



CRITICAL REVIEW ON KAMPAVATA (PARKINSON'S DISEASE)

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ABSTRACT

Kampavata is described under *Vatavyadhi* in *Ayurvedic* classics. The word *Kampavata* it comes under the heading of *Vataj Nanatmaj Vyadhi*. On the basis of signs and symptoms of *Kampavata* it can be correlated with Parkinson's Disease in modern era. It is a neurodegenerative disorder of the nervous system mainly affecting the motor system of the body. Parkinsonism is prevalent all over the world and has no definitive treatment in conventional medicine and another hand *Ayurveda* is an ocean for *Vatavyadhi Chikitsa*. The *Ayurvedic* treatment strategy is to combat *Vata Dosha* and to sustain neuronutrition by *Shaman*, *Shodhan* and *Rasayana* remedies. So it becomes necessary to understand the *Kampavata*, its *Lakshanas* and etiopathogenesis properly for better management approach towards *Kampavata* with various classical drugs.

Key Words – *Kampavata*, *Vepathu*, *Vatavyadhi*, Parkinson's Disease.

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INTRODUCTION

Movement is the signal of radiant life but unfortunately in some clinical condition this vital factor is affected, and such individuals feel themselves as a burden because they must be dependent on the others for daily activities. *Kampavata* is a such medical situation the place in their locomotive functions are affected. *Ayurveda* Although it recognizes that the number of possible disease caused by any single *Dosha* is truly innumerable nevertheless list of the 80 most common ones caused by *Vata Dosha*.^[1] In *Charak Samhita*, *Vepathu* has been described as one of eighty sorts of *Nanatmaja Vikara*.^[2] *Vepathu* is additionally known as *Kampavata* characterized with the aid of *Karapadatale Kampa* (Tremors in Extremities), *Stambha* (Rigidity), *Cheshtasanga* (Bradykinesia), *Dehabhramana* (Postural instability), *Nidranasha* (Insomnia) *Ksheenamati* (Dementia) etc.^[3] *Kampavata* is additionally referred to as by way of synonyms like *Vepathu*, *Vepana*, *Spandana*, *Spurana* in variety of context. The meaning of all the term is same that is exaggerated movement of limbs. It is nevertheless, apparent and important to realize that what is today's termed as Parkinson's disease has been known for ages before in *Ayurvedic* classes as *Kampavata*, evidenced by various *Acharyas*.

Parkinson's disease is a neurodegenerative disease mainly affects the motor system of the body due to death of dopamine cells from substantia nigra a region of midbrain. It is characterized by bradykinesia, tremors, rigidity, insomnia, difficulty in walking, cognitive and behavioral problems.^[4] It is estimated that there are 7 to 10 million people all over world suffering from Parkinson's disease. In India, the crude age adjusted prevalence rate of Parkinson's disease per 1 lakh population affected is 0.014% in North India, 0.027% in South India, 0.016% in East India. 50% more in men than women and this discrepancy are unclear.

Vyutpatti and Paribhasha

The word *Kampavata* is formed by union of two words i.e., *Kampa* and *Vata*. *Kampa* word is derived from the root word *Kapi* and suffixed with the aid of *Ghan* which gives the meaning "To Move" or "To Shake". So, we can say that the word *Kampa* convey the meaning of shaking or tremor.^[6] *Vata* word is derived from the root word *Va* and suffixed by "*Ktha*", *Nirukti* of *Vata* i.e. "*Vagatigandhanayo*" we can conclude that *Gati* and *Gandhan* are the two important function of *Vata*.^[7] So, the word *Kampavata* means the disorder of *Vata* which is impaired or not in *Samadoshaavastha* and it is characterized by *Kampa*.

MATERIALS AND METHODS

Charak Samhita – In *Charak Samhita Vepathu* has been described as one of the eighty types of *Nanatmaj Vata Vyadhi*.^[8] The increased *Vata* and *Kapha* and decreased *Pitta* together produce symptoms like *Kampa*, *Stambha* etc.^[9]

Kampavata are also mentioned in different *Avaranas*, *Acharya Charaka* says that *Avarana* of *Vyana* by *Kapha*.^[10]

Vepathu is long term complication of *Dushivisha*. Diminished blinking slurred speech and tremors are complication of *Ardita*.^[11]

The *Kampa* has been mentioned as one of the symptoms of *Vata Prakopa* by *Ashtanga Hridaya*.^[12]

Ashtanga Sangraha and *Ashtanga Hridaya* both explained that *Stambha* occurs in the condition of *Mamsagata Vata*, *Medogata Vata* and *Sarvanga Vata*. *Kampa* is also noted in *Pittakshaya* and *Rasakshaya* condition.^[13]

Madhava Nidana has described two types of *Kampavata*, *Sarvanga Kampavata* and *Ekanga Kampavata*.

