RISK OF EPILEPTIC SEIZURES IN PATIENTS WITH PARKINSON’S DISEASE

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Introduction

In a recent article about the prevalence of epilepsy in Parkinson’s disease, Gruntz et al. found that among 23086 Parkinson’s disease patients, 284 (1.6%) had an incident seizure1. Parkinson’s disease was associated with an increased risk of epilepsy, particularly among those with dementia or >1 seizure-provoking comorbidity1. We have the following comments and concerns.

The main disadvantage of the study is that seizure-provoking cerebral comorbidities were not excluded. Given the aim to explore the relation between Parkinson’s disease and seizures, all patients with seizure-provoking comorbidities need to be excluded. It should be mentioned how many of the 23086 Parkinson’s disease respectively 284 Parkinson’s disease seizure patients had seizure-provoking comorbidities.

Parkinson’s disease is characterised by postural instability/falls and not infrequently Parkinson’s disease patients experience a traumatic brain injury (TBI)2. In an Italian study of 492 Parkinson’s disease patients, 22% had a history of TBI2. In an Iranian study of 411 TBI patients, 4.4% developed post-traumatic seizures3. How frequent was TBI and post-traumatic epilepsy in the investigated cohort?

Since structural brain lesions are usually the most frequent cause of epilepsy, we should be informed about findings on imaging studies of the PD/seizure cohort. In how many Parkinson’s disease seizure patients was epilepsy classified as “structural”? Since Parkinsonism can be a phenotypic feature of mitochondrial disorders4 and since mitochondrial disorders are recognised with increased frequency, it would be of value to know how many of the Parkinson’s disease seizure patients in fact had a mitochondrial disorder.

Seizures in Parkinson’s disease patients not necessarily imply that there is a causal relation between Parkinson’s disease and epilepsy. Major causes of epilepsy are mutations in genes associated with epilepsy. In a Norwegian study of 1771 epilepsy patients, epilepsy etiology was structural-metabolic in 43%, genetic or presumed genetic in 20%, and unknown in 32%5. How often was the family history positive for epilepsy among the 284 patients and in how many was epilepsy classified as genetic?

About one third of epilepsies is resistant to antiepileptic drugs. How often was epilepsy drug-resistant among the 284 patients? Did Parkinson’s disease patients respond to antiepileptic drugs in the same way as non-Parkinson’s disease patients? Antiepileptic drug-resistance may be responsible for sudden unexplained death in epilepsy and sudden unexplained death in epilepsy may be the cause of sudden unexplained death in Parkinson’s disease (SUDPAR). How many patients experienced SUDPAR during follow-up?

Overall, this interesting study should exclude Parkinson’s disease patients with seizure-provoking comorbidities and provide data about imaging, structural lesions, frequency of genetic epilepsy, and about the antiepileptic drug treatment. It should be explained why antiepileptic drugs increased the seizure risk.

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Disclosures

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References


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