

## ***AN APPROACH TO PARKINSON'S DISEASE - A CASE STUDY***

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### ABSTRACT

Parkinson's disease is the second most common neurodegenerative disease, exceeded only by Alzheimer's disease. It is estimated that approximately 5 million persons worldwide suffer from this disorder. It affects men and women of all races, all occupations and all countries. The mean age of onset is about 60 years. The frequency of it increases with aging, but cases can be seen in patients in their 20's and even younger. Men are affected slightly more often than women (3:2)<sup>2</sup>. Clinically, Parkinson's disease is characterized by rest tremor, rigidity, bradykinesia (slowing) and gait impairment known as the cardinal features of the disease<sup>1</sup>. Whilst motor symptoms are the most common presenting features, non-motor symptoms (particularly cognitive impairment, depression, and anxiety) become increasingly common as the disease progresses and significantly reduce quality of life<sup>2</sup>. Most Parkinson's disease cases occur sporadically (~85-90%) and are of unknown cause. About 10-15% cases are of familial in origin and multiple specific mutations and gene associations have been identified<sup>3</sup>. It is associated with degeneration of the basal ganglia of the brain and a deficiency of the neurotransmitter Dopamine. This may be correlated to *kampavata* under the broader umbrella of *vatavyadhi* for a better understanding of the disease and approach. As the onset of the disease is usually in the old age (around 60 yrs) we can assess that it is mainly due to *vatadosha*, occurring in *vata* predominant stage of *ayu*. Also *manovahasrotas* involvement can be seen. The prognosis thus can be said to be *yapya*. Hence an attempt to treat the condition with *Panchakarma* therapy and *vatavyadhichikitsa* and also more importance being given to reduce anxiety targeting the *manovahasrotas* by different ayurvedic modalities which helped in reducing the intensity and frequency of the tremors.

**Keywords:** Parkinson's disease, *Kampavata*

### INTRODUCTION

Parkinsonism is a clinical syndrome that consists of four cardinal signs: tremor, rigidity, akinesia and postural disturbances (TRAP). Parkinson disease is a common cause of the TRAP syndrome but there can be numerous other causes. Some non motor symptoms precede the onset of more typical symptoms by many years<sup>4</sup>. It includes neuropsychiatric features (anxiety, depression, apathy, hallucinosis), sleep disturbances and hypersomnolence, fatigue, pain, sphincter disturbance and constipation, sexual problems (erectile failure, loss of libido or hypersexuality) and drooling<sup>5</sup>. The cause of the Parkinson disease is believed to be a variable combination of poorly understood genetic and environmental factors. Both autosomal dominant and recessive genes can cause classic Parkinson disease.<sup>6</sup>

#### **PATIENT DATA**

A male patient aged about 60 years, businessman by profession presented with complaints of weakness, tremors during sleep, rigidity of both upper limbs, slowness of voluntary movements, tendency to fall and slurred speech since 3 years. The patient had a characteristic pill-rolling tremor. The resting tremor was increasing when the patient was under mental stress. The patient is a K/C/O Parkinson's disease since 3 yrs on Tab. Syndopa. Not a K/C/O DM or HTN. His Sleep pattern was disturbed since 1 year. Also had developed constipation since 1 year. Bladder habits were normal.

The patient was apparently normal 3 years back. The patient gradually started experiencing difficulty in buttoning the shirt in his right hand, lifting coffee cup, eating etc. There was

a general feeling of weakness noticed by the patient. Also the patient's attendant noted slowness in responding & tendency to forget things easily. There were mild tremors in the right hand whenever he wanted to initiate any work and it used to be more during the time of stress/ work related tension. That was when the patient approached a physician and was diagnosed as Parkinson disease and was put on Tab. Syndopa. He was on regular medications for a year and later was irregular. The dosage was being titrated and given during the follow ups. His symptoms were still persisting and gradually developed symptoms in the left upper limb also. The frequency of occurrence of tremors was around 5-6 times/ day. It used to be more under any stressful situations. Tremors were also noticed in head occasionally since 6 months. The patient had difficulty in getting up from the chair or bed and was requiring support. He couldn't walk as before and used to feel that he'll fall if walks alone. Also he had developed constipation and delayed, disturbed sleep since 1 year. Because of all the symptoms and a feeling of dependency, he was feeling depressed and was short-tempered at times. Hence the patient's attenders approached the OPD at SKAMCH&RC for treatment and were admitted.

