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Preferential D2 or preferential D3 dopamine agonists in restless legs syndrome.

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Abstract

OBJECTIVE: A comparison between equivalent low doses of the D2 preferential agonist bromocriptine and the D3 preferential agonist pramipexole was performed in order to understand which dopamine agonist receptor subtype plays the main role in the treatment of restless legs syndrome (RLS) with periodic leg movements during sleep (PLMS).

METHODS: A placebo-controlled, prospective, single-blind investigation was carried out on 45 drug-naive patients with idiopathic RLS. Each patient underwent 2 consecutive full night polysomnographic studies. The first night was performed without medication. Prior to the second night, one group received a single oral dose of 0.25 mg pramipexole while a second group received a single oral dose of 2.5 mg bromocriptine, and the remaining patients received placebo. Additionally, symptoms of restlessness were assessed.

RESULTS: Subjective symptoms improved with both pramipexole and bromocriptine; however, the amelioration after pramipexole was scored higher. Only pramipexole induced an improvement in sleep efficiency and a reduction in wakefulness after sleep onset. Pramipexole was more effective than bromocriptine in reducing periodic leg movements, in particular in patients with a high baseline periodic leg movements index. Typical periodic leg movements, with an interval ranging between 10 and 40 seconds, disappeared completely after pramipexole treatment but persisted, even if reduced, after bromocriptine.

CONCLUSIONS: Dopamine agonists targeting the dopamine D3 receptor subtype have a higher efficacy on periodic leg movements and RLS than a drug that preferentially targets the D2 receptor subtype.

CLASSIFICATION OF EVIDENCE: This study provides Class III evidence that for patients with RLS pramipexole as compared to an estimated equivalent dose of bromocriptine results in greater improvement in some measures of RLS and PLMS severity after one night of treatment.

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