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Understanding Parkinsonism Through Samprapti Of Vatavyadhi

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INTRODUCTION:

Parkinson's disease is defined as Chronic, progressive neurodegenerative disease characterized by both motor and non-motor features. The most important signs and symptoms of Parkinson's disease occur when the nerve cells in basal ganglia, an area of brain that controls the movement become impaired or die. When these neurons die or get impaired, they tend to produce less amount of important chemical in the brain called as Dopamine which causes various symptoms like Tremors, Rigidity in muscles, Akinesia and postural disability associated with various Cognitive, Behavioural and other Psychological symptoms. This disease is increasing in its frequency with the world population showing an incidence of 1-2 per 1000 population and has equal sex distribution. The exact cause of the Parkinson's disease is not exactly known. But the factors such as Genetic predisposition, infections such as Encephalitis, Prolonged use of Antipsychotic drugs, Arteriosclerosis, Neurotoxins etc. can affect the substantia nigra in the basal ganglia leading to the destruction of Dopamine producing neurons. The Vagus nerve has been hypothesized that Alpha-synuclein aggregates form in the enteric nervous system, and spread via the autonomic system to the Central Nervous System. Normally, there is an equilibrium between acetylcholine and dopamine. With dopamine depletion, there results in the hyperactivity of acetylcholine which is the cause of Parkinsonism group of nerve cells deep within the centre of the brain in an area called substantia nigra.

The control of the voluntary motor activity is the main function of basal ganglia. Basal ganglia are comprised of a group of subcortical nuclei that include striatum (putamen and caudate nucleus), subthalamic nucleus (STN), globus pallidus pars externa (GPe), globus pallidus pars interna (GPI), and the substantia nigra pars compacta (SNc).Unlike most other components of the motor system, the basal ganglia do not make direct connections with the motor neurons in the spinal cord. Their influence on motor activity is exerted indirectly through their connections with the motor cortex. The prominent input to the basal ganglia comes from all parts of the cerebral cortex and terminates in the striatum. Cortical input to striatum excites two separate but parallel striatal pathways.

•Direct motor circuit through the basal ganglia leads to the cortical activation of basal ganglia resulting in the facilitation of selected motor programs.

•Indirect motor circuit results in the Cortical activation of striatum, suppresses the unwanted motor programs.

The decrease in dopamine results in decreases ability of the thalamus to activate the frontal cortex, resulting in the decreased motor activity characteristic of PD leading to Bradykinesia.

The gamma motor neuron of spinal cord is responsible for maintaining the tone of the muscles. The muscle tone is depended upon muscle spindle fibers, Basal ganglia especially the substantia nigra controls the gamma motor neurons and muscle spindle fibers lesions of this area will lead to increased tonicity leading to rigidity leading to rigidity

Control of the automatic associated movements, swinging of arms during walking, appropriate facial expressions and other movements associated with motor activities are called automatic associated movements, thus lesions of basal ganglia cause absence of these movements resulting in poverty of movements, face without appropriate expression leading to Masked face.

Ayurvedic Approach:

Kampa is said to be included in the *Vatajnanatmaj vyadhi* . Kampavata is composed of two words ie. Kampa meaning '*Gatradi chalanam*' ie. Shaking or to move and Vata meaning "*VA-GATI GANDHANAYOHO*" ie. Vata control all the sensory and motor system of the body.

Acharaya Sushruta has mentioned the symptoms like *Chestasanga*, *Stambha and Gurugatratain* the condition of Kaphavrita Vyana. *Sthamha* and Kampa are mentioned in *Snayugatavata.*

As per Astanga Hridaya, Kampa is found as a symptom in Vata prakopa(vitiation of Vata) and Sarwanga Vata.

Kampa is noted in Raktkshaya, Pittakshayaand Kaphkshya condition according to Astanga Sangraha.

For the first time Acharya Madhavahas mentioned the disease Vepathuin a separate chapter in his work "Madhava Nidana"in which he mentioned that Vepathuis characterized by Sarvanga kampa(tremor all over body) and Shiro kampa(tremor in hand).

Samprapti Ghatak of Kampavata:

Dosha - Vata (especially Prana, Udana andVyana)

Dushya - Mastulunga majja, Snayu.

