Abstract

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Primary and secondary features of Parkinson's disease improve with strategic exposure to bright light: a case series study.

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Abstract

The antagonism of melatonin in models of Parkinson's disease (PD) can reduce the severity of motor impairment associated with dopamine (DA) degeneration. In consideration of the potent antidepressant effects of bright light therapy (LT), that LT suppresses melatonin secretion, that depression is commonly observed in PD, and that exposure to constant light facilitates recovery from experimental PD, the object of the present study was to strategically administer LT to PD patients and observe the effects on depression, insomnia, and motor performance. Twelve patients diagnosed with PD were exposed to white fluorescent light for 1-1.5 h at an intensity of 1000 to 1500 lux once daily commencing 1 h prior to the usual time of sleep onset, approximately 22:00 h in most patients. All patients were assessed before LT commenced and at two weeks, five weeks, and regular intervals thereafter. Within two weeks after commencing LT, marked improvement in bradykinaesia and rigidity was observed in most patients. Tremor was not affected by LT treatment; however, agitation, dyskinaesia, and psychiatric side effects were reduced, as verified by decreased requirement for DA replacement therapy. Elevated mood, improved sleep, decreased seborrhea, reduced impotence, and increased appetite were observed after LT. LT permitted the reduction of the dose of L-dopa, bromocriptine, or deprenyl in some patients by up to 50% without loss of symptom control. Factors limiting the efficacy of LT included multiple disease states, treatment compliance, polypharmacy, emotional stress, advanced age, and predominance of positive symptoms. The results of this case series study confirms previous work describing light as efficacious in the treatment of PD and suggest that controlled trials may help to elucidate how LT might be used strategically as an adjunct therapy to improve the morbidity of PD patients.

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