

An Ayurvedic Approach in the Management of Parkinson's Disease: A Case Study

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Abstract

Parkinson's disease known in *Ayurveda* as *Kampavata* is a neurological disorder affecting 1 % of population. It is degenerative disorder of central nervous system mainly affecting the motor system. It is most common extrapyramidal crippling disease. On the basis of sign and symptoms, Parkinson's disease is described under *Vatavyadhi*, *Nanatmaja* disorders in *Ayurveda*. Symptoms like *Kampa* (Tremor), *Stambha* (Rigidity), *Chestasanga* (Bradykinesia and Akinesia), *Vakvikriti* (disturbance in speech) etc were described in different contexts of *Charaka* and *Susruta Samhita*. Because of non-availability of curative treatment, this disease has remained as a great problem in the aging society. A 62 year old male patient presented with complaints of resting tremors in upper limb (pin – roll type) , slow limited movement, difficulty with walking and balance, sleeplessness, depression and face appearing without expression brought by relatives to outdoor patient department (OPD) of L.K. Ayurved Hospital, Yavatmal. Previously patient taken treatment of *Allopathic* as well as *Homeopathy* since one year but did not show any sign of improvement. So patient was admitted and treated with *Ayurvedic* treatment. Along with this special exercise and diet plan was also advised to patient. This case study is about management of known case of Parkinson's disease with multimodality treatment in the form of *Panchkarma* procedures with non-invasive, non-steroidal, cost effective and safe *Ayurvedic* treatment.

Keywords *Parkinson's disease, Kampavata, Ayurveda, Kampa, Vatavyadhi*



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INTRODUCTION

Incidence of Parkinson's disease is increasing now a days and available managements are costly. Ayurveda, the science of rejuvenation not only cures disease but also shows the ways to improve the quality of lifestyles. Parkinson's disease characterized by the degeneration of dopaminergic neurons in the substantia nigra of the brain, resulting in reduction and imbalance with neurotransmitter like acetylcholine and dopamine.

Now a day's more Parkinson's disease patients are opting for *Ayurvedic* management due to dissatisfaction in modern regimes at the level of cure and complications. Though now it is turned as 14th leading cause of death.

As per Ayurvedic classics *Kampavata* resembles Parkinson's disease and mentioned under *Vatavyadhi* (Neurological disorders).

No satisfactory treatment is seen in contemporary system of medicine for Parkinson's disease. Parkinson's disease is progressive disease leads to crippling of patient. Its conventional treatment includes Levodopa preparations, anticholinergic drugs etc. which gives more or less temporary relief¹

So a multi-modality treatment in the form of *Panchkarma* procedures is boon for Parkinson's disease Patient by giving satisfactory results in the treatment of disease. *Kampavata* correlated with Parkinson's disease which is *Dhatukshyaj*, *Vatavyadhi*, and *Apatarpana* in nature.

Hence the principle of treatment is *Santarpana Chikitsa*. *Panchkarma* Procedures has been taken for the study. *Santarpana* includes *Bahyopakramas* such as *Snehana* with *Chandanbalalakshadi Tail* and *Sarvanga Nadi Swedana* by *Nirgundi* and *Dashmool Siddha kwatha*, *Shirodhara* by using *Til Tail* and *Brahmi Tail*, *Nasya* with *Brahmi ghrita*, administration of *Karmabasti* with specified drugs are given in sequential order. Along with this various Ayurvedic herbomineral compounds were used as internal medicine. Remarkable results were observed in the form of symptoms like tremors, rigidity, bradykinesia, facial expression. Sleeplessness and depression showed highly significant results after administration of multimodality management.

Some of the exercises are capable of maintaining muscle power, tone and preventing deformities of the limbs and spine. So patient was advised for cycling

(paddling) daily for thirty minutes, which improves motor functions of patient. Their daily performance has proved most beneficial to patients with this illness.

The quality of life of patient is also improved and confidence level were increased which gives us synergistic effects in this case.

AIMS AND OBJECTIVES

Study the effect of multi-modal treatment for the management of *Kampavata* with special reference to Parkinson's disease, by *Ayurvedic* principles.

