

PHARMACOLOGICAL ACTIONS OF *KASAHARA DRAVYAS* - A LITERARY REVIEW

Dr. Umakant N. Rabb*

Assistant Professor, Department of Dravyaguna Vijnana, Acharya Deshbhushan Ayurveda
Medical College and Hospital, Shamnewadi-Bedkihal, Tal: Chikkodi, Dist: Belagavi,
Karnataka, India.

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*Corresponding Author

Dr. Umakant N. Rabb

Assistant Professor,
Department of Dravyaguna
Vijnana, Acharya
Deshbhushan Ayurveda
Medical College and
Hospital,
Shamnewadi-Bedkihal, Tal:
Chikkodi, Dist: Belagavi,
Karnataka, India.

ABSTRACT

The word Kasa refers to Cough reflex, which is abnormality in the respiratory system. Cough is result of infection and irritation of the bronchial tissue also called as bronchitis. Cough may be dry or productive. Irritate bronchitis may result of pollutants, dust, smoke, or irritant chemicals. As per classics the cough occurs when the Apana Vayu is obstructed and moves upward direction causes Udana vata which expels the Vayu upward and out of the body. Due to this Vata may gets lodged in the chest region may results in chest, back and head pain and repeated coughing. Ayurveda enumerated number of Kasahara Dravyas viz; Draksha, Haritaki, Amalaki, Pippali, Dhanvayasa, Karkatashrunji, Kantakari, Vrischira, Punarnava, Bhumyamalaki. The present study reveals the reference regarding Kasahara drugs from various classical texts their Rasa Panchakas, pharmacological activities and Chemical components or active

ingredients are reviewed systematically. The further scope of the study is that to make available these drugs as a standard drug or Control Drug to evaluate the Kasahara property along with modern drugs with clinical study.

KEYWORDS: *Ayurveda, Kasahara Dravyasa, Cough reflex, Rasa Panchaka, Vata, Chemical components, etc.*

INTRODUCTION

The Kasa is derived from 'Kasanat Kasha'.^[1] The upward movement of the Vayu results in cough which may causes cachexia. A sudden forceful hacking sound to release air and an

irritation in the throat or airway causes cough. Common causes are irritants, like smoke, dust, gas, foods and liquids etc. There are five varieties of Kasa;

1. **Vataja Kasa-** Caused by *Vata dosha*, with dry cough and little mucous
2. **Pittaja Kasa-** Caused by *Pitta dosha*, with large amount of mucous followed by yellow mucous
3. **Kaphaja Kasa-** Caused by *Kapha dosha* with great amount of mucous followed by sticky and thick in nature.
4. **Kshayaja Kasa-** Caused by diminution of the chest or tuberculosis, it is combination of all the three *Doshas*. And *Vata* plays an important role in this condition. In this all the body tissues gets dried up and makes the person lean.
5. **Kshataja Kasa-** Caused by diminution of *Dhatu*s (Tissue depletion) it is the combination of symptoms of *Vata* and *Pittaja* types. Sputum is red, yellow indicating infection and bleeding.

DISCUSSION

In this present review the *Ayurvedic* herbs which are having anti cough property are elaborated. The drugs^[2] are; *Draksha*, *Haritaki*, *Amalaki*, *Pippali*, *Bhanvayasa*, *Karkatashringi*, *Kantakari*, *Vrischira*, *Punarnava*, *Bhumyamalaki*. Some other are *Bharangi*, *Vasa*, *Kasamarda*, *Lavanga*, *Ela* are highlighted.

Draksha^[3]

Botanical name- *Vitis vinifera* Linn, **Family-** Vitaceae

The ripe fruit of *Draksha* is sweet and astringent in taste, *Madhura Vipaka*, It is laxative cooling, beneficial for eyes, nourishing, helps in the excretion of urine and stools and enhances flatus. It is aphrodisiac, nutritive and promotes taste and *Kapha Dosha*. So can be prescribed in *Vataja* and *Khayaja Kasa*.

