

THE ROLE OF AYURVEDA IN THE MANAGEMENT OF PARKINSON'S DISEASE- A REVIEW ARTICLE

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ABSTRACT

Parkinson's disease (PD), also known as idiopathic or primary Parkinsonism, hypokinetic rigid syndrome, or paralysis agitans. It is a degenerative disorder of the central nervous system mainly affecting the motor system. Parkinson's disease affected 1% of adults over the age of 60 years, with increasing frequency in older age group. The Initial manifestations may be tremor, slowness or, clumsiness of an arm or, less commonly, of a leg. Tremors, rigidity, akinesia, and postural disturbances are the major clinical abnormalities. The tremors present mainly at rest (resting tremor) and is suppressed on voluntary movements. Clinical features of Parkinsonism is mask face, slurred and indistinct speech, festinant gait, stooped posture, tremors (resting or postural), rigidity(lead pipe or cog wheel). Parkinson's disease has been previously identified many thousands of years ago in ancient Ayurvedic texts as *Kampavata* (*Kampa*: tremor; *Vata*: the bodily humor governing movements). The aggravated *Vata* disturbs the "Rasa" *Dhatu* (Tissue) and then later relocated to other *Dhatu*s, affecting *Mamsa* (Muscular) and *Majja* (Brain tissue) causing the muscle stiffness, rigidity, altered behaviour and tremors.

Keywords: *Kampavata, Snehnam, Swednam, Vasti, Abhyangam*

INTRODUCTION

Parkinson's disease (PD), also known as idiopathic or primary Parkinsonism, hypokinetic rigid syndrome, or paralysis agitans. It is a degenerative disorder of the central nervous system mainly affecting the motor system. Parkinson's disease affected 1% of adults over the age of 60 years; with increasing frequency in older age group.¹ It affects both sexes equally. The symptoms start insidiously and tend to be unilateral or asymmetrical at the onset. The Initial manifestations may be tremor, slowness or, clumsiness of an arm or, less commonly, of a leg. Tremors, rigidity, akinesia, and postural distur-

bances are the major clinical abnormalities². Although Parkinson's disease recognised mainly by its motor manifestations, Non-motor symptoms (NMS) are also frequently encountered. Non motor symptoms include autonomic dysfunction, sensory dysfunction, depression, anxiety, cognitive impairment and sleep disturbances. **Autonomic dysfunction:** constipation, frequency of micturition, nocturia and mild to moderate degree of orthostatic hypotension. **Sensory dysfunction:** undefined muscle pain, abdominal discomfort, dysaesthesia in feet and painful neck movements. Cognitive disturbance suggestive of

frontal lobe dysfunction are common. Sleep disturbances lead to excessive daytime sleepiness and poor daytime functioning. The tremors present mainly at rest (resting tremors) and is suppressed on voluntary movements. Clinical features of Parkinsonism is mask face, slurred and indistinct speech, festinant gait, stooped posture, tremors (resting or postural), rigidity (lead pipe or cog wheel).³ The cause of Parkinson's disease is decreased concentration of dopamine in the substantia nigra and concludes that Parkinson's symptoms become evident when the concentration below 20% of the normal level. Parkinson's disease has been previously identified many thousands of years ago in ancient *Ayurvedic* texts as *Kampavata* (*Kampa*: tremor; *Vata*: the bodily humor governing movements). The aggravated *Vata* disturbs the "*Rasa*" *Dhatu* (Tissue) which cause the early symptoms of dryness in the skin (*PurvaRoopam*) and then later relocated to other *Dhatu*s, affecting *Mamsa* (Muscular) and *Majja* (Brain tissue) causing the muscle stiffness, rigidity, altered behaviour and tremors.

Pathology-Medical research has determined the cause of the condition to be a loss of function of specialized cells in the brain stem which stimulate the production of the neurotransmitter, dopamine⁴. Parkinson's disease can occur secondarily to several known causes including the ingestion of anti-psychotic drugs such as reserpine. (Reserpine is a plant alkaloid derivative of the Indian herb *Sarpagandha* or *RauwolfiaSerpentina*)⁵. These drugs block the action of dopamine on the brain even though normal levels are present. Carbon monoxide and manganese poisoning can instigate the condition as well as other brain tissue abnormalities such as tumours and infarcts. MPTP, a toxin product of heroin, was found to cause an acute clinical syndrome which was identical to Parkinson's disease⁶. Genetic factors also play an important role⁷.