On Examination- General physical examination- was uneventful.

The patient needs assistance to stand. Gait- Festinating gait, He was able to walk with support with flexed posture, absent arm swing, shortened stride length, B/L resting and postural tremor in upper limbs, Infrequent blinking of eyes noted with occasional tremors of head.

Assessment done by Modified Hoehn and Yahr staging of disease and Schwab and England Activities of Daily Living.<sup>7</sup>

**Modified Hoehn and Yahr Scale-** Stage 4 in this patient

1. Stage 1- Unilateral involvement only
2. Stage 1.5- Unilateral and axial involvement
3. Stage 2- Bilateral involvement without impairment of balance
4. Stage 2.5- Mild bilateral disease with recovery on pull test
5. Stage 3- Mild to moderate bilateral disease; some postural instability; physically independent
6. Stage 4- Severe disability; still able to walk or stand unassisted
7. Stage 5- Wheelchair bound or bedridden unless aided

**Schwab and England Activities of Daily Living-** can be rated as 50% in this patient

- **100%**-Completely independent. Able to do all chores w/o slowness, difficulty, or impairment.

- **90%**-Completely independent. Able to do all chores with some slowness, difficulty, or impairment. May take twice as long.
- **80%**-Independent in most chores. Takes twice as long. Conscious of difficulty and slowing
- **70%**-Not completely independent. More difficulty with chores. 3 to 4X along on chores for some. May take large part of day for chores.
- **60%**-Some dependency. Can do most chores, but very slowly and with much effort. Errors, some impossible
- **50%**-More dependant. Help with 1/2 of chores. Difficulty with everything
- **40%**-Very dependant. Can assist with all chores but few alone
- **30%**-With effort, now and then does a few chores alone or begins alone. Much help needed
- **20%**-Nothing alone. Can do some slight help with some chores. Severe invalid
- **10%**-Totally dependent, helpless
- **0%**-Vegetative functions such as swallowing, bladder and bowel function are not functioning. Bedridden

**Table 1:** Unified Parkinson's disease Rating Scale

	Before Rx	After Rx		Before Rx	After Rx
Intellectual impairment	1	1	Rigidity (Neck)	2	1
Thought disorder	0	0	Rigidity (right upper extremity)	2	1
Depression	3	2	Rigidity (left upper extremity)	2	1
Motivation/ initiative	2	1	Rigidity (right lower extremity)	2	1
Speech	1	1	Rigidity (left lower extremity)	2	1
Salivation	1	1	Finger taps (right)	3	2
Handwriting	2	2	Finger taps (left)	4	4
Cutting food and handling utensils	4	3	Hand movements (open and close hands in rapid succession)- (right hand)	3	2

Dressing	3	2	Hand movements (open and close hands in rapid succession)- (left hand)	3	3
Hygiene	2		Rapid alternating movements (Pronation and supination)- (right hand)	3	2
Turning in bed and adjusting bed clothes	2		Rapid alternating movements (Pronation and supination)- (left hand)	3	3
Freezing when walking	2	1	Leg agility (tap heel on ground)- (Right leg)	3	3
Tremor	3	2	Leg agility (tap heel on ground)- (Left leg)	3	3
Sensory complaints related to parkinsonism	3	2	Arising from chair	4	3
Tremor at rest (face)	1	1	Posture	2	2
Tremor at rest (right upper extremity)	2	1	Gait	3	2
Tremor at rest (left upper extremity)	2	1	Postural stability (Rtropulsion test)	3	2
Tremor at rest (right lower extremity)	2	1	Body bradykinesia/ Hypokinesia	3	3
Tremor at rest (left lower extremity)	2	1			
Postural tremor ((right upper extremity)	3	2			
Postural tremor ((left upper extremity)	3	2			

