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ROLE OF PANCHAKARMA IN THE MANAGEMENT OF PARKINSON'S DISEASE: A REVIEW

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ABSTRACT

Introduction: Panchakarma therapy is an integral part of Ayurveda. It plays a vital role in preservation, maintenance and conservation of health and promotion of longevity. The term 'movement disorder' is often used synonymously with the Extrapyramidal disorders. **Materials and Methods:** Idiopathic Parkinson's disease is a progressive neurodegenerative disorder characterized by bradykinesia, rest tremor and rigidity. In Ayurveda classics, the diseases mentioned in a similar fashion are *Vepathu* and *Kampavata.* Acc. to *Acharya Vagbhata, Chala* is the *Guna* of *Vata*. *Gati* and *Cheshta* are the functions of *Vyana Vayu. Urja* and *Bala* are the contributions of *Udana Vayu*. In one set of *Samprapti*, due to *Santarpanottha Nidana*, *Kapha Prakopa* takes place which in turn causes *Avarana*, leading to *Kaphavrita Vyana* or *Udana*. In case of *Apatarpanottha Nidana*, it leads to *Swatantra Vataprakopa* and *Dhatukshaya*. **Discussion and Conclusion:** The treatment protocol should be designed based on the presence or absence of *Aavarana*. In case of *Santarpanottha Vikara*, initially *Aavaranahara* line of management should be followed in the form of Panchakarma therapeutic modules like *Agnichikitsa Lepa*, *Dhanyamla* or *Kashaya dhara* or *Udwartana*. *Trividha prakara Apatarpana* i.e. *Langhana, Langhanapachana* and *Doshavasechana* should be carried out according to *Mridu, Madhyama* and *Pravara Bala* of *Dosha* and *Aatura,* which acts as *Aamahara and Agnivardhaka* also. Lastly to replenish the *Dhatu*, *Brimhana* line of

management should be followed in the form of either *Yapana Basti*, *Shashtikashali Pinda Sweda* or *Pizichil.* In case of *Apatarpanottha Vikara* and *Nirupastambhita Vata,* directly *Snehana* and *Brimhana* line of therapies are recommended. To improve cognitive functions, *Shodhana Nasya* followed by *Brimhana Nasya* and *Shirobasti* are beneficial.

KEYWORDS: Panchakarma, *Kaphavrita Vyana, Aavaranahara, Apatarpana, Brimhana.*

INTRODUCTION

Extrapyramidal disorders relate to dysfunction of the basal ganglia. They result in disturbance of movement and posture without significant paralysis. The term ‘movement disorders’ is often used synonymously with extrapyramidal or basal ganglia diseases.[1] Parkinson’s Disease, is named after James Parkinson who in 1817 wrote a classic “An Essay on the Shaking Palsy” a disease for which the reason is still unknown. Parkinson’s disease is the most common form of a group of progressive neurodegenerative disorders characterized by the clinical features of parkinsonism, including bradykinesia (a paucity and slowness of movement), rest tremor, muscular rigidity, shuffling gait and flexed posture.[2] Currently, around 1 million people are suffering from this disease globally. It’s average age of onset is about 60 years and fewer than 5% of patients present under the age of 40.[3]

AIMS AND OBJECTIVES

- To study the pathophysiology and symptomatology of Parkinson’s disease in terms of both modern as well as Ayurvedic perspectives.
- To understand the role of Panchakarma in the management of Parkinson’s disease.

MATERIALS AND METHODS

Disease review

Incidence: Parkinson’s Disease afflicts ~1 million individuals in the United States (~1% of those over 55 years). It’s peak age of onset is in the early 60s (range 35-85 years) and the course of illness ranges between 10 and 25 years.[4]

Etiology: The cause of Parkinson disease is not known. Environmental factors have been implicated. Chronic exposure to MPTP (methyl-phenyl-tetrahydropyridine) like toxin in the environment has been suggested.[5] Although mutations in several genes have been identified in few cases, in most patients the cause remains unknown.

Pathophysiology: In the basal ganglia, corpus striatum has a rich concentration of acetyl choline. Acetyl choline is synthesized and released by small striatal neurons, upon which it has an excitatory effect. Dopamine is synthesized by the pigmented neurons (pars compacta) of the substantia nigra and is transported via the nigrostriatal pathway to the corpus striatum, where it has an inhibitory effect on striatal neurons. Normally functional equilibrium exists in the striatum between acetylcholine and dopamine.[6] In the Parkinson's disease, there is loss of pigmented neurons in the substantia nigra with the formation of Lewy bodies. As a result, the dopamine content is markedly decreased leading to tremors, rigidity and bradykinesia.