The Chemical components- Are sucrose, fructose, vitamins, phenolic compounds,

Haritaki^[4]

Botanical name- *Terminalia chebula* Retz, **Family-** Combretaceae

Haritaki has five tastes, devoid of salt. And *Kashaya* taste is predominant. It is drying, heat generating, appetizer, brain tonic, attains sweetness after digestion, vitaliser, good for eyes, light to digest, increases longevity, strength promoter, mild laxative. This drug relieves cough, dyspnoea, urinary disorders, haemorrhoids, skin diseases, edema, abdominal discomforts,

intestinal worms, thirst, vomiting, hiccough, itching, spleen and liver diseases, urinary calculi, difficulty in micturation. So can be prescribed in *Pittaja* and *Khataja Kasa*.

The Chemical components- Phenols, tannins, punicalagin, terflavin A, ellagitannin, terchebin, gallic acid, syringic acid which is centrally acting principal, anthraquinone glycosides, chebulic acids, tannic acid. Its kernel contains arachinic, bepenic, oliec, palmitic and stearic acids. Flowers contain glycoside chebulin.

Amalaki^[5]

Botanical name- Phyllanthus emblica Linn **Family-** Euphorbiaceae, The therapeutic and pharmacological activities are similar to *Haritaki*, but specifically this controls haemorrhagic tendency and related diseases, urinary tract disorders, aphrodisiac, and revitalizer. It reduces *Vata* due to its *Amla*, taste, *Pitta* due to its sweetness and cooling effect and *Kapha* due to drying action and astringent taste and it reduces all the three *Doshas*.

The chemical components -Water soluble tannins like Emblicannin-A and B, Punigluconin, pedunculagin and terchebin, coribagin, ellagic acid, and phyllembic acid. Its root contains ellagic acid, lupeol and oleanolic aldehyde. Bark contains procyanidin, leucodelphinidin and other tannins.

Pippali^[6]

Botanical name- Piper longum Linn, **Family-** Piperaceae

Pippali is appetizer, aphrodisiac, sweet after digestion and vitaliser. It is neither heat nor cold generating. It is pungent in taste, promotes oily secretions, reduces *Vata*, *Kapha*, and easy to digest. It is mild laxative and cures dyspnoea, cough, abdominal diseases, fever, skin diseases, urinary diseases, intestinal growths, heamorrhoids, splenic enlargements, spasmodic pains, indigestion, excess of flatus, cures *Amavata*,. The freshly collected *Pippali*, is mucogenic, promotes secretions, cooling, sweet in taste heavy to digest and reduces *Pitta*. If it is dried, it increases *Pitta*. If used along with honey reduces *Kapha*, and fats from the body tissues. It alleviates dyspnoea, cough, fever,. It is aphrodisiac, brain tonic, and digestive. Hence this drug is good in chronic fever and indigestion along with jaggery and is known as *Guda Pippali*. The quantity of the jaggery should be double to the that of *Pippali* powder.

Chemical components- Mono and sesquiterpenes, caryophylline, piperine, pipartin, piperlongumin, piperlonguminine, pipernonaline, piplatin, beta- sitesterol, 4 aristo lactoms, and five 4-5 dioxoaporphines.

Dhanvayasa^[7]

Botanical name- *Fagonia cretica* Linn, **Family-** Zygophyllaceae

Dhanvayasa is sweet, bitter, and astringent in taste, laxative, cold in potency, light in action, suppresses aggravated *Kapha* and cures obesity, stupor, vertigo, haemorrhages, cough, thirst, herpis type of skin diseases, arthritis with skin lesions, vomiting, and fever.

The chemical components- Steroidal sapogenins- diosgenin, kryptogenin, lanosterol, beta-sitesterol, hedrargenins, triterpenoid sapogenins, 27-hydroxyoleanolic acid and 27-ursolic acid.

Karkatashringi^[8]

Botanical name- *Pistacia integerrima* stew, ex Brandis, **Family-** Anacardaceae

Karkata Shringi is in astringent, bitter in taste and heat generating. This drug cures kapha, vata, and kshaya rogas, fever, dyspnoea, obstructed respiration, thirst, cough, hiccough, loss of taste, and vomiting. The part used is not a plant but are the galls which are nothing but the nest like structures built by an insect by name *Aphis* on the leaves of this plant.

