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Reminder of important clinical lesson

'You never told me I would turn into a gambler': a first person account of dopamine agonist – induced gambling addiction in a patient with restless legs syndrome

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Summary

Dopaminergic agents are commonly used and effective treatments for restless legs syndrome (RLS), a disabling sensorimotor disorder. Less known are some of the potentially disabling side effects of these treatments, particularly iatrogenic gambling addiction, as is described here. Here the authors present a 62-year-old man, with a 20–year history of RLS, who developed gambling addiction while on dopaminergic treatment. He was not forewarned of this side effect, nor was he ever screened for gambling behaviours prior to or during treatment. Eight months after discontinuation of dopaminergic treatment and after 10 sessions of cognitive–behavioural therapy for gambling addiction, his gambling behaviours have partially resolved. To our knowledge, this is the first ever first person account of this condition. To prevent the devastating consequences of gambling addiction or to minimise its impact by early intervention, the authors call for clinicians involved in treatment of RLS to follow these simple measures: screen patients for gambling behaviours prior to the onset and during dopaminergic treatment; forewarn patients of this potential side effect; and if patients screen positive, refer them to specialist gambling treatment services, in addition to making necessary changes to their medication regime.

BACKGROUND

Introduction

Restless legs syndrome (RLS) can often be a very disabling sensorimotor disorder. Although there are no UK-based prevalence studies, international studies have found rates of between 3% and 10%.[1] The four essential diagnostic criteria for RLS are: urge to move, onset or exacerbation with rest, relief with movement and night time onset or worsening of symptoms.[2] Although the precise pathophysiological mechanisms underlying RLS have not been clearly elucidated, some point to dopaminergic depletion, thereby implicating the nigrostriatal dopaminergic loop.[3] Given this etiological explanation, it follows that dopaminergic drugs such as levadopa/carbedopa, ropinirole, pramipexole and pergolide can be useful treatments in alleviating the symptoms of RLS. Although not very common, impulse control disorders (such as gambling addiction, which is the focus of this case report) are potentially devastating side effects of dopaminergic treatment.[4–6] Gambling addiction and other impulse control disorders have previously been reported as a common side effect of dopaminergic treatment for Parkinson's disease[7 8] – a disorder sharing several commonalities with RLS, in its underlying aetiology, characteristics and treatment. However, iatrogenic gambling addiction as a result of dopaminergic treatment for RLS has been less studied, although some case reports and prevalence surveys have emerged recently (see discussion section); and clinicians and patients are not adequately aware of this.

Hence this side effect (iatrogenic gambling addiction), during the course of treatment for RLS, often goes unrecognised and unaddressed, leading to even more detrimental consequences for the affected individual and family. What motivated us to share this patient's story was his comment to one of the authors, 'they should have forewarned me that this medication could turn me into a gambler. Then things would not have got as bad as they did, and certainly I would not have blamed myself'. Through this case description, we hope to raise clinicians' awareness of this iatrogenic condition and we call for more regular screening for gambling behaviours prior to and during treatment with dopaminergic agents.

CASE PRESENTATION

Given below is the patients own account of his gambling addiction, a direct consequence of dopaminergic treatment for his RLS.

'I am a 62-year-old retired school teacher, and this is my story of how I turned into a gambler, or to be more precise, how I was turned into a gambler. I had restless legs ever since I can remember; started very early in childhood I think. My father had it too. About 20 years ago, it became more of a concern, so I went and saw my general practitioner. He referred me to a neurologist for specialist treatment. The neurologist started me on dopaminergic medications (sinemet and cabergoline). I have been on some medication or the other since. Medications make my condition better and I sleep better. Apart from this, my life was okay until I retired about 2 years ago. I had never gambled, except for a flutter, once a year – a pound or so, on the Grand National; nothing more, ever.

So, I had been on these medications (sinemet and cabergoline, then cabergoline was switched to ropinirole, later changed to rotigotine) for over 18 years and I was doing

good. It was when I retired 2 years ago that I started gambling. It started with minor stuff, like the bets you could make in the daily papers – I started betting for no money. But very soon, I was going to the bookies, round the corner from where I lived. I would bet on horses, football matches and also play blackjack and slot machines. Before I realised, it escalated from once or twice a week to an everyday pastime. Actually, it became more than a pastime. And from spending a couple of pounds a week, I had got to spending hundreds of pounds everyday: I was hooked. I had to do it whether I had the money or not. I would lie, borrow or steal from home. I would ask anyone and everyone. Because I knew I could win and then could pay it all back. I even started to gamble online, so no one had to know and I did not even have to get out of the house. In those 2 to 3 mad years, I lost over £50,000. Apart from the money side of things, I lost the respect of my family as well: my kids hated me and my wife blamed me for it. I lost my ambition in life, apart from the need to gamble. I had no time for anything or anyone else.

All this time, I was not associating my gambling with the medication. How was I to know? One time, at my sixth monthly check up with my specialist, I told him and he immediately switched my medication. He also referred me to the gambling clinic. And then over the next few months I stopped gambling, or nearly stopped. I am still frightened because the cravings are still there. Say, every time I walk past a betting shop, if I have money in my pocket, I'm scared, or when I get an e-mail offering a £5 free bet. I have had a few lapses in the past few months. The way I control my gambling these days is by controlling my lifestyle; having other things to do. I go for walks, swim and read a lot. I have got my ambition back and I'm me again. My family is beginning to trust me again. My advice to others would be – do not ever get into a betting shop if you are on this medication. And to doctors – please forewarn your patients about this side effect so it can be nipped in the bud. And to fellow patients- certainly, do not blame yourself, and get help as soon as you can'.