MATERIALS AND METHODS

A 62 year old male patient known case of Parkinson's disease was selected incidentally from OPD of *Kayachikitsa* in Laxmanrao Kalaspurkar *Ayurved* Hospital, Yavatmal.

CASE REPORT

A male patient of age 62 year presented with complaints of tremors in upper limb (resting tremor and pin-roll type), slightly slurred speech with face appearing without any expression. Patient also had difficulty with

walking and balance, sleeplessness and depression.

These symptoms developed since 1 year and had slow progression.

Patient got consulted by other physicians in Nagpur and taken allopathic as well as homeopathy treatment but symptoms had not shown any improvement and hence his condition was deteriorating.

He was brought by his relatives to Laxmanrao Kalaspurkar *Ayurved* Hospital, Yavatmal. Patient was admitted in indoor patient department (IPD) (IPD NO-1862, OPD NO-510561, DT-05-09-2015)

PAST HISTORY

Patient was healthy one year before presentation but he developed gradual complaints of tremors in both upper limbs (resting tremors), difficulty in walking and balance and sleeplessness. For these complaints he had taken treatment from another private practitioner. Even so he did not get relief.

He did not have history of DM/HTN/IHD/PTB or any major surgical procedure.

No history of any trauma or any drug abuse. He was investigated CT Brain, MRI brain and other investigations were done and he

diagnosed with Parkinson's disease and treatment received by patient.

Examination on admission:-

Dashvidh pariksha:-

- | | | | |
|----|-------------------------|---|----------------------------------|
| A. | <i>Prakriti</i> | – | <i>Vatapittaja</i> |
| B. | <i>Vikriti</i> | – | <i>Vataja,</i>
<i>Kaphaja</i> |
| C. | <i>Sara</i> | – | <i>Madhyam</i> |
| D. | <i>Samhana</i> | – | <i>Madhyam</i> |
| E. | <i>Ahara Shakti</i> | – | <i>Madhyam</i> |
| F. | <i>Abhyarana Shakti</i> | – | <i>Madhyam</i> |
| G. | <i>Jarana Shakti</i> | – | <i>Madyam</i> |
| H. | <i>Vyayam Shakti</i> | – | <i>Avara</i> |
| I. | <i>Vaya</i> | – | <i>Vridha</i> |
| J. | <i>Satva</i> | – | <i>Madhyam</i> |
| K. | <i>Satmya</i> | – | <i>Madhyam</i> |
| L. | <i>Bala</i> | – | <i>Avara</i> |

Ashtavidha pariksha:-

- | | | | |
|----|----------------|---|-----------------------------------|
| A. | <i>Nadi</i> | – | 68/min
(<i>VataKapha</i>) |
| B. | <i>Jivha</i> | – | <i>Sama</i> |
| C. | <i>Mala</i> | – | <i>Malabaddhata</i> |
| D. | <i>Mutra</i> | – | <i>Samyaka</i> |
| E. | <i>Shabda</i> | – | <i>Kshin</i> (low
tone speech) |
| F. | <i>Sparsha</i> | – | <i>Ruksha</i> |
| G. | <i>Drik</i> | – | <i>Samanya</i> |
| H. | <i>Akriti</i> | – | <i>Madhyam</i> |

General Physical Examination

- | | | | |
|----|-----|---|--------|
| 1. | P/R | – | 68/min |
|----|-----|---|--------|

- | | | | |
|----|----------|---|-------------------|
| 2. | B.P | – | 130 / 80 mm of Hg |
| 3. | Pallor | – | Negative |
| 4. | Icterus | – | Negative |
| 5. | Cyanosis | – | Negative |
| 6. | Clubbing | – | Negative |
| 7. | Oedema | – | Negative |
| 8. | SIE | – | |

i) RS – B/L equal air entry with No added sound.

ii) CVS – S₁ S₂ Normal

iii) CNS – Conscious and Oriented.

