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RESEARCH ARTICLE

EFFECT OF PANCHKARMA THERAPY IN THE MANAGEMENT OF KAMPAVATA W.S.R TO PARKINSON'S DISEASE - A CASE STUDY.

Dr Jatinder Verma¹, Dr Surya Prakash² and Dr Gopesh Mangal³.

1. PG Scholar, Department of Panchkarma, National Institute Of Ayurveda Jaipur, India.
2. Assistant Professor, Department of Panchkarma, SBMN Ayurved College, Asthal Bohar, Rohtak.
3. Assistant Professor and Head (I/C), Department of Panchkarma, National Institute Of Ayurveda Jaipur, India.

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Abstract

Parkinson's disease known as *Kampavata* in *Ayurveda*, is a degenerative neurological disorder of central nervous system, mainly affecting the motor system. It is most common extra pyramidal crippling disease with a prevalence of 1% of total population. On the basis of sign and symptoms; Parkinson's disease is described under *Vata Nanatamaja vikara*. Symptoms like *Kampa* (Tremor), *Stambha* (Rigidity), *Chestasanga* (Bradykinesia and Akinesia), *Vakvikriti* (disturbance in speech) etc were described in different contexts of *Charaka Samhita*, *Susruta Samhita* and *Basavarajeeyam*. Because of non-availability of curative treatment in modern science, this disease has remained as a great problem in the aging society. A 63 year old female patient presented with complaints of resting tremors in upper limb (pin-roll type) and head tremors, slow limited movement, difficulty with walking and balance, sleeplessness, depression and face appearing without expression (mask face) and impairment in her Activities of Daily Living (ADL) like bathing, cooking, talking etc brought by her relative in outdoor patient department (OPD) of *Panchkarma*, NIA, Jaipur. Previously patient had taken allopathic treatment but did not show any sign of improvement. So patient was admitted and treated with *Ayurveda* treatment. This case study is about management of known case of Parkinson's disease with multimodality treatment in the form of *Panchkarma* procedures such as *Abhyanaga* (*Dashmool Tail*), *Svedana* (*Dashmoola Kwatha*), *Shirobasti* (*Ksheerbala Taila*), *Nasya* (*Ksheerbala Taila*), *Shiropicchu* (*Ksheerbala Taila*), *Mustadi Yapana Basti*. Significant improvement was found with consequent treatment for four months along with oral medicines. Assessment was done on the basis of signs and symptoms, bradykinesia and functional activities.

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Introduction:-

Parkinson's disease (PD) is the most common form of a group of progressive neurodegenerative disorders characterized by bradykinesia, rest tremors, muscular rigidity, shuffling gait and flexed posture. Most of the features

Corresponding Author:- Jatinder Verma.

Address:- PG Scholar, Department of Panchkarma, National Institute Of Ayurveda Jaipur, India.

match with the *Ayurveda* description of *KAMPAVATA*. Worldwide incidence of PD is estimated to be around 7 to 10 million. Its peak onset is in the early 60's but cases can be seen in patients in their 20's progressively debilitating the affected individual (Harrison's Principles of Internal Medicine, 18th edition, volume 2, chapter 372, p-3317). More than 1 million cases are suffering from PD per year in India.

Ages affected



Consult a doctor for medical advice

Note: The information you see describes what usually happens with a medical condition, but doesn't apply to everyone. This information isn't medical advice, so make sure that you contact a health care provider if you have a medical problem. If you think you may have a medical emergency, call your doctor or a emergency number immediately.

Sources: Apollo Hospitals and others. Learn more

The *Vata* which is considered to be the motivator and controller of other two Dosha i.e. *Pitta* and *Kapha*, is responsible for manifestation of almost all types of diseases. All motor and sensory functions are governed by *Vata*. Major neurological problems (essentially the condition of various degenerative diseases of nervous system) come under *Vata vyadhi*. *Kampavata* is one of them. The word *Kampavata* means the disorder of impaired *Vata*, in which the prime clinical manifestation is *Kampa*.

“Na kampo vayuna vina”¹

In *Charaka Samhita*, *Vepathu* has been described as one of the eighty types of *Vataja nanatamaja vyadhi*². The term *KAMPAVATA* was explained for the first time in the text *Basavarajeeyam*³, with most of its clinical features similar to that of PD. The main clinical feature of *Kampavata* is *KAMPA* (Tremor). Tremor is particularly important in diagnosing PD, as it is present in 85% of patients with true PD. Also as explained in the text, *Basavarajeeyam* few more features of *Kampavata* can be compared with that of PD;

1. *Karapadatale Kampa*- Tremors in the hands and feet.
2. *Dehabhramana*- Postural instability.

