



Ayurvedic Management Successfully Reduces Dose of L-Dopa and Remission of Symptoms in Parkinson's Disease – (A Case Report)

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Abstract

Background and Aim: Parkinson's Disease (PD) is a neurodegenerative condition of motor nervous system. The symptoms of PD are similar to *KampaVata* (a disease of *Vata Dosha*) such as *Karapadataala kampa* (tremors in hands and foot), *Dehabhramana* (postural instability), *Nidrabhagna* (insomnia) and *Matiksheena* (dementia) referred by Ayurvedic classics. The most effective management of PD in Allopathic system is dopamine replacement therapy but long-term use of L-Dopa is associated with motor complications. Available medications for PD provides only symptomatic relief and there is no treatment proven to cure the disease or delay its progression. The present case report is a known case of young onset asymmetric Parkinsonism who was on 700mg L-Dopa, managed with Ayurveda therapies. The line of treatment included *Vatanulomana* (pacifying morbid *VataDosa*), *Srotoshodhana* (clearing of the obstructed bodychannels) and *Rasayana* (rejuvenation). **Management and results:** It included both internal and external Ayurveda therapies. Therapies were performed every year for around 20 days in 3 consecutive years. The assessment was done by Parkinson's disease questionnaire 39 and Schwab and England Activities of daily Living scale. Reduction in the dose of L-Dopa, improvement in tremor, bradykinesia, rigidity, regaining the perception of taste and smell was observed at the end of 3 years of treatment. **Conclusion:** The dose of L-Dopa was reduced from 700mg to 100mg/day and the quality of life improved.

Keywords: *Abhyanga*, Ayurveda, *Kampavata*, Panchakarma, *Shirodhara*, *Srotoshodhana*

Abbreviations: PD- Parkinson's disease

Highlights of the Findings

- Presentations of Parkinson's disease is similar to *Kampa vata* explained in Ayurveda and can be effectively managed.
- Regular Ayurveda medications can reduce the dose of L-Dopa and can improve the quality of life of Parkinson's patients.
- PDQ 39 and Schwab and England Activities of daily Living scales are reliable and easy applicable assessment tools.
- *Shirodhara*, *Kashayadhara*, *Abhyanga*, *Pindasweda* are some of the effective Ayurveda measures in Parkinson's disease.

1. Introduction

PD is a progressive neurodegenerative condition of motor nervous system. Approximately it occurs as a result of the progressive loss of Dopamine producing cells in a region

of brain called the substantia nigra with a prevalence rate of 160 cases per 1,00,000 population¹. The first clinical sign occurs when about 60% of the dopamine-producing cells in the substantia nigra have degenerated. The condition is characterized by motor symptoms like tremor, rigidity,

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and bradykinesia, and non-motor symptoms including problems with mood, sleep and memory. Similar is the presentation of the disease *KampaVata* narrated in Ayurveda classical texts. The line of treatment includes *Vatanulomana* (pacifying morbid *Vata Dosha*), *Srotoshodhana* (clearing of the obstructed body channels) and *Rasayana* (rejuvenation)². The present case report consist of a young onset asymmetric Parkinsonism treated on the above lines.

2. Case Report

A 58-year-old businessman, diagnosed with a case of young onset asymmetric Parkinsonism (PD) came to Panchakarma OPD of Amrita School of Ayurveda and hospital, Vallikkavu, Kollam, Kerala, India, 3 years ago. According to his statement, he started with the symptoms 15 years back. He was diagnosed as Young onset asymmetric PD at the age of 40. 15 years ago, his presentations included slowing of daily routine activities, reduced arm swing especially on left hand and vague ache over left upper and lower limb. He has been under L-Dopa treatment since then. But in due course of time, the disease progressed and the dose of L-Dopa was increased from 100 to 700 mg/day along with other supportive medications.

The patient was normal when he entered Out Patients Department (OPD) of our hospital 3 years ago. As per patient's words he was under high dose of L-Dopa, which temporarily arrests the tremors. Also, he was under anti-depressive and anti-convulsive drugs. On taking the medicines, the tremor was temporarily arrested for the next two hours and could do his routine works, but his mental status was altered due to the high dose. After two hours, same condition relapses. He also revealed familial history of the disease as his father had suffered with this disease at the age of 60. His complaints included imbalance, slowing of all activities, tremors in both hands while eating food, unable to button the shirt, loss of appetite, and general debility. He also complained about mood swings, sleep disturbances like day sleep and sleepless nights. On examination, festinate gait, stooped posture, expressionless face, reduced eye blinking and slow speech were observed. Hypertonia of right hand was present on motor examination. Muscle power was Grade-3 in upper limb. Cranial nerve examinations revealed neurological deficits in Olfactory and Glossopharyngeal nerves.

The finger nose test for co-ordination was positive. The Parkinson's disease questionnaire 39³ (PDQ 39) the Scale for assessing the quality of life showed a score of 162. Schwab and England Activities of daily Living⁴ Scale score was 30%. The L-Dopa dose was 700mg /day.