### UNDERSTANDING PARKINSON'S DISEASE AS KAMPAVATA

*Basavarijiyam* has given the explanation of *Kampavata* which is similar to Parkinson's disease. *Kampais* the action manifested due to impairment in *Chalaguna* of *Vayu*. As Parkinson's disease occurs mostly in older age group, we can consider the *Vataprakopa* and *Prasara* taking *Sthanasamshraya* in any of the *Dhatu*s which are weak. *Udanavayu* is responsible for all the *Prayatna*, *Bala*, *Smritikriya*. Since there is *Avarana* of *Udana* by *Kapha*, it leads to *Chestasanga* and *Smritikshaya*. The

*sheeta* and *mandaguna* of *kapha* leads to *stambha*. There is *Avarana* of *Vyana* and *Udana* by *Kapha* causing *Gati sanga*<sup>8</sup>, *Vaks-wara graham*<sup>9</sup>, *Kampa*. The increase in *Vata* leads to *Kaphakshaya* in the *Majjadhatu* i.e., *Dhatukshaya* occurs which further leads to more *Vata* vitiation.

### SAMPRAPTI GHATAKA

*Dosha-Vatapradhanatridosha*. *Vata* (Mainly *Prana*, *Vyana*, *Udana*, *Apana*), *Pitta* (*Sadhaka*), *Kapha* (*Tarpaka*)

*Dushya- Rasa, mamsa, majja, shukra, snayu, purisha*

*Srotas- Rasavaha, Mamsavaha, Majjavaha, Shukravaha*

*Srotodushti- Sanga*

*Agni- Jatharagni*

*Ama- Jatharagnimandyajanya*

*Udbhavasthana- Pakwashaya, Majja (in shiras)*

*Vyaktasthana- Sarvanga*

*Vyadhimarga- Madhyama*

## CHIKITSA

The initial treatment focused on the removal of *Avarana* followed by *Vatajaupakrama*. Going by the treatment lines of *Vatavyadhi-chikitsa*, *Snehana*, *abhyanga* followed by *swe-dana* and *basti* are noted to be useful.

In this patient, the *Panchakarma* procedures adopted were

- *Sarvanga Abhyanga* with *Balashwagandhataila* followed by *bashpasweda* for a period of 7 days.
- *Shirothalam* with *amalakichurna*+ *brahmichurna*+ *jatamamsichurna* with *brahmिताila* for 7 days.
- *Mustadirajayapanabasti (as kala basti)*
- *Anuvasana* given with *Ksheerabalataila*- 50 ml + *Sukumaraghritam*- 50 ml
- *Niruha* with *Madhu*, *saindhavalavana*, *ksheerabalataila*, *sukumaraghritam*, *mustadiyapanakashava*

### Internal medicines-

- *Ashtavargamkashaya*BD before food
- *Vanarikalpa* 1 tsp BD with warm water.
- *Ksheerapaka* prepared with *Ashwagandha-churna*+ *sarpagandhachurna* + *gokshura-*

*churna*+ *kapikachuchurna*- 50 ml TID A/F.

- *Cap. Bravabol*2 cap HS
- *Gandharvahastaditaila* 2 tsp+ ½ cup hot milk –HS (after food)
- Counselling therapy
- Follow up – was advised to continue *VanariKalpa*, *Cap. Bravabol*, *Ashwagandharishta*, *Balarishta*, *Gandharvahastaditaila*.

