

PARKINSON'S DISEASE – AN OUTLOOK THROUGH VIKALPA SAMPRAPTI

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ABSTRACT

Parkinson's disease (PD) is a degenerative disorder of the Central nervous system mainly affecting the motor system. It affects 1% of the population over age 65 and is the fourth most common neurological disorder found in the elderly. The term *Kampavata* explained in Ayurveda has most of its clinical features like that of Parkinson's disease. Majority of symptoms of *Kampavata* are also mentioned in different *Avaranas*, *Charaka* says that *Avarana* of *Vyana* and *Udana* by *Kapha* produces symptoms like *Gatisanga*, *Vakswaragraha*, *Stambhana* and *Kampanam*. Ayurveda believes in the tenet of "*Samprapti Vighatanameva Chikitsa*" *Samprapti* explains the development of morbid condition, occurring in the disease. *VikalpaSamprapti* helps us to estimate the fractional vitiation of *Doshas* in terms of *Gunas* or qualities with the help of *Amshamsha kalpana*.

Keywords: Parkinson's disease, *Kampavata*, *Vikalpa Samprapti*, *Amshamshakalpana*

INTRODUCTION

Parkinson's Disease is the most common form of a group of progressive neurodegenerative disorders characterized by bradykinesia, rest tremor, muscular rigidity, shuffling gait, and flexed posture. Worldwide incidence of Parkinson's Disease is estimated to be around 7 to 10 million¹. It progressively debilitates the affected individual.

Ayurveda is the holistic branch of science which imparts all knowledge of life. According to Ayurveda, most of the diseases of *Vata* are essentially the conditions of degenerative diseases of the nervous system. *Kampavata*² is one among them. Ayurveda has a sophisticated method of understanding disease formation and progression through the process of *samprapti*.

Here *Vikalpa samprapti* is taken into consideration and an attempt is being made to do the *Amshamsha Kalpana*³ of *doshas* which are involved in the causation of the disease.

Materials and Methods:

Materials related to *Kampavata* and Parkinson's Disease are collected from Ayurvedic text and textbook of modern medicine respectively. The Ayurvedic *samhithas* and available commentaries have also referred to collect the matter. The index, non-index medical journals has also referred to collect the required information regarding the relevant matter.

Samprapti:

It is one among the *Nidanapanchakas*.

यथादुष्टेनदोषेणयथाचानुविसर्पितः ।

निवृत्तिःआमयस्यासौसम्प्राप्तिजातिरागतिः ॥ (मा.नि)

It is the description of the events that takes place during the disease in terms of the variation of the *Doshas*⁴.

Vikalpa Samprapti: It is the knowledge of *Amshamsha kalpana* of *Doshas* based on *Guna*, *Dravya* and *Karma*.ie, when there is involvement of more than one *Dosha* in a disease, *Vikalpa samprapti* helps us to understand which *Dosha* is more disturbed than the other.

Amshamsha Kalpana: *Amsha* means piece, section. Here *Amshamshakalpana* means to make assumption of every fragment of *Doshas* in terms of its qualities involved in the causation of *samprapti* of a disease. Qualities of *Doshas* are as follows.

Vata- Rooksha, Laghu, Sheeta, Khara, Sukshma, Chala

Pitta- Sneha, Teekshna, Ushna, Laghu, Visra, Sara, Drava

Kapha- Snigdha, Sheeta, Guru, Manda, Slakshna, Mrutsna, Sthira

Amshamsha Kalpana / Nidana: *Kampavata* is one among the *Vatavyadhi*. It is told that

“नकम्पोवायुनाविना”⁵ ।, without *Vata*, there is no manifestation of *Kampa*. As specific *Nidanas* are not being mentioned for *Kampavata*, general *Nidana* of *Vatavyadhi* can be considered.

Aharaja Nidana: *Gunapradhana:*

Guna	CS	SS	AH		MN	YR	BP
Laghu	+				+	+	+
Rooksha	+	+	+		+	+	+
Sheeta	+	+			+	+	+

Laghu, Rooksha and *SheetaGuna* causes *vataprakopa*.

Rasa Pradhana:

Charaka while explaining *Guna karma* of *Rasa*, explained as *Katu Rasa* is *Vayu* and *Agni pradhana*. Through *Anumana Pramana*, excess use of *Katu Rasa* will lead to *Kampa*. Excess intake of *Kashaya Rasa* causes *Sthambana*. Usage of *Rooksha* and *Alpaahara* causes *Vataja* disorders, *rookshadravya* causes vitiation of *Prana*. In *BhelaSamhitha*, it is described that in person who constantly consume dry foods and also in patient of *Udavarta*, aggravated *Vayu* gets excited, rises upwards causing *Shirokampa*.