TREATMENT

The patient received 10 sessions of individual cognitive–behavioural therapy for his gambling addiction, between September 2010 and March 2011. Key issues discussed in these sessions were: the role of behavioural conditioning in gambling and triggers for the occasional lapses (seemed to mostly involve complacency with regard to both carrying reasonably large amounts of cash and a lack of foresight when entering into high-risk situations). Discussions also encompassed the patient's lifestyle and adaptation to retirement. Finally, the need for roles in order to provide a sense of purpose and impose some structure on his spare time was also discussed.

OUTCOME AND FOLLOW-UP

Details of the patient's treatment aspects are covered in other sections. In summary, the patient has, since completion of his 1:1 cognitive–behavioural therapy in March 2011 been completely abstinent from gambling. He still reports occasional cravings, especially triggered by high-risk situations such as walking past betting shops and getting e-mail reminders from online betting schemes. He is highly motivated to continue total abstinence from gambling. He spends more time with his family and keeps himself busy by pursuing other recreational activities.

DISCUSSION

The subject of dopaminergic treatment – induced gambling addiction in patients with RLS had not been sufficiently explored until recently. But encouragingly, over the past few years researchers have attempted to understand this area better. In perhaps one of the earliest accounts Driver–Dunckley *et al*[9] studied 77 patients with idiopathic RLS who were on one or more dopaminergic medications, for medication-induced gambling behaviours and other compulsions. They found that 6% of their sample had increased urges to gamble and spent increased time gambling, specifically after the initiation of dopaminergic medication. In a similar and more recent study, Dang *et al*[10] found the prevalence of impulse control disorders (ICDs) in this cohort of patients to be 2.7%; these ICDs included gambling addiction, kleptomania, compulsive shopping and hypersexuality. They failed to establish a linear relationship between duration of dopaminergic treatment and risk of onset of ICDs, but found that some of these iatrogenic symptoms persisted beyond cessation of dopaminergic treatment. This combined with the multiple financial, forensic, social and marital implications of these behaviours they found in this study made them call for 'careful consideration by clinicians of the emergence of ICDs and discussion with patients.

In perhaps the most comprehensive review to date, of all cases published, of patients with RLS who developed gambling addiction while on dopaminergic therapy, d'Orsi *et al*[11] identified 15 cases. Key features found in this review included the following: average age of onset was 59.8 (range was 27 to 77), gender distribution – male: female was 7:8, they were all on dopaminergic monotherapy, they had all been on treatment for several months, some also experienced other compulsive behaviours, none had a history of gambling addiction but four were recreational gamblers in the past, and gambling addiction 'improved-resolved' in all patients upon cessation of dopaminergic treatment.

In light of the above published evidence, the patient's case described above seems not uncommon and fits with previous reports. The patient had suffered from RLS since early childhood and he had a family history of RLS. He commenced dopaminergic treatment at the age of 40, with sinemet and cabergoline. His symptoms of RLS were reasonably well-controlled initially but as he developed an augmentation phenomenon, he was switched from cabergoline to ropinirole. On this medication, although his symptoms of RLS improved, he developed a gambling problem; he had had no history of such a problem. As soon as this was identified, he was switched to rotigotine but his addiction to gambling persisted. It was then that his medication was changed over to gabapentin and he was also referred to the gambling clinic. He received 10 sessions of cognitive–behavioural therapy for his gambling addiction. Six months on, he is no longer addicted to gambling but he has had a few lapses. His symptoms of RLS are better controlled but he still struggles to get a refreshing night's sleep.

In our view what makes this case unusual from previous ones and hence all the more relevant to the clinician are the following. First, the patient was never forewarned

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about this potential side effect (i.e. gambling addiction) any time before, nor was he ever screened for gambling behaviours during his dopaminergic treatment. Second, it was not until well over 18 years of dopaminergic treatment that he developed gambling addiction. Third, while it would appear that the patient's gambling is in remission 6 months after cessation of dopaminergic treatment, he still continues to have cravings and occasional lapses into gambling. Hence we call for clinicians involved in treatment of RLS to follow these simple measures: screen patients for gambling behaviours prior to the onset and during dopaminergic treatment; forewarn patients of this potential side effect; and if patients screen positive, refer them to specialist gambling treatment services, in addition to making necessary changes to their medication regime; consider collaborative working between neurologists and addiction specialists in treating these patients.

In conclusion, we hope this patient's story has succeeded in raising clinicians' awareness of this condition. We end with a call to forewarn patients of this side effect (i.e. iatrogenic gambling addiction) of dopaminergic medications, and stress the importance of regularly screening patients for the development of gambling behaviours.

Learning points

- Iatrogenic gambling addiction is a less known side effect of dopaminergic agents, commonly used treatments for RLS.
- But very often this side effect goes unrecognised and hence unaddressed.
- We call for clinicians to forewarn patients of this potential side effect and to screen patients for gambling behaviours prior to the onset and during dopaminergic treatment.
- If patients screen positive, refer them to specialist gambling treatment services, in addition to making necessary changes to their dopaminergic medication regime.

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Competing interests None.

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