## DISCUSSION

Considering the symptoms of *Kampavata*, *Snehana*, *Swedana* and *Basti* being the best treatment option for *Vatavyadhi* was adopted here. Initially *Sarvangaabhyanga* with *Balashwagandhataila* was adopted. *Abhyanga* helps to relieve the diseases caused due to *Vatadosha* and the body attains *Drdhata* (strength). It is also said to be *Jara*, *Shrama*, *Vatahara* and *Pushti*, *Ayu*, *Swapna*, *Twak dardhyakara*.<sup>10</sup> *Abhyanga* provides a passive form of exercise even for those who cannot perform active physical exercise because of debility and old age.<sup>11</sup> The drugs like *Amalaki*, *Brahmi*, *Jatamamsi* will help in calming the mind and acts as *Medhyarasayana*. The *Shirothalam* using these drugs also helped in promoting good sleep. *Kala basti* pattern was adopted. *Mustadirajayapanabasti* acts as *Vatahara*, *Sadyobalajanana* and *Rasayana*.<sup>12</sup> *Ksheerabalataila* is indicated for *Vatarogais Balya* and *Sukumaraghrita* is indicated in *Vid vibandha*.

*Ashtavargamkashaya* contains *Bala*, *Sahachara*, *Eranda*, *Shunti*, *Rasna*, *Rasona*, *Suradruma* which are *Ushna*, *Tikshna* and help in removal of *Kaphavarana*. Internal administration of *Ksheerapaka* with drugs like *Ashwagandha*,

*Sarpagandha*, *Gokshura*, *Kapikachu*. *Ashwagandha* is having *Vatahara*, *Balya*, *Rasayana*, *shukrala* properties<sup>13</sup>, *Gokshura* is having *Madhura rasa* and thus helps in *Vatashamana*. *Bala* also acts as *Vatahara* and has *Balya*, *Brimhana* and *Vrishya* properties<sup>14</sup>. *Kapikachu* is having *Madhura*, *Tikta rasa*, *Guru*, *Snigdha-guna* and *Vatapittahara*, *Balya*, *Brimhana* and *Vajikarana* properties<sup>15</sup>. The main ingredient of *Vanarikalpa* is *Kapikachu*. Since *Kapikachu* is *Shukral*, it does *poshana* of all the *Dhatus* till the *Shukradhatu* and hence *Majjadhatu* also gets nourished. *Kapikachu* (mainly the seeds) contains levodopamine and hence very effective in treating Parkinson's disease. *Gandharvahastaditaila* is indicated in *Mahavataroga*, *Udavarta*; acts as *Apanavatahara* and helps in *Vatanulomana* and thus relieving constipation. For the follow up, was prescribed *Ashwagandharishta*, *balarishta* which are *balya* and having *vatahara* properties.

During the initial *Panchakarma* treatment, there were some problems noted as the patient was not so cooperative, as he was depressed and pessimistic. In a span of about a week, we could gain the confidence of the patient and was co-operative and responded to the treatment very well. Also the counselling sessions helped the patient to overcome the anxiety. There was improvement noted in Schwab and England Activities of Daily Living which was rated as 60% at the time of discharge. Gaining the confidence of the patient goes a long way in the success of treatment in such cases.

The patient needs regular follow up treatment with *Panchakarma* and regular internal medi-

cations for a longer duration to keep the disease progression under check.

## CONCLUSION

Parkinson's disease can be considered as a *Kampavata* with the etiopathogenesis of *Avarana*. Ayurvedic treatment modalities like *Vataharachikitsa* and *Panchakarma* procedures proved to be very effective in reducing the symptoms like the frequency of tremors, improvement in gait, duration of sleep increased than before, his anxiety was reduced, constipation was relieved. Gradual reduction of the intensity and frequency of the symptoms were observed in this patient with improvement in the quality of life. The *Panchakarma* procedures and the internal medications might help in stopping or delaying the neurodegeneration. Though, the success percentage may depend upon the age of the patient, duration of onset of the symptoms and chronicity of the disease.

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