Vangasena has described about the treatment of *Kampavata*. It has been asserted that *Abhyanga*, *Svedana*, *Niruha basti*, *Anuvasana Basti*, *Shiro Basti* and *Virechana* are the useful measures for the treatment.^[14]

Chakradatta explains some remedies useful for *Kampavata*, *Dvitiya Mashatail* and *Tritiya Mashataila*.^[15]

In *Sharangadhara Samhita Kampa* has also been included under the *Nanatmaja vyadhi* of *Vata*. *Mashadinasya* has been explained in the management of *Kampavata*.^[16]

Basavarajiyam has described two other dominating disorders namely *Kakavata* and *Bahukampavata* with its detail explanation of symptoms.^[17]

Nidana

“*Vyadhi Utpatti Hetu Nidanam*” *Nidanas* are the causative elements accountable for *Vyadhi Utpatti*. For *Kampavata*, there are no specific *Nidana* noted in classic. But *Acharya's* have noted that all the *Samanya Vatavyadhi Nidana* are accountable for *Vepathu*, that to *Ati Laghu Sheeta* and *Alpa Anna Ativyavaya*, *Vishamaupachara*, *Ati Asruka Sravana*, *Aticheshta*, *Dhatu Kshaya*, *Roga Atikarshana*, *Marmaghata*, *Abhighata*. Even though *Acharya Madhavanidan* and *Basavarajiyam* have given the certain clarification about the *Kampavata*. They have additionally regarded *Samanya Nidana* of *Vatavyadhi* are *Nidanas* for *Kampavata*.

Poorvarupa

Poorvarooopa of *Kampavata* is no longer noted in any the place in the classic. The *Poorvarooopa* of *Vatavyadhi* ought to be viewed as *Poorvarooopa* of *Kampavata*, that is the *Avyakta Lakshana* as per *Acharya Charaka*. *Kampa* is seen as *Poorvarupa* in *Visuchika*,

Shwasanaka Jwara, Madatyaya, Ardita and Apasmar Vyadhi.

Roopa

The word Kampa is viewed in a number of context of the Brihatrayi like in Aavaran Prakaran in Vyana Avrita Kapha , as a long term complication of Dushivisha and Ardita one of the sign and symptoms of Vata Vridhi etc. But the specific clarification about its Roopa and types have been given via Madhavakara and Basavrajijyam.

According to Madhavakara "Sarvanga Kampaha Shiraso Vyapathu Sandnyakam " he defined that there is Kampa in whole body or Kampa in Shiras. Here the word, Shiraso not only indicates head but it also represents any part of the body. Therefore, from this we can conclude that Madhavakara has considered two types of Kampavata that is Sarvanga Kampavata and Ekanga Kampavata.

According to Basavrajijyam

" Karapadatale kampo dehabhramanadukhite nidrabhagno matiksheena kampavatasya lakshanam".

He defined that there is Karapadatale Kampa (tremors in extremities), Stambha (rigidity), Cheshtasanga (bradykinesia), Dehabhramana (Postural instability) Nidranasha (insomnia) Ksheenamati (dementia). He additionally categorized it as

"Ekbahukampashcha vikaraschyapi dehinaam mahadukhadivaratro bahukampaschya lakshanam".