Although PD defined clinically as a movement disorder, it is now widely appreciated that PD can be accompanied by a variety of non-motor symptoms, including autonomic, sensory, sleep, cognitive and psychiatric disturbances. These non-motor features can also be related with Ayurvedic description on *Kampavata* as given in the text of *Basavarajeeyam*;

1. *Nidrabhanga*- sleep disturbances
2. *Matiksheena*- Dementia

Acharaya Charaka noted tremors in different organs like head. Various synonyms used are “*Kampana*”, “*Vepana*”, “*Vepathu*”, and “*Spandana*” all indicating tremors of varying nature and severity. Majority of symptoms of

Kampavata are mentioned in different *Avaranas*, *Charaka* says that *Avarana* of *Vyana* and *Udana* by *Kapha* produces symptoms like *Gatisanga*, *Vakswaragraha*, *Gurugatrata*, *Stambana* and *Kampana*.

Especially the disorder “*Kampavata*” (*Kampa*- tremors) bears a resemblance to the clinical features of “Shaking Palsy” or Parkinson’s disease (PD). The basic pathological is degeneration of a group of nerve cells deep within the centre of the brain in an area called substantia nigra. These cells use Dopamine as their neurotransmitter to signal other nerve cells. As these cells degenerate and stop functioning, Dopamine fails to reach the areas of brain that affect motor functions. Therapy for Parkinson’s disease is aimed at replacing dopamine and to prevent the denervation which is caused due to impaired *Vata*. Since the blood brain barrier prevents dopamine from entering the brain from blood stream, a precursor of dopamine (L-dopa, Levodopa) that will enter the brain is given.

Ayurveda takes a unique approach to the management of above mentioned neuropathies with a special emphasis on eliminating their cause by *Panchkarma*. *Panchkarma* procedures are especially advocated in the treatment of neurological diseases. Different types of *Snehana*, *Swedana* are efficacious. Besides a special treatment like *Shirobasti*, *Shirodhara*, *Nasya* and *Basti karma* are indicated in such diseases.

Now a day’s patients of Parkinson’s disease are opting for *Ayurveda* management due to the long term complications of Levodopa and other medications.

No satisfactory treatment is seen in contemporary system of medicine. So a multi-modality treatment in the form of *Panchkarma* procedures is selected for Parkinson’s disease by giving satisfactory results in the treatment of disease. *Kampavata* correlated with Parkinson’s disease which is *Dhatukshyaja*, *Vatavydhi*, and *Apatarpana* in nature. Hence the principle of treatment is *Santarpana Chikitsa*. *Panchkarma* procedures have been taken for the study. *Santarpana* includes *Bahyopakramas* such as *Sarwanga Snehana* with *Dashmoola Tail* and *Sarwanga Swedana* by *Dashmool Siddha kwatha*, *Shirobasti* with *Ksheerbala Tail*, *Nasya* with *Ksheerbala Tail* 101, *Shiropichhu* with *Ksheerbala tail* and administration of *Yapana Basti* in *Karmabasti Krama*. Along with this, various classical *Ayurveda* formulations were used as oral medicine. Remarkable results were observed in the form of symptoms like tremors, rigidity, bradykinesia, facial expression, sleeplessness and depression after the administration of multimodality management. Their daily performance (ADL) has proved most beneficial to patients with this illness.

Case Report

63 year old female patient living in urban area, housewife with *Vatapitta Prakriti* came in the OPD of *Panchkarma*, NIA, Jaipur on 02/04/2018. She was brought by her daughter in law for *Ayurveda* treatment. She came with complaints of tremors in upper limb (resting tremor and pin-roll type) and head tremors, and slightly slurred speech. Patient also had difficulty with walking and balance, sleeplessness and depression. She had problem in writing. She had problems in her activities of daily living (ADL).

These symptoms developed since 5 year and had slow progression. Patient consulted other physicians and taken allopathic treatment but symptoms had not shown any improvement.

Patient was apparently well five year before presentation, but she developed gradual complaints of tremors in both upper limbs (resting tremors), difficulty in walking, balance and sleeplessness. She had mild slurred speech and difficulty in writing. She was unable to start her walking (Cog Wheel Rigidity). She did not have any history of DM/IHD/PTB/Addiction or any major surgical procedure. She had a history of HTN for which she was taking allopathic medicine and was under control. No history of any trauma or any drug abuse was present.

