Journal of
Alzheimer's Disease & Parkinsonism

Simonet et al., J Alzheimers Dis Parkinsonism 2016, 6:2
DOI: 10.4172/2161-0460.1000221

Case Report Open Access

Hypersexuality Induced by Rasagiline in Monotherapy in Parkinson's Disease

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Abstract

Impulse control disorders (ICDs), such as hyper sexuality (HS), are well-known in patients with Parkinson's disease (PD), especially those treated with dopamine agonists. Although it is unusual, some cases have been published about the association between monoamine oxidase inhibitor type B (MAO-B) and ICD. Here, we report the second case of hyper sexuality in a patient with PD treated de novo with rasagiline alone. Although we found other similar cases regarding selegiline or rasagiline but always in association with other drugs, like dopamine agonists.

Keywords: Rasagiline; Dopaminergic treatment; Hyper sexuality; Side effects; Impulse control disorders; Parkinson's disease

Introduction

Hyper sexuality is one of the earliest described examples of ICD in PD. It is well- established that ICD's prevalence in PD is higher than in general population. It varies between 8-28%, according to the type of samples, methodology and diagnostic criteria [1]. Some risk factors have been described. These include biological vulnerability, psychiatric background with impulsive features, male sex, early onset of PD, longer disease duration and the most common studied one, substitutive dopaminergic treatment, especially dopamine agonists [2-4]. Reporting this case we want to raise awareness of hyper sexuality as an exceptional side effect associated with rasagiline treatment [5].

Case Report

A 74-year-old priest man with 3-year history of idiopathic Parkinson's disease, without any other relevant conditions, was initially treated with rasagiline alone at a dose of 1 mg/day. He had a slight trembling phenotype and a Hoehn and Yahr stage [1-5]. He didn't have any premorbid history of neither psychiatric condition nor abnormal sexual behaviour. His cognitive condition was normal with a score of 28 in Montreal Cognitive Assessment (MoCA). Two years after initiating rasagiline, he started on typical symptoms of hypersexuality, mostly concerning obsessive sexual thoughts and desires without any abnormal behavior. Even though his insight was preserved he took 1 year to confess his problem to us, basically due to moral issues originated from his profession. All these symptoms stopped immediately after rasagiline discontinuation. Three months later he is being treated only with levodopa.

Discussion

We defined hypersexuality as an ICD characterized by dysfunctional preoccupation with sexual thoughts, frequent demands and desire for sexual practice. It often includes habitual use of sex lines and Internet pornography or contact with sex workers, which have adverse consequences not only for the patient but also for their partners or carers [5,6].

Rasagiline is a selective irreversible monoamine oxydase B (MAO-B). By blocking this enzyme the degradation of dopamine is prevented and consequently it increases its synaptic availability [7]. Among the most common side effects are headaches, insomnia, xerostomia, etc. [5].

Dopamine is recognized as a mediator of reinforcement in the mesolimbic area and it is implicated in drug addiction and is also recognized to play an important role in the regulation of sexuality [7]. However, hypersexual behavior has also been described as part of a general loss of impulse control associated with lesions in the prefrontal cortex.

A possible explication why MAO-B can induce ICD would be the increasing stimulation of postsynaptic dopamine receptors present in the amygdala and limbic lobe or activation of still dysfunctional cortico-basal circuits linking the orbito-frontal and anterior cingulate cortex via head of caudate.

Sexual behaviour usually appears shortly after the initiation of treatment [5,8]. In our case, the diagnosis occurred 2 years later. One possible explanation would be that our patient didn´t reveal his symptoms immediately because of his religion ideology. Another point that seems to indicate an association between HS and rasagiline is the improvement of symptoms after drug interruption.

We are presenting an isolated case of hypersexuality induced by rasagiline. Some more studies should be needed to establish a solid relationship between both and at the same time to describe the most common risk factors.

Conclusions

Although the mechanism of why rasagiline induces hyper sexuality is still misunderstood there is increasingly more evidence of this association. It is for this reason why clinicians must be aware of these possible side effects as well as some other risk factors that can occur and they should ask patients about their symptoms to help them to detect hyper sexuality. This is important to be recognized because it significantly contributes to disability and poor quality of life.

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Received February 10, 2016; **Accepted** March 07, 2016; **Published** March 14, 2016

Citation: Simonet C, Fernandez B, Cerdan DM, Duarte J (2016) Hypersexuality Induced by Rasagiline in Monotherapy in Parkinson's Disease. J Alzheimers Dis Parkinsonism 6: 221. doi: 10.4172/2161-0460.1000221

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