As per *Ayurvedic* principles in later years of life, *ApanaVayu* accumulates (*Sanchaya*) and

may become aggravated (*Prakopa*). When this is combined with a *Vata* increasing lifestyle and constitutional tendencies, the stage is set for *Vata* to overflow (*Prasara*) into circulation. Overflow causes *VyanaVayuto* become disturbed within the *RasaDhatu*. Systemic signs of *Vata* disturbance occur, such as dryness of the membranes of the body. *Vata* may relocate (*SthanaSamsraya*) to any *Dhatu*s that are weak. When a pre existing weakness resides in the tissue of the brain, this becomes the site of relocation and thus we have a condition of *Vata* (*Prana*, *Samana* and *Vyana*) in the *MajjaDhatu*, damaging portions of the brain stem and causing altered coordination and tremors. *Vata*(*Vyana*) entering *MamsaDhatu* causing muscle rigidity and *PranaKshaya* (diminished *Prana*) in the *ManovahaSrota* causing depression. An increase in *Vata* dries out *Kapha* (cellular structure) in the susceptible region of the *MajjaDhatu* (brain stem). This creates an open space inviting *Vata* to become vitiated. While the condition has a predominantly *Vata* pathology, *Pitta* can also play an important role in the *Samprapti* (pathology) as its heat can burn out the cellular structure causing *KaphaKshaya* (diminished *Kapha*) in the *MajjaDhatu*, creating the original weakness in the brain stem.

Signs and Symptoms (*Rupa* and *Laksana*)-

1. **"Pill rolling tremor"**- In this condition, the thumb and fingers move uncontrollably in a manner resembling the rolling of a pill between the fingers.
2. **Tremors**- most commonly appear in the hands, arms and legs, though other areas may be affected.
3. **Micrographia**- Small movements of the hands and fingers may eventually be difficult. Can make ordinary daily activities such as buttoning a shirt very difficult.
4. **Stambha (Rigidity)** - movement becomes slow and difficult to initiate. Patients usually have to look at their feet to begin, shuffle forward to and occasionally, inad-

vertently break into a trot (festination). The arms do not swing in coordination with the usual stride.

5. **Mask face-** The face may appear without expression, dull or depressed.
6. **Reduced blinking-** is an early symptom.
7. **Monotone and expressionless voice.**
8. **Dementia-(Vishada/ depression)-** Fifty percent of patients will develop dementia.
9. **'Cogwheel rigidity'-** passive movements of the limbs produces "cogwheel rigidity." This is an unconscious resistance to passive motion causing the limb to move with irregular starts and stops or a ratchet type motion.
10. **Festinating Gait.** The most common signs and symptoms of Parkinson's Disease is Tremors, Muscular Rigidity, Mask Face/Staring, Festinating Gait.

Diagnosis- Diagnosis is based primarily on signs and symptoms. Resting tremors (tremors which occur when the body is at rest and there is no voluntary initiation of motion) along with rigidity, loss of facial expression or gait abnormalities strongly suggests the disease.

Investigations- Conventional laboratory studies do not help in the diagnosis of Parkinson's disease. Computed tomography (CT) and magnetic resonance scans are normal or show only variable degrees of atrophy.

Imaging- Positron emission tomography (PET) scans using fluoro deoxyglucose (FDG) or dopamine transporter (DAT). Single photon emission computed tomography (SPECT) scans have been used to study dopaminergic terminals.

Treatment-

Modern treatments are effective at managing the early motor symptoms of the disease, mainly through the use of levodopa and dopamine agonists. Most motor symptoms respond well to levodopa. However, the long term side effects of levodopa include motor fluctuation and dyskinesia. Surgery and deep brain stimulation have been used to reduce

motor symptoms as a last resort in severe cases where drugs are ineffective.