On examination under *Dashvidh Pariksha*, she had *Madhyam Sara*, *Samhana*, *Aahar Shakti*, *Abhyarana Shakti*, *Jarana Shakti*, *Satva*, *Samaya*. She had *Avara Vyayam Shakti*, *Avara bala* and with *Vridha Vaya*. On examination under *Astavidh Pariksha*, *Nadi* – 74/min (*Vata-Kapha*), *Jivha* – *Sama*, *Mala* -*Malabaddhata* , *Mutra* – *Samyaka* , *Shabda* – *Ksheen* (low tone speech), *Sparsha* – *Ruksha* , *Drik* – *Samanya* , *Akriti* – *Madhyam* .

On General Physical Examination, findings were, P/R – 78/min, B.P – 130/80 mm of Hg, Pallor – Negative, Icterus – Negative, Cyanosis – Negative, Clubbing – Negative, Edema – Negative.

On Systemic Examination, RS – B/L equal air entry with no added sound, CVS – S1 S2, Normal, CNS – Conscious and Oriented, P/A – Soft, Non tender. Liver, Kidney and Spleen not palpable, Bowel sounds were present. Pupillary reaction to light was normal.

On examination of Reflexes, Deep Tendon Reflexes: Ankle jerk ++, Knee jerk ++, Biceps jerk ++, Triceps jerk ++, Planter reflex - Extensor were found.

On examination of Muscle power grade, RT upper limb 5/5 and lower limb 5/5, LT lower limb 5/5 and upper limb 5/5 were found.

On examination of Muscle Tone, Cog wheel type Rigidity was seen in B/L lower limbs. On examining Muscles, no Atrophy was seen. On assessing *Samprapti Vighatana*, *Dosha - Vataja Kaphaja*, *Dushya - Ras*, *Rakta*, *Majja*, *Srotas - Rasavaha*, *Raktavaha*, *Adhisthana - Shira*, *Hridaya* was assessed. All the blood parameters are under normal range. CT scan and MRI were not prescribed as the patient was not willing for it.

Diagnosis was done the basis of *Kampa* (tremor) - Bilateral tremor in “Upper limbs”, *Gatisanga* (Bradykinesia) - Can walk without assistance slowly but with shuffling gait, *Vatavikriti* (disturbance in voice) - Slight slurring of speech, *Stambha* (Rigidity) - Cog wheel rigidity, Sleeplessness - Disturbed Sleep.

As per *Ayurveda* Parkinson's disease can be correlated with *Kampavata* which comes under *Vatavyadhi*. It is important to mention that *Kampavata* vitiated due to *Dhatukshaya* as 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.

Patient was given following treatment for three sessions: Session I in which *Sarwanga Abhyanga* and *Svedana* along with *Nasya* and *Shirobasti* for fourteen days was done. Session II in which, same procedures were done after one month of first session. Session III in which, *Sarwanga Abhyanga* and *Svedana* along with *Shiropichhu* and *Yapana Basti* for sixteen days was given. For *Bahya Snehana Dashmoola Tail* was applied in *Anuloma gati* for 15 min and *Sarwanga Svedana* was done by *Dashmoola Siddha Kwatha* for 15 min. *Shirobasti* was done with *Ksheerbala Tail* (lukewarm oil) for a period of 45 min. for 14 days. *Nasya* was done with *Ksheerbala Tail* 101 in dose of 6 drops /nostril for 14 days. *Shiropichhu* was done with *Ksheerbala Tail* for 14 days. After confirming presence of intestinal motility *Yapana basti* was started in *Kala Krama* for sixteen days. Along with the above *Panchkarma* procedures, *Shamana* treatment with *Kampvatari Ras*- 1Tab. twice a day, *Mashbaladi Kwath* - 10 gm, twice a day, *Cap Kapikachhu*- 1cap, twice a day was given. In between and during the sessions of treatment and after the completion of the treatment oral medicines were continued.

Pratimarsh Nasya by *Ksheerbala Tail* 101 with 2 drops in each nostril twice a day was prescribed on the follow-up after four months of completion of all procedures.

After the completion of the procedures, there was significant improvement found in patient after 4 (four) months of multi-modality *Panchkarma* procedures and administration of formulations.

1. Tremors markedly abolished.
2. Improvement is seen in walking without any aid.
3. Improvement is seen in ADL (Activities of Daily Living), as told by the patient.
4. Speech was also improved.
5. Rigidity was markedly improved after completion of treatment.
6. Patient was able to sleep for 5-6hrs daily.
7. Marked improvement in facial expression.

Assessment of bradykinesia was done by applying the following tests:

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 is as follows: -

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 do 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.

Buttoning time

patient was requested to fix five buttons. Average time required to fasten one button was noted in seconds.