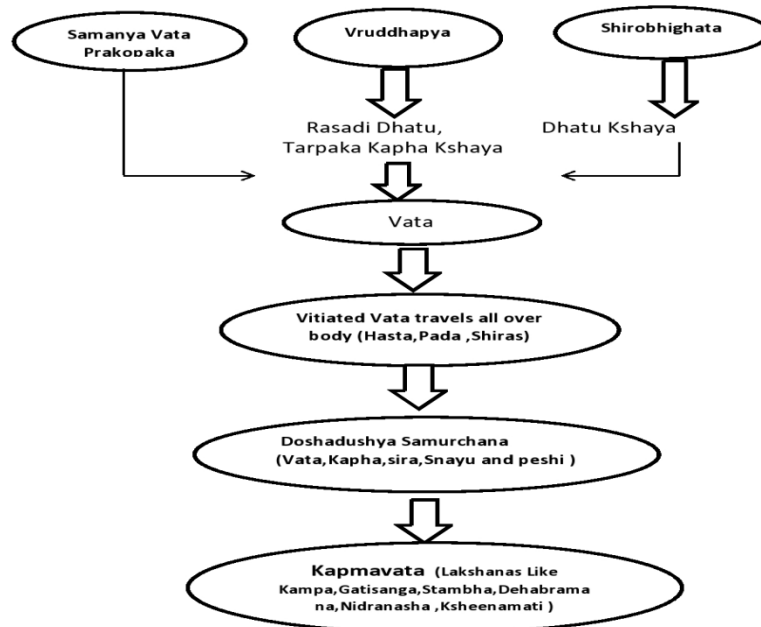
Kampa as a Samanya Lakshan is seen in Vatanubandhi Aamlapitta, Vatika Parinamashoola, Vatika Jwara, Sannipatika Jwara(Hina Pitta Madhya Kapha Vatanubandhi),Krodhajanya Jwara, Mushika Danshajanya Jwara, Vataj Pandu, Vataja Madatyaya, Smaronmada, Vataja Visarpa Lakshana, Ardita, Kalay Khanja, Urustambha.

Samprapti

Kampavata is considered as Vataja Nanatmaja Vikara under the title of Vepathu. "Na Kampo Vayuna Vina" without Vata there is no Kampa formation So, we can conclude that like other Vata Vyadhis, Samprapti of Kampavata can be studied by two ways i.e. Dhatukshayajanya and Margavarnajanya (Kaphavrita Vyana,Udanavrita Vyana). The Dosh involved in Kampavata is Vata and Kapha. That is Vyana Vata and Udana Vata, as the function of Utkshepana, Apkshepana, Unmesha, Nimesha ,Vak pravrutti, Urja, Bala and Smriti are hampered respectively. Mainly the Chala, Laghu, Ruksha and Sheeta Guna of Vata with Sheeta Guna of Kapha will be increased. Due to old age and Vataprakopakar Ahar Vihar Vata aggravates and vitiates the rasa Dhatu and travels all over the body Prasara Avastha producing Vata Vridhi Lakshanas. Vata may relocate in any weak

Dhatu Sthana Samshraya. When pre-existing weakness is seen in brain *Vata* (*Vyana, Udana Prana*) goes and resides their and damages the brain stem causing altered coordination

and tremors. *Vyana Vata* entering in to *Mamsa Dhatu* leading to rigidity due to *Prana Vata* it produces *Ksheenamati*.



Pathophysiology of Parkinson's Disease

Hallmarks of the pathophysiology of the Parkinson's disease

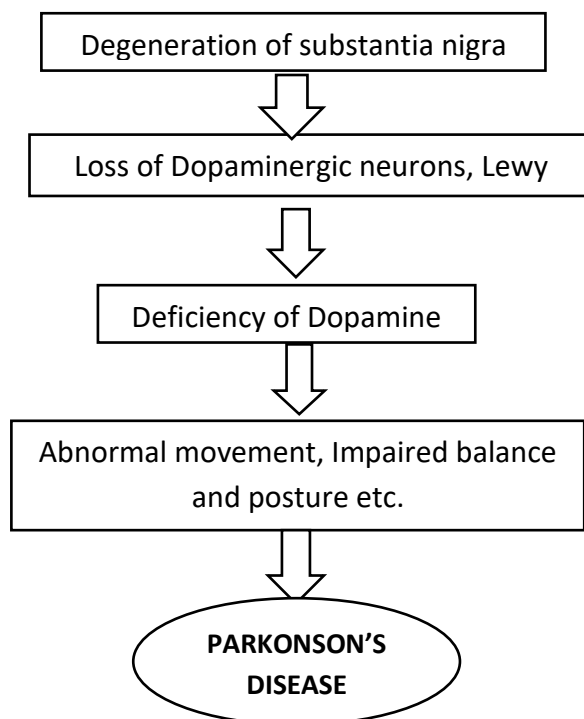
Degeneration of substantia nigra

Loss of at least 60% of dopaminergic neurons.

Presence of lewy bodies in surviving neurons of the Substantia nigra.

