Benefit of Apomorphine Infusion in a Refractory Restless Legs Syndrome

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INTRODUCTION
Apomorphine is a combined dopaminergic and opioidergic agonist that has been shown effective in a few reports that investigate its acute effect on small samples of patients with Restless Legs Syndrome (RLS). The present case report describes its chronic (9-month) effect on a patient affected by Parkinson’s disease and severe RLS.

METHODS
In this study, the effect of a continuous subcutaneous apomorphine infusion 9-month treatment were prospectively assessed in a male patient aged 57 years having severe RLS comorbid with a Parkinson’s disease (PD). During the last ten years, this patient was followed by one of us for both diseases that were clinically well documented, including with repeated polysomnography (PSG).

RESULTS

a) Retrospective analysis of the follow-up before apomorphine infusion
At the age of 47: the patient first consulted for a severe insomnia and RLS.
At the age of 48: PD was diagnosed and L-DOPA therapy started.
During the 10 year follow-up the patient underwent 6 repeated PSG assessments at different times that confirmed the severity of RLS (sometimes associated with periodic leg movements of sleep) and insomnia. Numerous treatments were tried including various dopamine agonists, anti-epileptic drugs, opioids, and benzodiazepines. An iron deficiency was excluded at several times.

b) Prospective follow-up during the 9 month apomorphine infusion treatment
The patient reported an immediate relief of subjective RLS but no improvement on motor disabilities. These effects were sustained during the 9-month follow-up period and documented by scores on questionnaires:
The International Restless Legs Syndrome Rating Scale was completed after 4, 6 and 9 months: it scored 0/40 at each time.
The Insomnia Severity Index was completed after 4, 6 and 9 months: it scored 0-3/28.
PSG performed when patient was 56 years old and treated by Ropinirole 1 mg/day, Clonazepam 1 mg/day and L-Dopa LP 200 mg/day.
The International Restless Legs Syndrome Syndrome Rating Scale scored 32/40.
Total sleep time: 246 m; sleep efficiency 58%; Slow waves sleep: 0%
Periodic limb movement index during wakefulness: 37/h (and 20/h during sleep)

C) Apomorphine withdrawal
After 9 months of treatment by apomorphine infusion the patient asked to stop it transiently because of subcutaneous nodules at the injection sites. He started again the same oral therapy that he had before apomorphine infusion. He complained immediately of reappearance of severe RLS and insomnia. After 6 weeks of oral therapy the International Restless Legs Syndrome Rating Scale scored 28/40 and the Insomnia Severity Index 24/28.

CONCLUSION
Apomorphine infusion may be an effective treatment for refractory RLS in PD.