3. Treatments

The patient was admitted in the IPD of the hospital and the oral medications administered were *Balāsaireyakadi Kashaya*, *Varunitaila*, *Siddhamakaradhwaaja*, *Aswagandharishta*, *Mahabhutaravaghrita*, *Manasa mitra vataka* in different combinations. External Ayurveda therapies included *Kashaya Dhāra* (Pouring of lukewarm decoction of medicated drugs over the whole body), *Sarvanga Abhyanga* (Whole body massage with oil), *ShiroPichu* (Medicated herbal powder mixed with medicated oil is placed over the patient's vertex for a prescribed duration), *Kaya seka* (Pouring of warm medicated oil on to the body uniformly followed by massage), *Churna Pinda Sweda* (Sudation therapy with boluses of medicinal powders), *Shirodhara* (Gentle pouring of liquids over the forehead for a prescribed duration). He was treated in the hospital for around 20 days every year and was advised to continue the internal medicines. He was reviewed every 2 months till his second admission to the hospital the next year. As an inpatient the same protocol was followed. Again, he was admitted for the third course of treatment after a year.

4. Outcome Measures

Assessments were done every year after the treatment (Table 1). Improvements in symptoms, P.D.Q.39 Scale and Shwab and England activities of daily living were used as the outcome measures. The assessments were based on the patient's perception.

5. Discussion

KampaVata is characterized by symptoms such as *Karapadataala Kampa* (tremors in hands and legs), *DehaBhramana* (postural instability), *Nidrabhanga* (insomnia) *Matiksheena* (dementia)⁵ and also the symptoms of *Vatavyadhi* (morbid *Vata Dosha*) like *Sthambha* (rigidity), *Cheshtahani* (slowness of the movement), *Vinamana* (flexed posture), *Vakvikriti* (speech disorders) etc. These presentations are similar to Parkinsonism. It is also known by the term *Vepathu*⁶ (shaking). The pathology of *KampaVata* is *VataAvarana* (covering of morbid *VataDosa* by morbid *KaphaDosa*).

Table 1. The outcome measures after each course of Ayurveda treatments

Scales	Assessments	Syndopa dose	P.D.Q.39 Scale	Shwab and England activities of daily living	Symptoms
1st course (18 days in patient)	B/T	700mg/day	162	30%	Imbalance, slowing of all activities and speech, tremors of both hands, loss of appetite, general debility, reduced eye blinking, loss of smell and taste sensation
2nd course (25 days in patient)	A/T	700mg/day	159	35%	Tremor reduced to right hand, gait improved
	B/T	400mg/day	156	35%	Sleep disturbances, festinate gait, tremor of right hand, loss of smell and taste sensation
3rd course (18 days in patient)	A/T	400mg/day	155	38%	Occasional tremor of right hand, can walk one kilometre slowly without support, regained smell and taste sensation
	B/T	400mg/day	152	45%	Tremor of right hand, festinate gait, sleep disturbances.
	A/T	100mg/day	144	50%	Tremor reduced considerably, Gait improved. Can walk and do his daily living without support

This pathology can present with symptoms like *Gatisanga*, (obstruction of movements of the body by morbid Dosa), *Vakswaragraha* (difficulty to speak), *Gurugātrata* (heaviness), *Stambhana* (stiffness) and *Kampanam* (tremor)⁷. The resultant of *VataĀvarana* (covering of morbid *Vatadosha* by morbid *KaphaDosa*) is *Dhatukshaya* (depletion of tissues). Further when this pathology settled in *Masthishkya* (brain cells), it leads to *KampaVata* (Vitiating of morbid *VataDosa*). After considering the pathogenesis, the treatment is planned as to advocate *Srotoshodhana* (clearing the channels), *Vatanulomana* (reducing the morbid *VataDosa*) and *Rasayana* (rejuvenating therapy). Treatments like *Swedana* (sweating), *Abhyanga*, (massage), *Anuvasanabasti*, (oil enema) *Niruhabasti*, (decoction enema), *Śirobasti*, (holding oil on head for specific period), *Virechana* (purgation) and *Shamanaushadhi* (Alleviating medicines)⁸ are suitable in the management of *KampaVata*. The whole protocol was aimed at correcting *VataDosa* (morbid *Vata*).

Sarvangadhara (pouring medicated liquids over whole body) is a type of *Swedana* (sweating) wherein disease specific medicated decoctions are poured over the whole body from a specific height. It is *Sramahara*, (relieves tiredness), *Anilahara*, (reduces morbid *VataDosa*), *Agniprasādana* (improves metabolism), and *Rujapaha* (reduces pain)⁹. The same is also responsible for increase in circulation and thus improving the nourishment to different bodily tissues. Moreover, *Manas* (mind) and *Twak* (skin) are very closely related, hence can influence the action of the other¹⁰. Thus a drug which influences the skin can have simultaneous excitatory or relaxative effect on the mind and even the sense organs.