- | | |
|-----|---|
| 9. | P/A – Soft, Non tender. Liver, Kidney and Spleen not palpable
Bowel sounds were present. |
| 10. | Pupillary reaction to light was normal. |

ON ADMISSION

1) Reflexes :-

DTR SUPERFICIAL REFLEXES

- | | |
|-----------|----------|
| Ankle - | +++ |
| Knee - | +++ |
| Bicep - | +++ |
| Tricep - | +++ |
| Planter – | Extensor |

2) Muscle power grade : On admission

RT

LT

Upper limb 5/5 5/5
Lower limb 5/5 5/5

Agni - *Manda*

Sign and Symptoms before treatment:-

[Table No.1]

3) Muscle Tone :- Cog wheel type Rigidity in B/L upper limbs more in Right Side.

4) Muscle Atrophy :- Absent

5) Samprapti Vighatana :-

Dosha - *Vataja Kaphaja*

Dushya - *Ras, Rakta, Majja*

Stotas - *Rasavaha, Raktavaha,*

Adhithana - *Shira, Hridaya*

1) *Kampa* (tremor)

- Bilateral tremor in “Upper limbs”

2) *Gatisanga* (Bradykinesia)

- Can walk without assistance slowly but with shuffling gait.

3) *Vatavikriti* (disturbance in voice)

- Slight slurring of speech

4) *Stambha*(Rigidity) - Cog wheel rigidity

5) Sleeplessness - Disturbed Sleep

Table 1 Sign and Symptoms Assessment

Sr. No	Sign and Symptoms	B. T.	A.T.
1	<i>Kampa</i> (Tremor)	B/L Tremor in Upper Limb	Unilateral Slight Tremor Present at rest decreased by action and increase by emotion
2	<i>Gatisanga</i> (Bradykinesia)	Can walk without assistance slowly but with shuffling gait	Can walk brisk without aid
3	<i>Stambha</i> (Rigidity)	Cog wheel Rigidity	No Rigidity
4	<i>Vakvikriti</i> (Disturbance of Voice)	Slurring of Speech	Normal Speech
5	Sleep	Disturbed Sleep	Normal Sleep
6	Facial expression	None	Markedly improved

B.T. – Before Treatment A.T. – After Treatment

Table 2 Test for Assessment of Bradykinesia

Sr No	Test	Mean time Score	
		B. T.	A.T.
1	Picking of pins with Hands	82.78 sec	65.28 sec

2	Buttoning time	18.42 sec	8.26 sec
3	Marie sign (Blink rate / min)	10.16 / min	14.28
4	Rapid Alternating Movements	1.10	2.12
5	Chest expansion	0.88cm	0.98
6	Walking time	56.82 sec	40.22 sec

B.T. – Before Treatment A.T. – After Treatment

Table 3 Functional Assessment Test

Sr No	Test	B.T	A.T
1	Hand grip Power	56.14 mm of hg	68.72 mm of Hg
2	Foot Pressure	25.58 kg	36.28 kg

B.T. – Before Treatment A.T. – After Treatment

Assessment of bradykinesia: -

Following tests were applied. [Table No.2]

- 1) Picking of pins with Hands
- 2) Buttoning time
- 3) Marie sign (Blink rate/min)
- 4) Rapid alternating movements
- 5) Chest expansion
- 6) Walking time

The method by which these tests were carried out are as follows: -

1) Picking of pins with hands: - The patients were asked to pick up the head pins one by one and keep away until the all hundred pins does collected. This test was performed by the patients first by their right hand and then their left hand separately. The time taken by the patient for this job was noted before and after the treatment.

2) Buttoning time: - patient was requested to fix five buttons. Average time required to fasten one button was noted in seconds.

3) Marie sign:- Blinking per minute was counted before and after the treatment

4) Rapid alternating- movements: patient was asked to carry out three repetitive movement is

i) Repeatedly touching index finger with thumb.

ii) opening and closing of fists

iii) promotion and Supination of hands

5) Chest expansion:- The degree of expansion of chest was measured by placing the tape measure. Just below the nipples with its zero mark at the middle of sternum and instructing the patient to take deep breath in and out of as deep as possible. The difference of expansions in and between inspiration and expiration was noted. This test was carried out and after the treatment.

6) Walking time:- The walking time was measured by at asking the patient To walk a distance of 30 feet in straight line. The patients were told to Walk maximum

possible speed and the time was noted down in second With the help of a stopwatch. The walking time was noted before and After the treatment.

