International Journal of Neuropsychopharmacology (2006), **9**, 767–768. Copyright © 2006 CINP
doi:10.1017/S1461145705006437

LETTER TO THE EDITOR

Paraphilic behaviours in a parkinsonian patient with hedonistic homeostatic dysregulation

Received 31 August 2005; Reviewed 4 September 2005; Revised 21 November 2005; Accepted 4 December 2005; First published online 3 February 2006

Hedonistic homeostatic dysregulation (HHD) is a well-known neuropsychiatric complication described in patients with Parkinson's disease (PD), characterized by misuse of and addiction to dopaminergic drugs (Giovannoni et al., 2000). Previous reports have indicated HHD in approximately 3.4% of PD patients, more frequently in males with early onset of the disease (Pezzella et al., 2005).

We present the case of a PD patient affected by HHD who manifested paraphilic behaviours such as paedophilia and subsequently zoophilia. To our knowledge, no previous report has described the appearance of these paraphilias in patients with HHD.

Case report

This 62-yr-old male had suffered from PD for 4 yr, starting with tremor of his left hand. PD diagnosis according to Gelb criteria (Gelb et al., 1999) was made 1 yr after onset. At this time, dopaminergic treatment with L-dopa-benserazide was introduced at an increasing dosage of up to 100 mg – 25 mg q.i.d. with good patient response. Three months after the addition of L-dopa, the patient's wife unexpectedly died in an accident, and the patient, who had previously been a calm person with a balanced neuropsychological equilibrium and no mood disturbances, began to experience behavioural impairment characterized by anxiety, agitation and depression.

Two years later, the development of motor complications, such as wearing-off phenomenon, led to the prescribing of controlled-release L-dopa-carbidopa (100 mg – 25 mg q.i.d.); subsequently, pergolide, a dopamine agonist (1 mg t.i.d.) and dispersible L-dopa-benserazide (100 mg – 25 mg/d) were introduced. Despite advice given by his physicians, the patient started to self-administer excessive extra doses of dopaminergic drugs (especially pergolide) and developed severe drug-induced dyskinesias and marked fluctuations of mood. These features fulfilled the diagnosis of HHD (Giovannoni et al., 2000). Six months after the onset of HHD, the patient's relatives contacted us to request an urgent neurological consultation due to the onset of paedophilia, characterized by sexual attentions towards his granddaughter. In tears and in a desperate state the patient confirmed the accusations but was not willing to accept responsibility for this unacceptable transformation of his sexual impulses. Accordingly, dopaminergic therapy was reduced and clozapine (50 mg/d) was added, leading to a satisfactory reduction of aberrant sexual behaviour. Unfortunately, 3 months later, the patient once again resorted to taking extra doses of dopaminergic drugs and some time later was discovered by his sons whilst engaging in sexual activities with the female family dog. Dopaminergic therapy was reduced further and clozapine was increased up to 100 mg/d with a definitive disappearance of the disorder.

Discussion

It is a well-known fact that parkinsonian patients with HHD may show a wide range of behavioural disorders, such as pathological gambling, hypersexuality or aggression (Pezzella et al., 2005). With specific regard to pathological gambling, recent observations have provided clear confirmation that this disorder is probably caused by dopaminergic therapy (Dodd et al., 2005), particularly in PD patients with self-medicating behaviours (Driver-Dunckley et al., 2003).

On the other hand, to date no reports have described the development of paraphilic behaviours such as paedophilia and/or zoophilia in patients affected by HHD. Previous observations have actually reported how hypersexuality is a common disorder in this type of patient, although it is usually manifested as an increased libido, and only in a few cases has been associated with inappropriate behaviour limited to exhibitionism, excessive use of phone sex lines or prostitution services (Giovannoni et al., 2000).

In fact, as suggested by the case report, we hypothesize that the spectrum of aberrant sexual behaviours in PD patients with HHD may have been

Address for correspondence: Dr P. Solla, Institute of Neurology – University of Cagliari, Via Ospedale 46, 09124 Cagliari, Italy.
Tel.: +39 3479017706 *Fax*: +39 070 668664
E-mail: paosol29@yahoo.it

underestimated, being actually much wider than assumed and determining severe medical, social and at times, criminal implications.

A possible explanation of the difficulty of ascertaining similar paraphilic behaviours may derive from the fact that physicians are not informed of the presence of mild sexually deviant disorders either by relatives or by the patient himself, who are probably ashamed of admitting such behaviour.

The use of several pharmacological agents has been reported in the treatment of aberrant sexual behaviours (Krueger and Kaplan, 2002). Although treatment with anti-androgens and serotonin reuptake inhibitors has generally proved to be effective in these disorders, on the other hand, the use of clozapine in dopaminergic-induced paraphilias in PD patients has been questioned (Fernandez and Durso, 1998).

In our PD patient with HHD, dopaminergic drugs were the key factors involved in the development of paraphilic behaviours, thus leading to the prescription of clozapine as a first-choice drug. The satisfactory response obtained after addition of the latter would seem to suggest the efficacy of this atypical antipsychotic as first-choice medication in the treatment of aberrant sexual behaviours in PD patients with HHD, together with a necessary reduction of dopaminergic therapy.

Furthermore, although clozapine was used successfully in our patient, we hypothesize that quetiapine, an efficient antipsychotic drug used in the treatment of drug-induced psychosis in PD (Brandstädter and Oertel, 2002), may also represent a potentially useful agent in the treatment of similar disorders.

Acknowledgements

None.

Statement of Interest

None.

References

Brandstädter D, Oertel WH (2002). Treatment of drug-induced psychosis with quetiapine and clozapine in Parkinson's disease. *Neurology 58*, 160–161.

Dodd ML, Klos KJ, Bower JH, Geda YE, Josephs KA, Ahlskog JE (2005). Pathological gambling caused by drugs used to treat Parkinson disease. *Archives of Neurology 62*, 1377–1381.

Driver-Dunckley E, Samanta J, Stacy M (2003). Pathological gambling associated with dopamine agonist therapy in Parkinson's disease. *Neurology 61*, 422–423.

Fernandez HH, Durso R (1998). Clozapine for dopaminergic-induced paraphilias in Parkinson's disease. *Movement Disorders 13*, 597–598.

Gelb DJ, Oliver E, Gilman S (1999). Diagnostic criteria for Parkinson disease. *Archives of Neurology 56*, 33–39.

Giovannoni G, O'Sullivan JD, Turner K, Manson AJ, Lees AJ (2000). Hedonistic homeostatic dysregulation in patients with Parkinson's disease on dopamine replacement therapies. *Journal of Neurology, Neurosurgery and Psychiatry 68*, 423–428.

Krueger RB, Kaplan MS (2002). Behavioral and psychopharmacological treatment of the paraphilic and hypersexual disorders. *Journal of Psychiatric Practice 8*, 21–32.

Pezzella FR, Colosimo C, Vanacore N, Di Rezze S, Chianese M, Fabbrini G, Meco G (2005). Prevalence and clinical features of hedonistic homeostatic dysregulation in Parkinson's disease. *Movement Disorders 20*, 77–81.

Paolo Solla[1], Gianluca Floris[2], Paolo Tacconi[2], Antonino Cannas[1]

[1] ***Movement Disorders Centre, Department of Neurology, University of Cagliari, Italy***

[2] ***Department of Neurology, University of Cagliari, Italy***