Shirodhara (pouring medicated liquids over body from particular height over the forehead) has showed highly significant relief on sleeplessness, distress, sleep time, sleep quality and freshness after awakening, in patients of stress induced chronic insomnia. Medicines poured from a particular height may produce some amount of kinetic energy which stimulates nerves, tactile and thermo receptors¹¹. This is due to the activation of brainstem, and frontal lobe areas of brain. It causes release of endorphins, serotonin, enzymes which has anxiolytic effect. It reduced the level of plasma noradrenalin and urinary serotonin excretion. It also decreased the rate of breathing and heart rate. Hence *Shirodhara* (pouring medicated liquids over body) was effective in improving the sleep as well as activating at the level of brain so that walking capacity and coordination could be better in the patient.

Abhyanga (body massage with medicated oil) is a procedure practiced daily for maintaining health in

healthy and also advocated in ill-health¹². It prolongs aging, reduces tiredness, and improves eyesight, sleep and strength¹³. Oils used in *Abhyanga* will reach up to different *Dhatus*¹⁴ when it is applied for sufficient time. The drug used for *Abhyanga* gets absorbed through the skin and can act over the skin, which is a seat of *Vata*. *Abhyanga* (massage) stimulates the nervous system and can act on physical and emotional well-being by normalizing the *Atipravrutti* of *Vata*¹⁵ (increased morbid *VataDosa*). It also improves lymphatic drainage and thereby increases neurotransmitters like serotonin which is low in depression, schizophrenia etc conditions¹⁶. Absorption through the skin can be enhanced by suspending the drug in an oily vehicle and rubbing the resulting preparation into the skin (Goodman & Gilman – 1996). Hence, topical drugs which are lipid soluble easily enter into papillary region of dermis, and may enter into capillary circulation through dermis, and finally may enter into systemic circulation¹⁷.

ShiroPichu is a procedure of application of medicine over the bregma/anterior fontanelle, the area which facilitates easy absorption of medicine¹⁸. It has a very good calming effect over mind¹⁹.

Churna Pinda Sweda being *Snigdha* (oily) and *UshnaVirya* (hot potency) corrects the deranged *Vāta* (morbid *Vata Dosha*) and *Kapha Dosha* (morbid *kaphaDosa*) and relieves stiffness. It not only relieves stiffness, but also clears blocking of passages (*Srotorodha*). As *Swedana* (sudation therapy) has the opposite qualities to that of *Vāta* (morbid *vataDosa*) and *Kapha* (morbid *kaphaDosa*), thereby producing a palliative effect on them and the *Srotas* (channel) is becoming normal. It is well known that unless there is a *Srotodushti* (obstruction to the channels) there is no disease. Thus, *Swedana* (sudation therapy) clears the *Srotho dushti or Sanga* (obstruction of channels). In other words, by contact of bearable warmth, the area in contact gets more circulation. The lumina of the contracted body architecture get smoother and wider, rendering a stiff entity to become smooth and relieves a variety of obstructions²⁰.

The drugs used internally are of *Katu* (acid) and *Tikta rasa* (bitter taste), *Laghu*, *Ruksha Guna* (light and dry properties), *Katu Vipaka* (acid potency), *KaphaVatahara* (reducing morbid *Kapha* and *Vata*), *Balya* (strengthening), *Bruhmana* (nourishing) and *Vrishya Karma*²¹ (Rejuvenating). Hence these are of *Srotoshodhaka* (clearing the channels) in nature and is having *VataKaphahara* (reducing morbid *Kapha* and *Vata*) property which can correct the pathology of *AvaranaVāta* (obstructed morbid *Vāta*).

The main ingredient of decoction used internally is *Bala* (*Sidacordifolia*). It is *VataPittaShaamaka* (reducing morbid *Vata* and *Pitta*), *Balya* (strengthening), *Bruhmana* (nourishing) and *Ojovardhaka* (improves immunity). It is *Bruhmana* (nourishing), *Balya* (improves strength) and increases energy²² because of the principle ephedrine. The drug is generally considered as a nervine tonic.

Mahabhutarava Ghrita (medicated ghee) is indicated mainly in *ManasikaVikaras* (mental disorders)²³. The ingredients of *Mahabhutarava Ghrita* are *Medhya* (improves intellect) and it is *Srotoshodhaka* (cleaning the channels) in nature. Research studies conducted on *Yashtimadhu* (*Glycyrrhiza glabra Linn*) which is an ingredient of this *ghrita* reveals that it has rejuvenating, anticonvulsant effects, memory enhancing activity, antioxidant potential activity, etc.²⁴ *Ghrita* (ghee) itself acts as *Medhya* (improves intellect), *Bruhmana* (nourishing), *Rasāyana* (rejuvenating) and *Vatanulomaka* (downward movement of morbid *VataDosa*). Hence, it may act against nerve degeneration which is the main reason for this disease. Also, ghee preparations readily enter the brain crossing the blood brain barrier and act on target organ²⁵.

6. Conclusion

The case study presented suggested that an integrated approach will be effective in managing Parkinson's disease. Ayurveda medications can arrest the progress and regress the dose of L-Dopa. The rate of progression and its course varies according to an individual. The disability of Parkinson's disease can be decreased with early Ayurveda treatment by reducing the symptoms, improving the functional movements and thereby the quality of life. Since it is a chronic condition it requires long term treatment. Further research studies incorporated with scientific methods will open a new challenge in the treatment of Parkinsonism.

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