Functional Assessment Tests:- [Table No.3]

a) **Hand grip power:-** The hand grip power of both the hands was measured. For this purpose the cuff of B.P apparatus folded and tied and inflated to such an extent so that the manometer recorded 20 mm of Hg constantly. The patient was asked to press the cuff with maximum power gripping the cuff in his hand. The record of the maximum grip was noted down.

b) **Foot pressure:-** The pressure was calculated as the force exerted by the single foot upon the plat form the weighing machine. This was done by asking the patient to press his leg with maximum possible strength on the weighing machine did this. The reading by foot pressure were noted in Kgs before and after the treatment.

Investigation:-

- 1) CBC:Hb-12.8gm %
- 2) TLC-8120/cumm
- 3) Platelet-275000/cumm
- 4) ESR-5mm

- 5) RBS(Random blood sugar)-60mg/dl
- 6) Blood Urea-28mg/dl
- 7) Sr.Creatinine-1.4mg/dl
- 8) Sr. Bilirubin -1mg/dl
- 9) SGOT-32mg/dl
- 10) RA-Negative
- 11) Urine Examination -
Albumin- Nil
Sugar- Nil
Microscopic examination – Nil
- 12) CT Brain – Normal.

TREATMENT:-

As per *Ayurvedic* classic Parkinson's disease can be correlated with *Kampavata* which comes under *vatavyadhi*. It is important to mention that *Kampavata* vitiated due to *dhatukshayaas* well as *avarana* which is *apatarpana* in nature.

Hence the principle of treatment *Santarapana chikitsa*, a multi modality treatment in the form of *Panchkarma* procedures has been taken for study.

1) For *Bahya Snehana*⁸ 50ml of indirectly heated *Chandnbalalakshadi tail* was applied in *anuloma gati*⁸ for 15 min and *Nadisvedana* by *Nirgundi* and *Dashamoola Siddha kwatha* for 15 min.

2) *Shirodhara* was done with using *Tila tail* and *Brahmi tail* (lukewarm oil) for a period of 15-20min.

3) *Nasya* was done with using *Brahmighrita* in dose of 4drops /Nostrils for 16 days.

4) After confirming presence of intestinal motility basti was started.

5) Basti with specified drugs where in Anuvasana (Tila taila-60ml+Brahmi tail - 60ml) Total 120ml/day and in Aasthapana (Decoction of Dashmoola + kapikachhu churna + Brahmi churna + Ashwagandha churna + Shatavari churna + Vacha churna- 12.5gm each) was administered for 30 days. With the improvement in Basti retention time clinical condition also improved.

6) Formulation:-

i. Which is composed of:-

- 1) *Brihatvatachintamani* - 1 gm
- 2) *Ashwagandhachurna* - 30 gm
- 3) *Suvarnasutashekhar Rasa*- 1 gm
- 4) *Brahmivati* - 30 tab each of 250mg
- 5) *Aarogyavardhinivati* - 30 tab each of 250gm

Powdered together and divided into 60 divided doses BD was given as Internal medicine.

ii. *Kraunch Pak* – 2 tsf with milk

7) Along with this special exercise was advised to patient i.e. daily

Cycling (paddling) for half n hour.

RESULTS

As *Ayurvedic* treatment progressed, there was significant improvement found in patient after 36 days of multi-modality *Panchkarma* procedures and administration of formulations.

- 1) Tremors markedly abolished.
- 2) Patient was able to walk without any aid.
- 3) Speech was also improved.
- 4) No rigidity was observed after completion of treatment.
- 5) Patient was able to sleep for 5-6hrs. Daily.
- 6) Marked improvement in facial expression

DISCUSSION

Kampavata is *Nanatmaja* disorder of *Vata* as per *Ayurvedic* texts condition can be correlated with *Dhatukshya vatavyadhi* as well as *Vata* vitiated due to *avarana*⁴. *Ayurvedic* treatment for this condition mainly based on the treatment of unbalanced *Vata*. Oleation and Fomentations form basis of the constitutional treatment. *Ayurveda*

provides such patient with its miraculous treatment of *Panchkarma* and *shaman chikitsa*⁵.

