

Patients with Parkinson's disease for whom narcolepsy and nocturnal delirium appeared to be dose-dependent symptoms caused by a dopamine agonist

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Abstract

The patient was a 76-year-old woman who had suffered Parkinson's disease for eight years. Nine mg of ropinirole, a dopamine agonist, was taken four times a day. Gait disturbance worsened, and she was hospitalized. She experienced nocturnal delirium, burst-related sleep, a tendency towards somnolence and sleep disturbance. The ropinirole was reduced to 4 mg, four times a day. The narcolepsy disappeared the next day, and the daytime somnolence also decreased. Ropinirole-related nocturnal delirium with a tendency towards somnolence, and burst-related sleep seemed to be dose-dependent.

Keywords: ropinirole hydrochloride, excessive daytime sleepiness, Parkinson's disease, dose responsive relation

Introduction

In patients with Parkinson's disease, narcolepsy may sometimes present. Narcolepsy as a side effect of use of dopamine agonists has attracted attention recently. We report a case in which cataplectic sleep and nocturnal delirium were complicated in patients with Parkinson's disease while they were taking a ropinirole remedy.

Case report

A 76-year-old woman noticed gait disturbance from about 2003. She received a diagnosis of Parkinson's disease from her local doctor and was treated. Vorlage and gait disturbance worsened from about May, 2009. Left coxalgia developed from about December, 2010. She was hospitalized in Tokushima National Hospital on January 7, 2011. On admission, the symptoms of parkinsonism were remarkable. She was not able to walk due to the left coxalgia and vorlage. The Hoehn & Yahr stage was 4 and UPDRS was 123. The anti-parkinson agents included Levodopa benserazide hydrochloride 300mg/day,

ropinirole hydrochloride 9 mg/day, Selegiline hydrochloride 25mg/day on admission. Cataplectic narcolepsy developed during daytime rehabilitation just after hospitalization. Nocturnal delirium and insomnia developed at the same time. The ropinirole was reduced to 4mg/day from February 14. The sudden daytime sleepiness during rehabilitation than the next day disappeared. The nocturnal delirium also decreased. The Epworth Sleepiness Scale decreased from 20 points to 8 points.

Discussion

A case that caused a traffic accident was described in an initial report on daytime sleepiness attacks caused by a non-ergot system dopamine agonist [1]. The tendency towards somnolence of patients with Parkinson's disease in the daytime is associated with disease severity, a tendency to depression, and large doses of a dopamine agonist [2,3]. The average frequency of occurrence is 15.5%; 8% at the onset of illness and 21% four years after the onset [4]. Patients with Parkinson's disease have much sleep fragmentation [5]. This may cause sleep disturbance

at night, but it does not seem to cause somnolence in the daytime. Ropinirole shortened the initiation of sleep latency in a control study of healthy subjects [6]. As for this, the drug may be associated with somnolence in the daytime. This patient took 9mg ropinirole /day for several years. She did not have somnolence or delirium before then. Somnolence in the daytime and nocturnal delirium developed several days after hospitalization. Therefore, these side effects could be delayed adverse events associated with taking ropinirole. Nocturnal delirium caused by a dopamine agonist remedy may be more frequent than is conventionally reported [7]. It is reported that ropinirole induces psychosis [8]. Our patients showed improvement in somnolence and nocturnal delirium with a dose reduction of their dopamine agonist in the daytime. In other words, somnolence and nocturnal delirium in the daytime were delayed type adverse events caused by ropinirole, and were improved by drug reduction immediately.

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