Management of *Kampavata* (Parkinson's disease): Ayurvedic treatment for this condition mainly based on the treatment of unbalanced *Vata*. Internal and External Oleation (*Snehanam*) and fomentation (*Svednam*) form the basis of the constitutional treatment⁸. Oleation can be done by internal consumption of medicated oils and Ghee. External Oleation can be done by Massage (*Abhyangam*). The important procedure for the treatment of *Kampavata* is *Basti* or *Vasti* treatment. *Vasti* (Anal enema) is the best purification method in order to balance the disturbed *Vata*.

Drugs- Drugs like *Ashwagandha*, *Shatavari*, *Bala*, *Vidari*, *Rasna*, *Dashmoola* are *Vata-shamka* and nurvine tonics so their preparation are beneficial in the management of this condition.

Formulations (*AushadhYoga*)-

- *Vati* (Tablets)-*ArogyavardhiniVati*, *Amritaguggulu*, *Shatavariguggulu*, *Agnitundi-vati*.
- *Kwatha*(Decoction) - *GudduchyadiKwath*, *RasnasaptakKwatha*, *MashabaladiKwatha*, *RasnadashamoolaKwatha*.
- *Asava-Aristha-* *Dashamoolar-istha*, *Balaristha*, *Ashwagandharistha*, *Draksha*.
- *Churna* (powder)- *Amalakichurna*, *Giloyachurna*, *Ashwagandha Churna*, *Nagradhya Churna*, *Narasingha Churna*, *Panchacoal Churna*.
- *Ghrit* (medicated ghee) - *Dashmooladhya Ghrit*, *Ashwagandha Ghrit*, *ChitradhyaGhrit*.
- *Rasa Aushdhi-* *Mahavatavidhvansaka Rasa*, *Yogendra Rasa*, *VatachintamaniRasa*, *VatagajankushaRasa*.
- *Bhasma-* *Praval Bhasma*, *SwarnaMakshikBhasma*.
- *Avaleha-* *Chyavanprasha Avaleha*, *Ashwagandha Avaleha*, *Kalyanka Avleha*.

- Medicated oil (for Abhyangam)- Narayana Taila, Prasarini-Taila, Mahamasha Taila, Vishagarbha Tail.

Rasayana-

Rasayana drugs are essentially nutraceutical agents and Medhya Rasayana are specific neuro-nutrients or nervine tonics with nootropic effect. Ashwagandha (*withaniasomnifera*), Brahmi (*Bacopamonnieri*), Mandukparni (*Centellaasiatica*) and Bala (*Cidacordifolia*) are the common drugs advocated for this purpose.

Yoga and Meditation-

Yoga Therapy suggests Pranayama, Asana, and Meditation.

1. Asanas- Sukhasana, Siddhasana, Shavasana, Sarvangasana, vajrasana, Bhadrasana, Padhyasana.
2. Yoga Mudras- Dhyamudra, Shaktimudra, Vayumudra, Apanmudra.
3. Pranayama- Bhastrika Pranayama, Nadi Shodhi Pranayama, Anulomavilom Pranayama, Kapalabhati Pranayama.
4. Meditation- Meditate twice a day, every day. The more you do, the more you will radiate from within and then out.

Pathya- A well balanced, nutritious diet, high-fibre food such as vegetables, cooked dried peas and beans (legumes), whole grain foods, cereals, pasta, rice and fresh fruits, enough water intake (specially Luke warm water), mental relaxation techniques like meditation and Yoga is extremely beneficial for this condition.

Apathya- Avoid Hot [*Ushna*], Spicy, Oily, Fried and Pungent Food, Junk Food, Fast Food, And Out Side Food and *Virudha Ahara* (Food that is incompatible to each other such as Milk with Fish Etc.), sedentary life style, smoking, and alcohol.

CONCLUSION

Ayurvedic treatment for Parkinson's disease is mainly based on the treatment of unbalanced *Vata*. *Snehanam*, *Swednam*, *Basti* form the basis of the treatment. The Ayurvedic herbs like *Ashwagandha*, *Shatavari*, *Bala*, *Vidari*,

Rasna, *Dashmoola* are beneficial in the management of this condition.

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