



INTRODUCTION

Previous research has shown that medical marijuana may improve dyskinesia in patients with Parkinson's Disease. One study has reported that cannabis may improve sleep disturbances in patients with Parkinson's Disease (PD). There have also been recorded cases of improved motor performance in patients with PD with the adoption of a plant-based diet. A recent systematic review has demonstrated that massage therapy may offer beneficial effects on both motor and non-motor symptoms of PD. There are relatively few studies that analyze the effects of diet or marijuana on motor symptoms and sleep disturbances in PD. This project is a case report of one adult individual with PD and this patient's experience with various treatments, including prescribed plant-based diet, medical marijuana, and massage therapy. The subject's medical record was reviewed to analyze symptomatology pre-treatment and post-treatment these adjunct therapies.

OBJECTIVE

The aim of this study is to observe how sleep and motor symptoms of Parkinson's Disease are impacted by the introduction of a plant-based diet, medical marijuana, and massage therapy.

STUDY DESIGN

This report is a case study of a single patient. Data was obtained through medical records review with IRB approval and patient consent. The study spans 4 years of retrospectively obtained patient data.

THE CASE

A 60 y/o F was diagnosed with Parkinson's Disease four years ago after presenting with restless legs, insomnia (6 hours of unrestful sleep), tremors (hands, head, vocal) and muscular rigidity. At the time of diagnosis, she was started on the dopamine agonist ropinirole. At the initial dose of 6 mg, she experienced adverse reactions of nausea and syncope. Ropinirole was decreased to 0.5 mg, which is the highest dose she was able to tolerate and has maintained to date of publication.

Under the care and advisement of her physician, she initiated and maintained a series of three sequential and combined adjunct therapies over the course of three years:

1. Plant-based diet
2. Medical marijuana
3. Massage therapy

RESULTS

With the initiation of ropinirole 0.5 mg per day, the patient experienced immediate relief in her insomnia with a more restful sleep quality (and cessation of chronic headaches) but had no increase in hours of sleep per night. Additionally, her muscular rigidity and restless leg symptoms improved slightly. However, there was no noticeable improvement in her tremors.

1. One year after diagnosis, the patient initiated a plant-based diet while continuing ropinirole. This diet excluded meat, dairy, and eggs and emphasized vegetables, fruits, whole grains, and legumes. Over the course of six months, she experienced a gradual and significant improvement only in the severity of her tremors (head bobbing, hand tremors, vocal tremors). On physical exam, tremors improved moderate (8 Hz) to mild (5 Hz) resting tremors. Rigidity was improved on exam from moderate to mild right upper extremity and right lower extremity bradykinesia.
2. Two years after diagnosis, the patient initiated the use of medical marijuana with a prescribed 0.75 mL of Curaleaf Tincture 20:1 THC:CBD as an adjunct to her previous treatments. With this addition, she reported an immediate increase in sleep quantity from 6 hours to 8 hours per night.
3. Three years after diagnosis, the patient added massage therapy as an adjunct to all previous treatments. Massage was performed through a full-body massage chair for 20 minutes each night before sleep. With the addition of massage, the patient reported an immediate, moderate improvement in her restless leg symptoms.

Symptoms as Reported by Patient:

	1. Ropinirole*	2. Plant Diet*	3. Marijuana*	4. Massage*
Sleep	6 hours Quality improved	6 hours	8 hours	8 hours
Tremors	No improvement	Significant improvement	No improvement	No improvement
Rigidity	Slight improvement	No improvement	No improvement	No improvement
Restless Leg	Slight improvement	No improvement	No improvement	Slight improvement

*Treatment Regimen:

1. Ropinirole 0.5 mg per day
2. Ropinirole 0.5 mg per day + Plant-Based Diet
3. Ropinirole 0.5 mg per day + Plant-Based Diet + Medical Marijuana
4. Ropinirole 0.5 mg per day + Plant-Based Diet + Medical Marijuana + Massage Therapy

DISCUSSION

In the case of this 60 y/o F with PD, symptomatic improvement was noted with adjunct therapies in combination with ropinirole 0.5 mg daily. With ropinirole alone, improvements in the quality of sleep, rigidity, and restless leg symptoms were reported by the patient and corroborated on physical exam. With the addition of a plant-based diet, tremors alone improved. Then, with the addition of medical marijuana, the quantity of hours slept increased. Lastly, with the incorporation of massage therapy, restless leg symptoms improved. Over the course of this four-year period, prior improvements seen with adjunct treatments were retained. It appears that there may be a role for each of these therapies alone or in combination in mitigating the motor and non-motor symptoms of PD.

LIMITATIONS

Because of the single case nature of this study, the relationship between these multiple adjunct treatments and the symptoms of PD must be further explored. It is unknown how the use of sequential and combined treatments may confound these cumulative results; the possibility of synergism among treatments can not be ruled out. Although physical exam data was obtained, data collection depended on subjective patient reporting. Another limitation to consider is the progressive nature of PD and the obfuscation of symptom improvement or plateauing versus the progressive course of the disease symptomatology.

FUTURE DIRECTIONS

Although the literature and this case study support the benefits of massage in the treatment of PD, longitudinal studies are needed to further justify the application of this technique into clinical practice. Longitudinal and randomized controlled trials on the efficacy and safety of medical marijuana and a plant-based diet in PD are also needed.

CITATIONS

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ACKNOWLEDGEMENTS

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