Signs and Symptoms: Clinical features are broadly divided into motor and non-motor features. A diagnosis of Parkinson's disease can be made with some confidence in patients with at least two of the three cardinal signs.[7] Tremor is particularly important, as it is present in 85% of patients with true PD; a diagnosis of PD is particularly difficult when tremor is absent. Distal muscles are affected more than the proximal and the rhythmic tremor at the wrists and fingers has been termed "pill-rolling" tremor. A unilateral and gradual onset of symptoms further supports the diagnosis. Masked face, decreased eye blinking, stooped posture, festinating gait with decreased arm swing complete the early picture.

Easily recognizable motor symptoms of Parkinson's disease are just the tip of iceberg. But beneath the surface over 20 non-motor features ranging from nuisance to life threatening like constipation, orthostatic hypotension, cognitive impairment like difficulty planning and memorizing, neuropsychiatric symptoms like depression, anxiety and sleep disturbances.

On examination

- ✓ Hypophonic Voice- Voice becomes soft, monotonous and shuttering and the speech is more rapid than normal.
- ✓ Kyphosis- The head usually tilts forward and the body becomes stooped.
- ✓ Glabellar tap- Positive
- ✓ Finger Nose Test- Positive i.e. Overshooting when the object is reached called as Dysmetria.
- ✓ Dysdiadokokinesia- Rapid alternating movements are not possible to perform.

Table 1: Staging according to Hoehn and Yahr Scale.

Stages	Features
Stage 1	Unilateral involvement
Stage 2	Bilateral involvement but no postural abnormalities.
Stage 3	Bilateral involvement with mild postural instability; Patient leads an independent life.
Stage 4	Bilateral involvement with mild postural instability; Patient requires substantial help.
Stage 5	Severe, fully developed disease, Patient is restricted to bed and chair.

Progression: In most of the patients the disease progresses gradually over about 10 years from 1st stage to 5th stage making the individual wheelchair bound or bed ridden.

Investigations: Conventional laboratory studies do not help in the diagnosis of Parkinson's disease. CT and MRI scans are normal or show only variable degrees of atrophy. PET (Positron Emission Tomography) scans using FDG (fluorodeoxyglucose) or DAT (dopamine transporter) and SPECT (single photon emission computed tomography) scans have been used to study dopaminergic terminals and help to differentiate Parkinson's disease from Parkinson's plus syndromes.

Treatment: In contemporary system of medicine, drugs used in the treatment do not alter the progression of the disease but they do enable the patient to remain independent and functional for a long period. But all the drugs have got side effects, both short term and long term [8].

In ayurveda,

In Ayurveda classics, the diseases mentioned in similar fashion are *Vepathu* and *Kampavata. Vepathu* is mentioned under 80 *Vataja Nanatmaja Vikara*.[9] However, it was *Basavarajeeyam* who for the first time gave an ambiguous description by explaining the clinical picture of *Kampavata* like *Karapadatalakampa* (tremors in hands and legs), *Dehabhramana* (postural instability), *Nidrabhanga* (insomnia) and *Matiksheena* (dementia).[10] *Acharya Bhela* noted the symptom *Kampa* in the condition of *Asthimajjagata Vata.*[11] *Kampa* is found in the condition of *Snayuprapta Vata*[12] mentioned by *Acharya Sushruta.* Acc. to *Acharya Vagbhata, Chala* is the *Guna* of *Vata*. *Gati* and *Cheshta* are the functions of *Vyana Vayu.* *Urja* and *Bala* are the contributions of *Udana.*[13] Due to *Santarpaka Ahara Vihara, Swatantra Kapha Prakopa* occurs. *Prakupita Kapha* causes *Aavarana* to *Vata* (particularly *Vyana* and *Udana*) leading to *Kaphavrita Vyana* or *Udana.*[14] In case of *Apatarpanottha Nidana*, it leads to *Swatantra Vataprakopa* and *Dhatukshaya*. The

treatment protocol should be designed based on the presence or absence of *Aavarana*. In case of *Santarpanottha Vikara*, initially *Aavaranahara* line of management should be followed in the form of either *Agnichikitsa Lepa*, *Dhanyamla/ Kashaya dhara* or *Udwartana. Trividha prakara Apatarpana*[15] i.e. *Langhana*, *Langhana pachana* and *Doshavasechana* should be carried out according to *Mridu, Madhyama* and *Pravara Bala* of *Dosha* and *Aatura* which acts as *Aamahara* and *Agnivardhaka.* Lastly to replenish the *Dhatu,* either *Yapana Basti,*[16] *Shashtikashali Pinda Sweda* or *Pizichil* should be done.

