



ANALYTICAL STUDY ON THE EFFECTS OF RASONA SAPTAK IN THE MANAGEMENT OF PAKSHAGHATA W.S.R. TO HEMIPLEGIA

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Article Received on
24 August 2017,

Revised on 14 Sept. 2017,
Accepted on 04 October 2017

DOI: 10.20959/wjpps201711-10347

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ABSTRACT

The stressful lifestyle and mental conditions, food habits, living conditions in the present scenario have invited many distressing diseases. Hemiplegia is described in ayurveda as Pakshaghata considered among 80 vatavikaras which literally means loss of voluntary functions of one side of the body. Ayurvedic medicine is oriented towards health maintenance, prevention and treatment of diseases. The present review article is undertaken to explore the pharmacological attributes of ingredients of Rasona Saptak and its reaction on Pakshaghata. This formulation contains *Allium sativum*,

Zingiber officinalis, *Piper nigrum*, *Piper longum*, *Ferula narthex*, *Cuminum cyminum*, *Saindhava lavana*, *Sauvarchal lavana* and *Ricinus communis*. According to Ayurvedic pharmacodynamic properties, Rasona Saptak pacifies vitiated Vata dosha due to Madhura rasa, Snigdha guna, Ushna veerya and Madhura vipaka. It also pacifies vitiated Kapha dosha due to Laghu guna, Ruksha guna and Katu vipaka. Its Mukhyakarma includes Vedanasthapana, Nadiuttejak, Nadibalyakara, Deepana, Pachana, Mootrala and Srotoshodhaka. Ingredients of Rasona Saptak contains alkaloids, flavanoides, glycosides, protein, resin, saponin, tannin, steroid and essential oils. Further these phytochemicals are found to possess antioxidant, anti-inflammatory, anti-carcinomic, anti-microbial, anticoagulant, hypolipidaemic, diuretic and anti-hypertensive activities. Rasona Saptak can be effectively used to manage Pakshaghata due to its pharmacodynamic properties, phytochemicals and scientifically proven bioactivities.

KEYWORDS: Rasona saptak, Pakshaghata, phytochemicals, anti-coagulant.

INTRODUCTION

The stressful life style in the 21st century effects mind and homeostasis of the body. The term paksha means half of the body and loss of function of paksha is seen in pakshaghata.^[1] It is mainly a vata vyadhi and pitta and kapha doshas also associated with vata in the causation of disease.^[2] Acharya charaka observes that sira snayu vishoshana leads to pakshaghata.^[3] But sushruta notes the involvement of dhamani in the pathogenesis of pakshaghata.^[4] Sosh of sira snayu leads to the formation of clot in the cerebral vessels after the sustained loss of dravatva of Rakta dhatu and snigdhatu of meda dhatu, to cause cerebral infarction which contributes 85% of stroke. Pakshaghata has been enlisted amongst the eighty types of Nanatmaja vata vyadhi.^[5] The pathological phenomena of vata playing central role in the manifestation of Pakshaghata are Shuddha vata prakopa, Anyadosha Samsirsa vata prakopa and dhatukshayajanya vata prakopa.^[6] Manifestation of pathogenesis in Pakshaghata is due to Margavarana or Dhatu kshaya^[7] and produce following sign and symptoms like Cheshta nasha, Sandhi shaithilya, Jihva sphurana, Sangya hani, Ruja etc.^[8]

According to sign and symptoms Pakshaghata in ayurveda can be correlated with stroke specially Hemiplegia in modern medicine.^[9] Modern science attributes this condition as damage to brain or CNS structure caused by abnormality of the blood supply. Hemiplegia is caused by a variety of clinical conditions like CVA(stroke), trauma, brain tumour, abscess, meningitis etc.^[10] There are two major categories of brain damage in stroke viz-ischemia and hemorrhage, which result in the destruction of brain tissue via abnormalities in the blood supply of brain.^[11] Stroke typically manifest with the sudden onset of focal neurologic deficits.

