converting inhibitors, AT-II-blockers, or diuretics should be provided. In case of severe heart failure, atrial fibrillation, or non-compaction, oral anticoagulation may be indicated. Importantly, epidemiological analysis has shown that mortality in PD patients is higher than that seen among the general population and these fatalities are mainly related to pneumonia, cerebrovascular morbidity and cardiovascular diseases [5]. An additional factor for increased mortality in PD could be that some of these patients require oral anticoagulation because of deep venous thrombosis, pulmonary embolism, heart failure, non-compaction, or atrial fibrillation. Cerebral or extra-cerebral bleeding after a fall under anticoagulation could be more dangerous than without anticoagulation. Recently, it has been shown that an increasing number of PD patients are dying suddenly and unexplained, referred as Sudden Unexpected Death in Parkinson's Disease (SUDPAR) [3,4]. In a didactic way, SUDPAR was defined as an unexpected death in a patient with PD without any satisfactory causes of death as determined by autopsy studies [4]. A practical clinical problem of studying specific causes, risk factors and preventive measures of SUDPAR

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is that it is rare, usually unwitnessed and still rarely described in the literature [3,4]. In this context, epidemiological, clinical and experimental studies should be performed to elucidate accurately the SUDPAR phenomenon. It is particularly important to identify PD patients at risk for SUDPAR and to initiate appropriate preventive strategies. In this respect, it could be helpful to perform electrophysiological studies to identify those requiring invasive or non-invasive anti-arrhythmic treatment. Meanwhile, synergistic work between neurologists and cardiologists should be established to systematically assess the cardiovascular profile of patients with PD. PD patients require close cardiologic surveillance and early cardiac treatment in case cardiac involvement evolves. Obviously, we must be vigilant and try to prevent falls in patients with PD, but when these falls are sudden and fatal, it could be SUDPAR.

Author Contribution

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