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MANAGEMENT OF KAMPAVATA WITH KAPIKACHHU, A REVIEW

Monica Salaria*[1] and Aditya[2]

[1]Assistant Professor, Dept. of *Kriya Sharir*, Jammu Institute of Ayurveda & Research, Jammu.

[2]MD *Kayachikitsa*, Medical Officer, Govt. Ayurvedic Dispensary, Surinsar, Jammu, India.

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***Corresponding Author**
Prof. Monica Salaria
Assistant Professor, Dept. of Kriya Sharir, Jammu Institute of Ayurveda and Research, Jammu.

ABSTRACT

Vatavyadhi comprises of many a condition with predominance of *Vata dosha*. *Kampavata* being one among the *Vataja* conditions. It has received its name from *Kampa* means Tremors because the ailing person feels tremors as the main or dominant feature, *Ayurveda* has advocated *vataja upakrama* especially *snehana, swedana, vastikarma,* etc. as the treatment procedures. There are many drugs that are prescribed for the said condition. They have opposite qualities to that of *Vata*. Among the drugs, the *Kapikachhu* is extensively used. Thus, the action of *Kapikachhu* should be assessed for the said condition.

KEYWORDS: *Kampavata, Kapikachhu,* Parkinsonism, Mucana Pruriens, Dopa.

INTRODUCTION

Kampavata is a *Vataj* disorder. *Vataj nidana* lead to *vata* vitiation which leads to *Kampa pradhan Vata vyadhi* that involves the body as well as the head.[1] Not much description is available for this ailment in *Ayurvedic* texts so a common line of treatment of *Vatavyadhi* is advised here. Parkinsons disease is a similar health condition of todays world characterized by shaking, rigidity, slowness of movement, and difficulty with walking. Thinking and behavioral problems may also occur. Dementia becomes common in the advanced stages of the disease. Depression and anxiety are also common findings. Levadopa is drug useful in said disease. One of Ayurvedic drugs Kapikacchu also contains L-Dopa as its seed content. So the drug should be evaluated pharmacologically and by research history.

AIMS and OBJECTIVES: To study Literary aspects of *Kampavata* and the possible mode of action of drug *Kapikachhu* in its management.

DISEASE DESCRIPTION: The description is not in detail in ancient texts. The common *Vataja* disease causes and *samprapti* can be considered here.

NIDANA

Aharaja

Ruksha sheeta ahara sevana, atyalpa ahara sevana, viruddha ahara sevana, asatmya ahara sevana

Viharaja

Ativayavaya, atijagran, Dukhshaya, Ativyayam, Divaswapan, Vegasandharana, plavan, abhighat.

Mansika

Chinta, shoka, krodh, bhaya.[2]

Dravyataha

Adhaki Bisa Chanaka Harenu Jambava Kalinga Masura Mudga Nishpava Suskasana Tinduka Trinadhanya.[3]

Dietetic Causes

Excessive intake of *Katu Rasa* leads to *Kampa*.[4]

Vegavarodha: Suppression of *jrimbha* causes *Kampa*, *Pravepana etc*. Suppression of *udgara* causes tremor, hiccough etc.[5]

Visha: *Vepathu* is the symptom of second *Vishavega*.[6]

Charaka has noted *Kampa* (tremor) in the diseases of *Rakta*.[7]

Samprapti

The Vata gets aggravated by *dhatukshaya* and *avarana* causes.[8] The aggravated *Vata* fills the spacious *srotasas*.[9] Thus, leads to the manifestation of *Kampa Pradhan Vatavyadhi*.

Rupa

Sarvanga Kampa or *Shira Kampa* are the basic *lakshanas*.[10]

Chikitsa

The line of treatment here is like common *vata vyadhi chikitsa*. *Snehana* internally and externally[11] *Swedana* can be done with several *vatahara* herbs. Several type of *swedana* procedures can be followed.[12] *Vasti prayog* can be done after proper estimation of *doshas.*[13] *Mridu Virechan* done in *sansrishta Vata.*[14] *Vatanulomak ahara-vihara* is followed.[15] *Brihman*[16] and *Rasayana*[17] *chikitsa* are also followed by recent authors.

DRUG DESCRIPTION

Kapikachhu (Seed)

Atmagupta consists of dried mature seed of Mucuna prurita Hook., Syn. M pruriens Baker. (Fam. Fabaceae); a slender extensive climbing plant found almost all over the country.[18]

Gana

Charaka: Balya, Madhura Skandha

Sushruta: Vidarigandhadi, Vatasanshamana.[19]

SYNONYMS

Sanskrit: *Kapikachhu, Markata, Kandura*; Assam.: Banar Kakua; Eng.: Cowhage; Guj.: Kavach, Kaucha; Hindi.: Kewanch, Kaunch; Kan.: Nasugunne, Nasugunnee; Mal.: Naikuruna; Mar.: Khajkuhilee, Kavach; Ori.: Baikhujnee; Punj.: Tatgajuli, Kawach; Tam.: Poonaikkali; Tel.: Doolagondi, Duradagondi; Urdu.: Kanwach, Konch.[20]

PROPERTIES AND ACTION

Rasa: Madhura, Tikta; Guna: Guru, Snigdha; Virya: Sheeta; Vipaka: Madhura.