Marie sign

Blinking per minute was counted before and after the treatment.

Rapid alternating- movements

Patient was asked to carry out three repetitive movements:

1. Repeatedly by touching index finger with thumb.
2. Opening and closing of fists.
3. Pronation and Supination of hands.

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.

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. The walking time was noted before and after the treatment.

Functional Assessment Tests were carried out by assessing the following:

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.

Foot pressure

The pressure was calculated as the force exerted by the single foot upon the platform of the weighing machine. This was done by asking the patient to press his leg with maximum possible strength on the weighing machine. The reading by foot pressure was noted in Kg before and after the treatment.

Table No.1:-Treatment Plan

Session I	1. Sarvanga Abhyanga and Svedana 2. Shiobasti 3. Nasya	14 Days
Session II (After one month from the completion of Ist session)	1. Sarvanga Abhyanga and Svedana 2. Shiobasti 3. Nasya	14 Days
Session III (After one month from the completion of IInd Session)	1. Sarvanga Abhyanga and Svedana 2. Shiropichhu 3. Yavana Basti	16 Days

Table No. 2:-Sign and Symptoms Assessment

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

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	Markedly improved
4	<i>Vakvikriti</i> (Disturbance of Voice)	Slurring of Speech	Normal Speech
5	Sleep	Disturbed Sleep	Normal Sleep
6	Facial expression	None	Markedly improved.

Table No. 3:-Tests for Assessment of Bradykinesia

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

S. No	Test	Mean Score	
		BT	AT
1	Picking of pins with Hands	80 sec	61sec
2	Buttoning time	21 sec	8 sec
3	Marie sign (Blink rate / min)	09 / min	13/ min
4	Rapid Alternating Movements	10 movements/min	15 movements/min
5	Chest expansion	0.8 cm	0.9 cm
6	Walking time	56 sec	40 sec

Table No. 4:-Functional Assessment Test

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

S.No	Test	BT	AT
1	Hand grip Power	55 mm of Hg	63 mm of Hg
2	Foot Pressure	24 kg	31kg

Discussion:-

Kampavata is *Nanatmaja* disorder of *Vata* as per *Ayurveda* texts condition can be correlated with *Dhatukshya vatavyadhi* as well as *Vata* vitiated due to *Avarana*⁵. *Ayurvedic* treatment for this condition is mainly based on the treatment of unbalanced *Vata*. *Ayurveda* provides such patient with its miraculous treatment of *Panchkarma* and *Shamana Chikitsa*⁶.

In *Kampavata* *Avarana* of *Vata* and *Dhatukshaya* are the chief pathological processes. *Charaka* has stressed on *Srotoshuddhi*, *Vatanulomana* and *Rasayana* in general management of *Avarana*.

For the first time *Vangasena Samhita*⁷ stated the principles of the treatment of *Kampavata*. It clearly mentioned that, *Abhyanga*, *Swedana*, *Nasya*, *Niruha*, *Anuvasana*, *Virechana* and *Shirobasti* are the useful measures that can increase the life expectancy of the patient.

Ayurveda Panchkarma procedures available can make life much easier and drastic increase can be seen in their life expectancy.

Among the *Panchkarma* procedures *Shirobasti*⁸ and *Nasya* (with *Ksheerbala Taila*) is chosen for the management of *Kampavata* as it may not interfere with the problems arising due to the disease and it can be done with ease irrespective of the age of the patient. *Ksheerbala Taila* is indicated in the management of eighty types of *Vata Vyadhi*⁹. It is cost effective and is chosen with consideration of socio-economic status of the patient.

As *Kapikacchu* is having *Dhatuvridhikara*, *Vatashamaka* and *Sukraviddhikara* properties¹⁰. 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 anti-parkinsonism activity¹¹. Basically *Kampavata* (Parkinson's disease) needs the rejuvenation in therapy. The role of *Basti* is crucial in the management of *Kampavata* (Parkinson's disease). It promotes *Bala*, *Mansa* and *Shukra*. It is *Sadyobalajana* and *Rasayana*. It is *Balya*, *Vrishya*, *Sanjivana*, *Chakshushya* and energizes the body¹².

Conclusion:-

Parkinson's disease can be clinically compared with *Kampavata* according to *Ayurveda*. Among the various *Ayurveda* treatments, various *Panchkarma* procedures such as *Abyanga*, *Svedana*, *Nasya*, *Shirobasti*, *Shiropicchu*, *Basti* proved to be effective for treating PD patient. Drastic improvement can be seen from the above case study. Both *Samshodhana* and *Shamana Chikitsa* play an important role to improve the Activities of Daily Living of a PD patient.

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