As such diagnostic part of Pakshaghata is strong in modern science, but no complete cure available till today. Therefore substantial reasoning for complete treatment of Pakshaghata by ayurveda has to be established. The formulation of drug which is used in present study for treatment of Pakshaghata is Rasona Saptak^[12] with the Anupana of erandmula kwath. So far, no scientific study has been conducted to evaluate the efficacy of this potent drug. The present study aims to the pharmacological attributes of the ingredients of Rasona Saptak. Using Anupana is quite popular. Anupana is a fluid vehicle for medicine.^[13] Anupana brings urja, tripti and strength to the body. It causes breakdown, softening, proper assimilation and instant diffusion of food.^[14] It is useful while administrating drug preparations such as kalka and vati.

MATERIALS AND METHODS

For this study the available literatures are collected through Ayurvedic authentic text mainly Charaka Samhitha, Susrutha Samhitha, Astanga Samgraha, Astanga Hridaya, Madhava Nidana Bhavprakash, Sharangadhara samhita and Yogtarangini, with their respective commentaries, various books, articles and online data base.

RESULTS

In my research work for the treatment of pakshaghata I have selected the medicine known as “Rasona Saptak”. Formula of Rasona Saptak according to Yoga Tarangini, is given below in table 01.

Method of preparation of Rasona Saptak

Pal and Masha are the units of measuring weight in Indian Pharmacopoeias. In India 1 Pal is equal to 48 grams and 1 Mashak(masha) is equal to 1 gram.^[15] Rasona saptak is made according to Sharangdhar samhita^[16] and the Vati Kalpana mentioned in the Ayurvedic pharmacopeia. First of all 1 pal or ½ pal of rasona should be beaten. Then 1 masha of pulverized hingu, jeera, saindhava lavana, sauvarchal lavana, trikuta should be mixed with the already beaten rasona. Then take 1 masha of this mixture and add Erand taila in it and intake according to jatharagni.^[17]

Table 01: Ingredients of Rasona Saptak.

| Botanical names | Family | Sanskrit name | Local name | Parts used |
|------------------------|---------------|-------------------|----------------|--------------|
| Allium sativum | Liliaceae | Rasona | Lahsuna Lashan | Bulb, oil |
| Zinziber officinalis | Zingiberaceae | Sunthi | Sonth | Rhizome |
| Piper nigrum | Piperaceae | Maricha | Kali mirchi | Fruits |
| Piper longum | Piperaceae | Pippali | Pipar | Fruits, Root |
| Ferula narthex | Umbelliferae | Hingu | Hinga | Niryas |
| Cuminum cyminum | Umbelliferae | Jeerak (shweta) | Safed jeera | Seed |
| Sodium Chloride | - | Saindhava lawana | Sendha namak | - |
| Unaqua Sodium chloride | - | Sauvarchal lawana | Kala namak | - |
| Ricinus communis | Euphorbiaceae | Erand | Andi Rend | Oil seeds |

Dosage of Rasona Saptak

- Dose - 1 gm twice daily at 12 hour interval.
- Dosage form - Vati of 1 gm
- Route of Administration - Oral
- Anupana – Eranda mool kwath
- Duration of therapy – 1 month
- Vyayam (physiotherapy) in the attached hospital.

Indication of Rasona Saptak^[18]

In Yogatarangini it is advised to give Rasona Saptak in the treatment of vata vyadhi like Ardita, Aptantrak, Sarvangvata, Ekangavata, Gridhrasi and Akshepak.

Ayurveda pharmacodynamic properties and other properties of ingredients of Rasona Saptak

Ingredients of Rasona Saptak have various properties which are capable of pacifying vitiated dosha. Rasa, Guna, Veerya, Vipaka and Doshakarma of these ingredients are given in Table No. 02.