Srotas – Vatavaha.

Srotodushti – Atipravritti.

Udbhavasthana – Pakvashaya.

Adhishgthana – Mastishka.

Sancharasthana – Rasayani.

Vyaktasthana – Sarvashareera.

Vyadhi – Marga Madhyama.

Factors Explained in Samhita for Kampa:

All Vata Vardhaka Ahara Vihara.

Manasik nidan – Krodha , Shoka , Bhaya , Lajja , etc.

It dosha get settled in Snayugata.

Visha – Dwitiya Vega (due to *Raktadushti).*

Purva Roopa:

Early complaints include fatigue, aches and pain, which may be restricted to one side of the body, feelings of tension and irresistible restlessness. Pain and needles on one hand, burning sensations, drenching sweats, blurred vision, internal feeling of tremulousness, cramps of thigh and calves and other are common experiences.

Roopa:

General

- Expressionless face.
- Greasy skin.
- Soft, rapid, indistinct speech (Vak Vikriti).
- Flexed posture.
- Impaired postural reflexes.

Gait

- Slow to start walking.
- Shortened stride.
- Rapid, small steps, tendency to run (festination) (Avanamana).
- Reduced arm swing.
- Impaired balance on turning.
- the patient generally takes small shuffling steps, difficulty in beginning to walk and to stop –‘Festinating’ / ‘Hurrying Gait’.

Tremor (Kampa)

- Resting (4-6Hz).
- Usually seen in fingers /thumbs.
- Coarse, complex movements, flexion/ extension of fingers.
- Abduction/adduction of thumb.
- Supination/pronation of forearm.
- May affect arms, legs, feet, jaw, and tongue.
- Intermittent, present at rest and when distracted.
- Diminished on action.
- Kampa(tremor) is found in many part of body like Shirkampa (tremor in head), Hasta Kampa(tremor in hands), Pada Kampa(tremor in legs).

Rigidity (Sthambha)

- Cogwheel type, mostly upper limbs.
- Plastic (lead pipe) type, mostly legs.

- Postural (8-10Hz).
- Less obvious, faster, fineramplitude.
- Present on action or posture, persists with movement.

Bradykinesia (Chesta Sanga)

•Slowness in initiating or repeating movements.

•Impaired fine movements, especially of fingers.

Chestasanga means obstructed movements or reduced movements. Vyana vayucarries out all the movements. Disturbance in the function of Vyana vayuleads to Chestasanga.

Disturbed Udana Vayu

Leading to disturbance in Vak Pravrutti (Monotonous speech), Bala, Smrutibramsha (impairment in memory).

CHIKITSA:

Principle of treatment should aim at the general line of Vatavyadhi chikitsa based on the specific aetiology, Santarpana Chikitsa and Rasayana.

Acharya Vangasenahas mentioned specific treatment for Kampavatasuch as Abhyanga, Swedana, Virechana, Anuvasana Basti, Niruha Basti and Shirobasti.

Snehana:

Abhyantara - Bhojana (food), Pana(drinks), Nasya, Basti , Pravicharana Sneha , Acchapana Sneha

Bahya - Abhyanga, Mardana, Lepa, Moordhinitaila etc.

Drugs:

Abhyanga – Maha mashadi taila , Triphaladi chatusneha , Kshirabala taila

Nasya – Mashadi Taila , Kshirbala taila , Yashtimadhu ghrut ,

Shirobasti – Sahachara taila , Mahamashadi taila

Anuvasana – Bala taila , Dashamool taila

Niruha – Dashamool kwath

Virechana:

Sneha Mrudu Virechana eg. With Eranda Prushtha Haritaki , Araghwadadi Kashaya , Sukumar Ghrita ,etc

Antahparimarjana.

Kampavatari Rasa.

Brihatvat Chintamani.

Kapikacchu Churna/ Ghanavati.

Mahayograj Guggulu.

Suvarna Soothshekhara Rasa.

Dashamoolarishta.

Conclusion:

Vata provocating factors are needed to prevent, Ritu Shodhana can help and above to it different stress management works to counteract the pathogenesis of disease. These treatment protocol also helps to subside severity.

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