RESULTS AND DISCUSSION

1. ***Agnichikitsa lepa***: It is a folklore formulation having dry drugs like *Lashuna*, *Sarshapa*, *Haridra*, *Maricha*, *Lavanga* and wet drugs like *Nirgundi, Agnimantha*, *Tulasi*, *Paapata* and *Bandha*. Most of the drugs are having *Ushna Veerya* and *Katu Vipaka* and *Vatakaphahara* in nature. This acts as *Aavaranahara* and also helps in *Aama Pachana*. In case of *Pitta Prakriti* individual, in *Ushna Desha* and *Kala,* it may cause blisters in the skin. Hence it is better to be avoided or should be performed with the precautionary measures.

2. ***Dhanyamla dhara or kashaya dhara***: One part of coarse powder of *Shaali, Kulattha, Kodrava, Yava, Kangu beeja, Nagara, Nimbuka* are tied in a *pottali*. Eight times water should be added and kept for 7 days in an earthen pot and the filtrate is known as *Dhanyamla*. Even *Dashamula Kashaya* with the *Gomutra* can also be used for *Parisheka*. It mitigates vitiated *Vata* and *Kapha*.

3. ***Udwartana***: It is a best therapeutic module for the mitigation of *Vriddha Kapha* and gives *Sthirata* to *Anga.*[17] Here, massage is done with *Kolakulatthadi* or *Triphala Choorna* with some pressure in an opposite direction to hair follicles (*Pratiloma Gati*) of the body.

In case of *Pravara Bala* of *Dosha* and *Aatura*, *Teekshna Sweda*, *Niruha Basti*, *Vamana* and *Virechana* should be followed.[18] These procedures act as *Srotoshodhaka* by clearing the *Aavarana*, increases *Agni* and helps in *Vatanulomana*. After confirming *Niraama Lakshana*, to replenish the *Dhatu, Brimhana* line of management should be followed. Due to *Apatarpka Nidana*, in case of *Nirupasthambhita Vata*, directly *Snehana* and *Brimhana* line of therapies are recommended.[19]

4. ***Nasya:*** Initially *Shodhana Nasya* should be followed using *Anu Taila* or *Shadbindu Taila*. After *Shodhana*, *Brimhana Nasya* with *Ksheerabala* 101 or *Mahamasha Taila* can be performed. *Naasa* is considered as the gateway of *Shiras.*[21] *Nasya* improves the *Kshamata* of *Indriya.* During the procedure, care should be taken as there is chances of aspiration of the instilled *dravya*.

5. ***Yapana basti*[20]:** As name itself suggests it supports and maintains the life to have the homeostasis which in turn alleviate the disease. *Dravya* used are *Mridu*, promoter of *Dhatu* and acts as *Balya*, *Vrishya* and *Rasayana*.

6. ***Shashtikashali pinda sweda*:** It is performed in *Ekanga* or *Sarvanga* with the bolus of boiled *Shashtika Shali* with *Balamoola Kwatha* and *Ksheera*. *Shashtika* possesses *Snigdha, Guru Guna* and acts as *Tridoshaghna.* It works as *Brimhana* and *Dhatu Poshana.*

7. ***Pizichil*:** Squeezing of warm medicated oil onto the body for a fixed duration of time is called as *Pizichil*. As it is a *Snigdhasweda,* it acts as *Vatahara* and helps in rejuvenation of the body.

8. ***Shirobasti*:** Both *Snehana* and *Swedana* actions are achieved by *Shirobasti*. The temperature of *Taila* in the *Shirobasti* helps in vasodilatation there by increases the peripheral circulation which nourishes the tissues and brings the regenerative changes. It also helps to improve cognitive functions.

CONCLUSION

Though Parkinson's disease comes under the umbrella of *Vatapradhana Vyadhi*, deciding whether the *Vata Prakopa* is *Swatantra* or *Paratantra* is the key for the success of treatment. In case of *Swatantra Vataprakopa*, directly one can start with *Brimhana* line of management in the form of *Snehana*, *Swedana*, *Anuvasana Basti* etc. but in case of *Paratantra Vataprakopa,* according to the *Bala* of *Dosha* and *Aatura,* initially *Shodhana* should be adopted to clear the *Aavarana* of *Kapha,* to bring back *Niramavastha* and to achieve *Agnideepti*. Then, *Brimhana* and *Vatahara* line of management should be followed. In the patients of Parkinson's disease, improvement in the quality of life is the main motto which is achieved through Panchakarma modalities.

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