In *Kampavata Avarana* of *Vata* and *Dhatukshaya* are the chief pathological processes. Charka (Ch.Ci-28/239,241) has stressed on *Srotoshuddhi*, *Vatanulomana* and *Rasayana* in general management of *Avarana*. An *Ayurvedic* text has clearly mentioned *Svedana*, *Abhyanga*, *Niruha*, *Anuvasana*, *Shirodhara* and *Nasya* in the management of *Kampavata*.

Considering *Dosha* and *Dhatu* involvement *balya* treatment i.e., *Abhyanga* with *Chandanbalalakshadi Tail* was selected and performed in *Anulomagati*.

Shirodhara with *Til Tail* and *Brahmi Tail* (lukewarm) has found to have anxiolytic, adaptogenic and tranquilizing effects resulting into kind of relaxation response. It calms down the hyper action of vitiated *Vata dosha*⁸.

Nasya with *Brahmi Ghrita* was chosen because it capable to normalize *Vatadosha* by its *Madhur Vipaka* and *Snigdha, Guru, Vatahara, Vedanasthapana* Properties. *Sukshma guna* of *Ghrita* helps to reach the micro channels. So drug easily comes into systemic circulation and break *Dosha - dushyasamurchna*. As *Brahmi* included

under *Medhya Drvya*. It helps in all condition with deficient *Majja dhatu*⁹.

Basti is an effective treatment of *vata*⁴. It also brings about *Anulomana* of *Vata* when we use this route of administration. We can facilitate rapid absorption of medicated oil i.e. *Tila Tail + Brahmi Tail* and *Aasthapana*- i.e. decoction of *Dashmoola + kapikachhu churna + Brahmi churna + Ashwagandha churna + Shatavari churna + Vacha churna*.

As *Kapikacchu* is having *Dhatuvridhikara, Vatashamaka and Sukraviddhikara properties*¹⁴. So it also acts against the process of degeneration and may be beneficial in the condition of *Dhatukshaya* it also corrects the function of *Indriyas*, which are found impaired in *Kampavata* addition *Kapikacchu (Mucuna pruriens)* having L-dopa which is having antiparkinsonism activity⁹. Basically *Kampavata* (Parkinson's disease) needs the rejuvenation in therapy. Regeneration is the function of *Shukra Dhatu*, which found deranged in *Kampavata* (Parkinson's disease) too which can be promoted by *Vrsya, Balya* and *Bruahana* drugs. Because *Balya and Vrsya* drugs restore the body elements and promote the longevity.

Thus role of *Basti* is crucial in the management of *Kampavata* (Parkinson's disease)⁴. So *Kapikacchu* can ameliorates the process of *Avarana* and check the *Dhatukshaya* process and thus help in restoration and regeneration of *Dhatu*s, better way. *Ashwagandha* and *Shatavri* posses *Santarpana* qualities, antioxidant nourishing with *Prithvi* and *Aap Mahabhutas*. It is indicated for *Balya Brihana* (nourishing) strengthening *Dhatu*s and *Vata* pacification.

Kasayapa enunciates rationales of *Karmabasti*. *Karma Basti*⁸ is indicated when *Malas* are progressively accumulated in deeper *Dhatu* with preponderance of vitiated *Vata*.

Existence of unbalanced *Vata* constipation of patient is indicating that *Anulomgati* of *Vata* is affected. Considering all above facts we decided to use *Brihatvatachintamani* formulation as *shaman chikitsa*.

The maintenance of normal muscle tone and function is an important aspect of the treatment of parkinsonism¹². In part medication administered for illness achieves this goal. However to realize the full benefit of the medication daily exercise and activity are essential. Some of the exercises capable of maintaining muscle power, tone and

preventing deformities of the limbs and spine. So patient was advised for cycling (paddling) daily for half an hour because due to paddling releases chemicals that improves motor functions of patient. Their daily performance has proved most beneficial to patients with this illness.

CONCLUSION

In above discussion and result we can say that this therapy is effective in Parkinson's disease and it will be done in large population.

This case study not only gives us confidence and better understanding for treating such cases in Ayurvedic hospital but also leads in the direction of further clinical trials to establish cost effective and safe Ayurvedic therapy.

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