Table 02: Ayurveda pharmacodynamic properties and other properties of ingredients of Rasona Saptak.^[19-27]

| Ingredient | Rasa | Guna | Veerya | Vipaka | Doshagnata | Mukhya karma |
|------------|------------------|-----------------------------------------------|--------|---------|------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Rasona | Except amla rasa | Snigdha Tikshna Sara Pichhil Guru | Ushna | Katu | Vatakaphashamaka | Sothhara Vedanasthapana Medhya Anulomaka Krimighna Hridaya Uttejaka Rasayana Sandhaniya |
| Sunthi | Katu | Guru Ruksha Tikshna | Ushna | Madhura | Vatakaphashamaka | Nadiuttejak Vedanasthapak Shothhar Vatanulomaka Deepana Pachana Shoolaprashamana Hridya Vrishya Uttejaka |
| Maricha | Katu | Laghu Snigdha | Ushna | Katu | Kaphavatahara | Kaphavatahar Avrishya Deepana Pramathi |
| Pippali | Katu | Laghu Snigdha Tikshna | Ushna | Madhura | Vatakaphashamaka | Shoth Vata vyadhi Krimi roga Hriddaurbalya Deepana Pachana |
| Hingu | Katu | Laghu Snigdha Tikshna | Ushna | Katu | Vatakaphashamaka | Deepana Pachana Vatanulomaka |

| | | | | | | |
|----------------------|---------|------------------|--------|---------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | Balya Uttejaka Aakshaphara Sangyasthapan |
| Jeerak (shweta) | Katu | Laghu Snigdha | ushna | Katu | Vatakaphashamaka | Deepana Pachana Vatanulomana Grahi Balya Shoolprashamana Krimighna Uttejaka Raktashodhaka Mootral Shirovirechak |
| Saindhva Lavana | Madhur | Laghu Snigdha | sheeta | Madhur | Tridoshashamaka | Deepana Pachana Hridya Nityasevaniya Vrishya Avidahi |
| Sauvarchal lawana | | Laghu Snigdha | Ushna | Madhura | Vatashamaka | Deepana Pachana Rochana Vatanulomaka |
| Erand | Madhura | Guru Snigdha | Ushna | Madhura | Vatahara | Vrishya Amapachaka |

Phytochemicals of ingredients of Rasona Saptak

Phytochemicals are the chemical compounds that occur naturally in plants. Different phytochemicals have been isolated naturally from the ingredients of the Rasona Saptak Vati. they are given below in Table No. 03.

Table 03: Phytochemicals of ingredients of Rasona Saptak. ^[28-36]

| Ingredient | Phytochemical Containing |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rasona | Allicin, polysaccharides, vitamins, amino acids, diallyle trisulphide, diallyle sulphide, peptides, sterol, hydrocarbons, peptic acid, iso-cruboside-B, sativioside C, adenosine, tryptophan |
| Sunthi | Gingerol, Zingeron, zinzibarine, Gingediol, haptane |
| Maricha | Piperine, piperidine, piperonol, piperaleine A & B, starch and volatile oil |
| Pippali | Piperine, piperidine, piperlongumine, peplartine, sesamin, essential oil, reducing sugar, unidentified steroid |
| Hinga | Asaresinatanol, oil contents-disulphide |
| Jeerak (shweta) | Cumeldehyde, cuminin, cymene, oxalic acid, alfa mannitol, protein, fat, carbohydrate, iron, vit A&C |
| Saindhwa lawana | NaCl, NHCO ₃ , Insoluble matter, MgCl, CaCl, CaSO ₄ |
| Sauvarchal lawana | NaCl, Na ₂ S, Fe |
| Erand | Alkaloid (ricinine) |

Bioactivities of ingredients of Rasana Saptak

Ingredients of Rasana Saptak are found to possess different bioactivities according to their phytochemical content. Some of these activities are scientifically proven by researchers. Those bioactivities are given in the following Table No. 04.