Karma: Kaphanashaka, Vatashamana, Vrishya, Pittanashaka, Raktadoshantaka, Brihmana, Balya.[21]

Mode of Action

The *samprapti* in the case revolves around *Vata dosha* as being vitiated predominantly while the qualities of *Kapikachhu* show *madhura rasa, madhura vipaka, guru snighda guna* are all *Vata shamaka* in nature. The *sheeta virya* may check the vitiated *Pitta* in the body as well. Thus, this remedy works well with the case.

Active Principles

Protein, calcium, phosphorus, iron, Sulphur, manganese, Dopa, glutathione, lecithine, gallic acid, glucosides Fixed Oil, Alkaloid and 3,4-Dihydroxyphenylalanine etc.[22]

Pharmacological and biological activities

1. The seed powder of the leguminous plant, *Mucuna pruriens* has long been used in traditional Ayurvedic Indian medicine for diseases including parkinsonism. We have assessed the clinical effects and levodopa (L-dopa) pharmacokinetics following two different doses of mucuna preparation and compared them with standard L-dopa/carbidopa (LD/CD). Eight Parkinson's disease patients with a short duration L-dopa response and on period dyskinesias 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. Dyskinesias 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 dyskinesias or tolerability occurred. The rapid onset of action and longer on time without concomitant increase in dyskinesias on mucuna seed powder formulation suggest that this natural source of L-dopa might possess advantages over conventional L-dopa preparations in the long-term management of PD. Assessment of long-term efficacy and tolerability in a randomised, controlled study is warranted.[23]
2. To investigate whether *Mucuna pruriens* (MP), a levodopa-containing leguminous plant growing in all tropical areas worldwide, may be used as alternative source of levodopa for indigent individuals with Parkinson disease (PD) who cannot afford long-term therapy with marketed levodopa preparations. We investigated efficacy and safety of single-dose intake of MP powder from roasted seeds obtained without any pharmacologic processing. Eighteen patients with advanced PD received the following treatments, whose sequence was randomized: (1) dispersible levodopa at 3.5 mg/kg combined with the dopa-decarboxylase inhibitor benserazide (LD+DDCI; the reference treatment); (2) high-dose MP (MP-Hd; 17.5 mg/kg); (3) low-dose MP (MP-Ld; 12.5 mg/kg); (4) pharmaceutical preparation of LD without DDCI (LD−DDCI; 17.5 mg/kg); (5) MP plus benserazide (MP+DDCI; 3.5 mg/kg); (6) placebo. Efficacy outcomes were the change in motor response at 90 and 180 minutes and the duration of on state. Safety measures included

any adverse event (AE), changes in blood pressure and heart rate, and the severity of dyskinesias. When compared to LD+DDCI, MP-Ld showed similar motor response with fewer dyskinesias and AEs, while MP-Hd induced greater motor improvement at 90 and 180 minutes, longer ON duration, and fewer dyskinesias. MP-Hd induced less AEs than LD+DDCI and LD−DDCI. No differences in cardiovascular response were recorded. It was concluded that Single-dose MP intake met all noninferiority efficacy and safety outcome measures in comparison to dispersible levodopa/benserazide. Clinical effects of high-dose MP were similar to levodopa alone at the same dose, with a more favorable tolerability profile.[24]

3. *Mucuna pruriens* (Mucuna) has been prescribed in Ayurveda for various brain ailments including '*kampavata*' (tremors) or Parkinson's disease (PD). While Mucuna is a well-known natural source of levodopa (L-dopa), published studies suggest that other bioactive compounds may also be responsible for its anti-PD effects. To investigate this hypothesis, an L-dopa reduced (<0.1%) *M. pruriens* seeds extract (MPE) was prepared and evaluated for its anti-PD effects in cellular (murine BV-2 microglia and human SH-SY5Y neuroblastoma cells), *Caenorhabditis elegans*, and *Drosophila melanogaster* models. In BV-2 cells, MPE (12.5–50 µg/mL) reduced hydrogen peroxide-induced cytotoxicity (15.7−18.6%), decreased reactive oxygen species production (29.1−61.6%), and lowered lipopolysaccharide (LPS)-induced nitric oxide species release by 8.9–60%. MPE (12.5−50 µg/mL) mitigated SH-SY5Y cell apoptosis by 6.9−40.0% in a non-contact co-culture assay with cell-free supernatants from LPS-treated BV-2 cells. MPE (12.5−50 µg/mL) reduced 6-hydroxydopamine (6-OHDA)-induced cell death of SH-SY5Y cells by 11.85–38.5%. Furthermore, MPE (12.5−50 µg/mL) increased median (25%) and maximum survival (47.8%) of *C. elegans* exposed to the dopaminergic neurotoxin, methyl-4-phenylpyridinium. MPE (40 µg/mL) ameliorated dopaminergic neurotoxin (6-OHDA and rotenone) induced precipitation of innate negative geotaxis behavior of *D. melanogaster* by 35.3 and 32.8%, respectively. Therefore, MPE contains bioactive compounds, beyond L-dopa, which may impart neuroprotective effects against PD.[25]

CONCLUSION

In Ayurveda, the drug *Kapikachhu* is used as a cure for *Kampavata* so the drug was studied for its pharmacological properties and actions. Several modern studies are evident for drug effectiveness in the said ailments. There is not a proper permanent cure in other system of medicine so an attempt was made to do the pharmacological study on effect of *Kapikachhu*

on *Kampavata* which showed a good result principally. Further, clinical studies are required for complete evaluation.

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