Certain Vitamins have been subject of suspicion for an association with Parkinson's Disease, especially Vit. E. Vit. C decreases the risk of PD.

Viharaja Nidana:

Vegavarodha: It can be interpreted as suppression of *Jrumba* can cause *Kampa* (Tremor), *Pravepa* (Shaking), *Vinama* (flexion posture), *Samkocha* (contraction).

Agantuja Nidana:

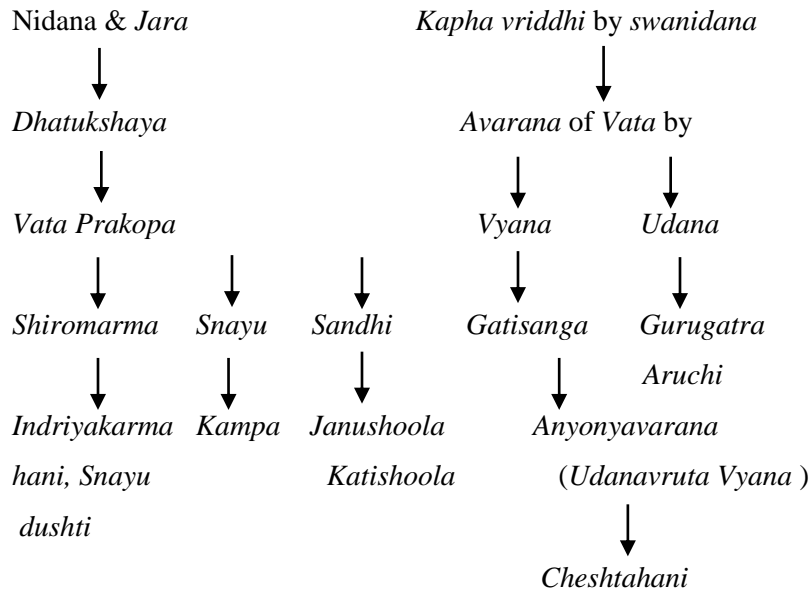
Visha: Every *Guna* attributed to *Visha* has got some action on *Dosha, Dhatu* and *Mala*. *RookshaGuna* of *Visha* vitiates *VataDosha* and manifests as *Gatrasthamba/rigidity; Vepathu/Tremor*.

Parkinson's Disease is reported in Chronic Manganese intoxication and Carbon monoxide poisoning.

Manasika Nidana:

Chinta, Shoka: It causes *Vataprakopa* due to *RajogunaBahulyata*. Researches have shown the concept of stress as crucial trigger for the initiation of Parkinson's Disease.

Amshamsha Kalpana/Pathogenesis:



Due to *Nidana* and *Jara*, there will be *Dhatukshaya* which will cause *Vataprakopa*, (*Chala*, *Rooksha*, *Sheeta* properties of *Vatagets* affected) which then affects the *Shiro marma* causing *Indriyakarmahani*, affects *Snayumarma* causing *Kampa*, also affects the *Sandhi* causing *Janushoola* and *Katishoola*. It also produces *Shakrutgraha*. *Sheeta* and *Rooksha* property of *Vata* vitiates *Mamsavahasrotas* also by involving its roots like *Sira* and *Snayu*.

Due to *Swanidana*, there will be *KaphaVatavridhhi*, also *Kapha* produces *Sada* on the functions of *Vata* by its *Manda* and *GuruGuna*. *KaphavrutaVyana* leads to *Gatisanga* whereas *Kaphavruta Udana* leads to *Gurugatrata* and *Aruchi*. There will be *Anyonyavarana (Udanavrutavyana)*, causing *Cheshtahani*⁶.

Pathophysiology of Parkinson's Disease:

There will be idiopathic depletion of the pigmented dopaminergic neurons in the substantia nigra, also the hyaline inclusions in nigral cells (Lewy bodies). The loss of the neurons causes Dopamine deficiency which in turn causes abnormal movements, impaired balance and posture.

Amshamsha Kalpana/ Lakshanas:

Kampa (Tremor): *Vepathu*, *Kampa*, *Spandana*, *Sphurana* are the terms used to denote increased movements. *Kampa* denotes increased movements. *Spandana* is the shaking of lesser degree whereas

Sphurana means continuous or repeated shaking. As movements like flexion, extension, are caused by *Vyana*, *Kampa* suggests disordered function. The increase in *ChalaGuna* of *Vata* results in *Kampa*.