Table 04: Bioactivities of ingredients of Rasana Saptak^[37-46]

| Bioactivity | Ingredients |
|----------------------------------------------------|-----------------------------------------------------------------------------------|
| Antioxidant | Allium sativum, Piper nigrum |
| Anti tumoural | Allium sativum, Zinziber officinalis |
| Anti-inflammatory | Allium sativum, Zinziber officinalis, Piper nigrum, Piper longum, Cuminum cyminum |
| Anti bacterial | Allium sativum, Zinziber officinalis, Piper nigrum, Piper longum, Cuminum cyminum |
| Hypoglycaemic | Allium sativum, Zinziber officinalis, Piper longum |
| Hypolipidemic | Allium sativum, Zinziber officinalis, Piper nigrum, Cuminum cyminum |
| Antihypertensive | Allium sativum, Cuminum cyminum, Piper nigrum |
| Fibrinolytic | Allium sativum, Cuminum cyminum |
| Antiatherosclerotic | Allium sativum, Zinziber officinalis |
| Anticonvulsant, Muscle-relaxant & Hepatoprotective | Piper nigrum |
| Antiulcerogenic | Piper longum |
| Anti-cancer activity | Allium sativum, Piper nigrum, Piper longum |
| Diuretic, Antispasmodic & Neuroprotective | Ferula narthex |

DISCUSSION

All the contents mentioned in this formulation are Deepana and Pachana by karma, due to these karma they are responsible for enhancement of Satwa and Rajo guna by Agnivardhana. Rasana act as Sandhaniya, Hypolipidaemic, it reduces the cholesterol level throughout the body and normalise the blood pressure. Following guna are also present in this formulation like ushna, tikshna, sukshma, laghu, pramathi. These gunas help in the removal of obstructions like clot, cyst, fat from srotas and may form collateral circulation and due to pramathi guna medicine get spread in each and every part of brain and nourishes the brain cells. Hence all the drugs selected possess unique characteristics of breaking the dhatukshayajanya and margaavaranyanya samprapti of pakshaghata. Due to its Tikta Rasa, Laghu Guna and Ushna Veerya it performs Ama pachana effect in the body and eliminates Srotorodha occurred due to Ama as well as Kapha. Symptoms of aggravated Vata in Vatavaha srotas and Nadi such as Cheshta nasha, Sandhi shaithilya, Jihva sphurana, Sangyahanani, Ruja etc. would be subsided.

Rasona, sunthi, maricha, pippali and jeerak have the ability to minimize nerve damage due to its anti-inflammatory action. Pippali and maricha helps to improve the outcome of patients by reducing inflammatory features at the site of the brain damage. Rasona and maricha are anti-oxidants which are capable of relieving the oxidative stress occurred due to free radicals. They reduce the risk of atherosclerosis, stroke and hypertension by neutralizing the damaging effects of free radicals. Rasona, sunthi, jeerak and maricha further inhibits adipogenesis and help to reduces lipid accumulation in fat cells and reduce coagulation time. Hingu contains a neuroprotective which strengthens the memory against stroke and chemically induced neuro degeneration. Rasona, jeerak and maricha are having hypotensive action and decrease blood pressure. All these bioactivities may be beneficial in the management of Pakshaghata (Hemiplegia) where the lesion is Haemorrhagic, Thrombotic or embolic.

CONCLUSION

Rasona Saptak with the Anupana of Erandmula kwath, fulfills the principles boundaries of Charaka in the management of Pakshaghata. The efficacy of oral medicine (Rasona Saptak) increases more due to erandamula kwath which has vrishya, vatahara and mriduvirechak property. That's why due to this properties it nourishes the saptadhatu and removes the margavarana which is the main pathological cause of pakshaghata. Rasona Saptak pacifies vitiated Vata dosha due to Madhura rasa, Snigdha guna, Ushna veerya and Madhura vipaka. It also pacifies vitiated Kapha dosha due to Laghu guna, Ruksha guna and Katu vipaka. Rasona Saptak have following properties like Deepana, Pachana, Hridya, Sandhaniya, Vatakaphashamaka, Mastishka dourbalya nashak, Nadiuttejak. It reduces the Blood pressure as well as Cholesterol level. Thus the administration of Rasona Saptak has a great role in achieving a satisfactory level of benefits in the management of Pakshaghata (Hemiplegia).

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