Parkinson's disease is a progressive neurological disorder mainly affects the smooth and coordinated muscle movements. Smooth and coordinated muscle movement of the body are made possible by a substance in the brain called dopamine. Dopamine is produced in a part

of the brain called the substantia nigra. Parkinson's disease results from degeneration of the dopaminergic pathway from the substantia nigra to the corpus striatum. The essential lesion is one of an idiopathic degeneration of pigmented neurons of the brain stem seen most convincingly in the substantia nigra resulting in depigmentation of these brain stem nuclei. Thus the projection of the nigral neurons to the corpus striatum is destroyed so that their modifying influence on this corpus striatum resulting in the clinical pictures of rigidity and tremors.



RESEARCH STUDIES

1. *Mucuna Pruriens* in Parkinson's disease: a double blind clinical and pharmacological study

Eight Parkinson's disease patients with a short duration l-dopa response and on period dyskinesia's completed a randomised, controlled, double blind crossover trial. Patients were challenged with single doses of 200/50 mg LD/CD, and 15 and 30 g of mucuna preparation in randomised order at weekly intervals. l-Dopa pharmacokinetics were determined, and Unified Parkinson's Disease Rating Scale and tapping speed were obtained at baseline and repeatedly during the 4 h following drug ingestion. Dyskinesia's were assessed using modified AIMS and Goetz scales.

Compared with standard LD/CD, the 30 g mucuna preparation led to a considerably faster onset of effect (34.6 v 68.5 min; $p=0.021$), reflected in shorter latencies to peak l-dopa plasma concentrations. Mean on time was 21.9% (37 min) longer with 30 g mucuna than with LD/CD ($p=0.021$); peak l-dopa plasma concentrations were 110% higher and the area under the plasma concentration v time curve (area under curve) was 165.3% larger ($p=0.012$). No significant differences in dyskinesia's or tolerability occurred.

2. An alternative medicine treatment for Parkinson's disease: results of a multicenter clinical trial. HP-200 in Parkinson's Disease Study Group

The natural occurrence of antiparkinsonian drugs in plants--anticholinergics in *Datura stramonium*, levodopa in *Mucuna pruriens*

and *Vicia faba*, dopamine agonist activity in *Claviceps purpurea*, and MAO inhibitor activity in *Banisteria caapi* are known. Our study examined the efficacy and tolerability of HP-200, derived from *Mucuna pruriens*, in patients with Parkinson's disease. Sixty patients with Parkinson's disease (46 male and 14 female) with a mean (\pm SD) age of 59 \pm 9 years were treated in an open study for 12 weeks. Of these, 26 patients were taking synthetic levodopa/carbidopa formulations before treatment with HP-200, and the remaining 34 were levodopa naive. HP-200, a powder (supplied as a 7.5 g sachet), was mixed with water and given orally. The Unified Parkinson's Disease Rating Scale (UPDRS) was used at baseline and periodically during the 12-week evaluation. Statistically significant reductions in Hoehn and Yahr stage and UPDRS scores were seen from baseline to the end of the 12-week treatment ($p < 0.0001$, t-test). The group mean (\pm SD) dose for optimal control of symptoms was 6 \pm 3 sachets. Adverse effects were mild and were mainly gastrointestinal in nature. No adverse effects were seen in clinical laboratory reports. HP-200, developed from an alternative medicine source, Ayurveda, was found to be an effective treatment for patients with Parkinson's disease.

3. Association of L-DOPA with recovery following Ayurveda medication in Parkinson's disease

Ayurveda, the Indian system of traditional medicine, uses a concoction of several spices, herbs and minerals for the treatment of diseases. In a clinical prospective study we have evaluated the efficacy of Ayurveda treatment (a concoction in cow's milk of powdered *Mucuna pruriens* and *Hyoscyamus reticulatus* seeds and *Withania somnifera* and *Sida cordifolia* roots) in 18 clinically diagnosed (with a mean Hoehn and Yahr value of 2.22) parkinsonian patients. As per Ayurveda principles, 13 patients underwent both cleansing (for 28 days) and palliative therapy (56 days), 5 patients underwent palliative therapy alone (84 days). Only the former group showed significant improvement in activities of daily living (ADL) and on motor examination as per UPDRS rating. Symptomatically, they exhibited better response in tremor, bradykinesia, stiffness and cramps as compared to the latter group. Excessive salivation worsened in both the groups. Analyses of powdered samples in milk, as administered in patients, revealed about 200 mg of L-DOPA per dose. The study establishes the necessity of cleansing therapy in Ayurveda medication prior to palliative therapy. It also reveals contribution of L-DOPA

in the recovery as observed in Parkinson's disease following Ayurveda medication.