The most common recognizable symptom of Parkinson Disease is known as pill rolling tremor. In this condition, the thumb and finger move uncontrollably in a manner resembling rolling of a pill between the fingers. Tremors most commonly appear in hands, arms and legs, though other areas may be affected.

Stambha (Rigidity): Disordered *Vyana*, *Udana*, *Pra*-*na* and *Avarana* of *Kapha* upon them is essential process of *Stambhana*⁷. According to *Chakrapani*, *Sthira* and *Sheeta* fractions of *Kapha* impose *Stambha*. According to *Susrutha*, *Rooksha* property especially produces *Stambha*⁸. Rigidity is a feature of many extrapyramidal diseases such as the advanced form of Paralysis agitans. Movements become slow and difficult to initiate. Patients usually must look at their feet to begin, shuffle forward and occasionally break into a festination. The arms do not swing in coordination with the usual stride.

Cheshtahani (Akinesia): It refers to the disinclination of the patient to use an affected part, to engage it freely in all the natural actions of the body. Akinesia is exhibited in two forms, ie, Hypokinesia and Bradykinesia. Hypokinesia indicates reduced amplitude of

movement whereas Bradykinesia implies slowed speed of movement.

Due to *Avarana* of *Vata* by *Kapha* and by its *Guru* and *Manda* properties, *Sada* and *Sanga* of *Vata* produces resulting in slowness of functions. By the word *Gatisanga*, *Charaka* hinted towards scarcity of movements, obstruction, impediments of movements.

Vinamana (Postural Changes): *Avanama* is bending or flexion due to pain. *Rooksha* fraction of *Vata* is particularly important in this aspect. Impaired or lost reflexes can make it difficult to adjust posture to maintain balance. Postural instability may lead to falls.

Vakvikriti / Swaragraha (Speech Disorder): *Vaksanaga* is a *Nanatmaja Vatavyadhi*. *Rooksha* property of *Vata* is responsible for *Kshama* (weak), *Jarjara* (broken), *Rooksha* (dry), *Sakta* (obstructed), and *Sanna* (hoarse) voice.

There are several ways Parkinson's Disease may affect speech. The voice may get softer, breathy or hoarse causing others difficult in hearing what is said. The speech may be slurred. The tone of the voice may become monotone, lacking the normal ups and downs. Persons may have difficulty finding the right words, causing speech to be slower⁹.

DISCUSSION

Samprapti is of six types according to *Charaka*. Every *Samprapti* has different role in making disease. *VikalpaSamprapti* has also very significant role in every disease. In any disease, the *Doshas* will exhibit their typical signs and symptoms. Example, the presence of excessive *Sheeta* shows the involvement of *Kapha* or *Vata* in the causation of that disease but it is very important to know whether it is *Vata* or *Kapha*. *Snigdatha* with *Sheeta* point towards *kapha* as the main *Dosha* involved in the pathogenesis of the disease and presence of *Rooksha* and *Khara* along with *Sheeta* will reflect *Vata* as a chief *Dosha*. The clinical pictures of a disease are due to impaired *Dosha*, *Dhatu*, *Agni*, *Srotas* etc. with their qualitative, quantitative, and functional alterations. *Vikalpa Samprapti* deals with the analysis of those factors.

Eg: In *Jwara* the *Santapa* is due to *Ushna guna vrudhi* of *Pachaka Pitta*.

It also helps to plan the treatment accordingly. ie, When there is quantitative impairment of *Pitta*, *Virechana* can be adopted. When there is qualitative increase of *Pitta*, *Sheetopachara* can be done, also when there is functional impairment of *Pitta*, *Ag-nideepana*, *Amapachana* can be adopted¹⁰.

There are innumerable drugs, but selection of the drug for a disease is difficult. As we know, for a treatment *Sampraptivighatanam* has prime importance. So, it is crucial to know what kind of *Dosha*, *Dushya*, *Srotas*, *Agni* etc. are involved in the causation of a disease¹¹.

CONCLUSION

As Ayurveda believes that breaking the *Samprapti* is the core of the treatment, it is very important to understand *Samprapti* of any disease before planning the treatment. *Vikalpa Samprapti* helps in fractional understanding of qualities of *Doshas* in disease with the help of *AmshamshaKalpana*. It helps in planning a comprehensive and multidimensional treatment protocol. Thus, it enables the physician to adopt suitable measures and contributes much to his success in clinical practice.

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