Chikitsa

Kampavata is one of the *Vataja Nanatmaja Vyadhi* so *Vatahara* line of therapy have to be adopted. Based on *Samprapti* that is *Margavarodhajanya Samprapti* and *Dhatukshayajanya Samprapti* a number of *Shodhana* and *Shamana* methods are adopted.

Shodhana

Snehana Karma :

Acharya Charaka opines that *Snehana* is the first line of remedy for all *Vatavyadhis*, in *Kampavata* It acts on *Laghu Ruksha* and *Chala Guna* and it also does the *Balavardhan*, *Agnivardhana* and *Nourishes Shushka Dhatus*. It can be given either external or internal form.

Swedana Karma :

Swedana is a procedure by way of which sweat or perspiration of the body is produced. It cures *Stambha*, *Guruta* and *Sheetata*. In *Kampavata* it acts on *Sheeta* and *Guru Guna* of *Kapha* and *Vata* producing *Stambha*. It can be given as *Nadisweda*, *Pindasweda*, *Avagaha Sweda* etc.

Navana Nasya Karma:

Administration of either medicines or medicated oil through the nose is known as *Nasya Karma*. *Acharya Vagbhata* has mentioned "*Nasa Hi Shiraso Dwaram*". i.e nose is the easiest and closest opening for

conveying the potency of medicines to the cranial cavity. The drug administered will reach the *Shringhataka Marma* and spread through the *Siras* of *Shira, Nnasa, Karna*. In *Kampavata*, as there is involvement of *Tarpaka Kapha*, *Prana*, *Vyana Vayu* plays an important role. *Acharya Chakradatta* and *Acharya Vangasena* have indicated *Nasya Karma* in *Kampavata*.

Niruha Basti and Anuvasana Basti:

Basti is considered as best treatment for all types of *Vatavyadhis*. In *Kampavata Niruha Basti* causes elimination of *Malas* and *Doshas* from all the *Srotases* and *Anuvasana Basti* destroys the *Ruksha*, *Laghu* and *Sheeta Guna* of *Vata*.

Virechana:

Acharya Charaka stated *Virechana* as a *Shodhana Karma* for the remedy of *Vatavyadhi*. In *Kampavata Vata* and *Kapha Doshas* are involved to encounter both the *Doshas Mridu Virechana* with *Snehasamyukta Oushadhis* is advised.

Shamana Oushadhi

Masha Taila, *Dwitiya Mashataila*, *Mahamasha tail*, *Tritiya Mashatail*, *Nakula Tail*, *Sarvanga Kampa Rasa*, *Vijaya bhairava Tail*, *Sahacharadi Tail*, *Varuni Tail*, *Dhaturadi Tail*, *Trigina Rasa*, *Karpasa Tail*, *Vatarakshasa Rasa*, *Gandharva Rasa*, *Kanakasundar Rasa*, *Nagarjuna Vati*, *Chaturbeeja Rasa* etc. can be

used as Shaman Oushadhi as the contents are having the *Vata* and *Kaphahara* properties.

Ekamulika Prayoga

Kapikachchu, Shatavari, Bala, Rasna, Eranda, Ashwagandha, Shalaprni, Sahachara etc. the drug which are having the *Vatahara* and *Vatakaphahara* properties can be used.

Rasayana

As *Kampavata* mainly occurs in Old age and it is a *Vata Vyadhi* so mainly *Brimhana Chikitsa* should be adopted and also it is a neurodegenerative disorder nervine tonics are given in the form of *Rasayana* like *Brahmi, Bala, Ashwagandha, Kapikachchu, Shatavari Yashtimadhu, Shankhapushpi* etc.

CONCLUSION

Kampavata is characterized with *Kampa, Stambha, Cheshtasanga, Ksheenamati, Anidra* etc. same symptoms are seen in Parkinson's Diseases, so *Kampavata* can be correlated with Parkinson's disease as per Ayurveda. *Kampavata* mainly involves *Vata* and *Kapha Dosh* so mainly *Vata* and *Kaphaja Shodhana, Shamana Oushadhies* can be implied on it.

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