The chemical components- Essential oil, resin, pistocienoic acids A, B Beta- sitesterol, aromadendrene, comphene, caprylic acid, cineol and alpha- pinene.

KANTAKARI^[9]

Botanical name- *Solanum xanthocarpum*, Schrad & wendl. **Family-** Solanaceae

Kantakari is laxative, bitter and pungent in taste, appetiser, and light in action. It is drying, digestants, diminishes cough, dyspnoea, fever, and kapha and vata diseases. It is useful in chronic cold, pain in flanks, worm infestation and cardiac problems.

Pharmacology of white variety flowered variety is similar and more specifically it relieves sterility and helps in producing impregnation.

The chemical components- Steroidal alkaloids- solasodine, solamargine, beta-solamargine, solasonine and strols like cycloartenol nor carpestrol, cholesterol and their derivatives. Potassium chloride and nitrate.

Punarnava^[10]

Botanical name- *Boerhaavia diffusa* Linn, **Family-** Nyctaginaceae

It is pungent in taste, followed by astringent, cures anaemia and is a good appetizer. It cures aggravated *Vata* and *Kapha*, chronic poisons, herniation, and visceral diseases.

The chemical components- Root contains alkaloid punarnavine, C- methyl flavone, rotenoid analogues-boeravinone A to F, Punanavoside, aminoacids, fatty acids, hentriacontanes, beta sitosterols. Liriodendrine, hypoxanthine 9- L arabinofuranoside.

Bhumyamalaki^[11]

Botanical name- *Phyllanthus fraternus*, **Family-** Euphorbiaceae

It is bitter, astringent and sweet in taste, vitiates *vata*, cold in potency and cures thirst, cough, itching sensation, vitiates *Kapha*, *Pitta*, and *Rakta* and heals ulcers and wounds.

The chemical components- Ellagitannin phyllanthin-D, ent-norsecurinine, roots contain kaempferol, rhamnopyranoside, eridictyol rhamnopyranoside, Leaves contain Lignans, nirathin, nirtcholine, phyltetralin, phyllanthin, hypophyllantin, seco-lignan, seco-4-hydroxy linertralin etc.

Vasa^[12]

Botanical name- *Adhatoda vasica* Nees, **Family-** Acanthaceae

Vasa increases *Vata*, improves voice, reduces *Kapha*, *Pitta*, and *Rakta* diseases, It is bitter and astringent in taste, cordial, light in action and cold in potency. It cures thirst, dypnoea, cough, fever, vomiting, diseases of urinary tract, skin diseases, and emaciation or wasting diseases ie tuberculosis.

The chemical components - Pyrralazzoquinazoline alkaloid, vasicine and other alkaloids vasicol, adhatonine, vasicinone, vasicinol, vasicinolone, aliphatic hydroketones, 37-hydroxy hexateracont-1-en-15 one and 37-hydroxy hentetracontone-19-one.

Bharangi^[13]

Botanical name- *Clerodendrum serratum*, Spreng. **Family-** Verbinaceae

Bharangi is drying, pungent, astringent, and bitter in taste, promotes taste heat generating, light to digest, appetiser. It definitely cures *Gulma*, *Rakta Dosha*, edima, cough, dyspnoea, chronic rhinitis, fever, and *Vata* diseases.

The chemical components- D- Mannitol, alpha-sitosterol, phenolic glucoside, oleanolic acid, queretaroic acid, and serratagenic acid, Hispidulin, scutellarin, uncinatone, pectolinaregenin.

Kasamarda^[14]

Botanical name- *Cassia occidentalis*, **Family-** Caesalpiaceae

The leaves are sweet in taste, promotes taste perception, aphrodisiac, pacify cough, poisonous effects, diseases of Rakta, Kapha, Vata, acts as digestants, and clears voice. The leaves are particularly useful in cough, control pitta, absorb water and are light in action.

The chemical components- Cassiolin, chrysophanol, emodol, anthraquinones, phytosterol, physcion, occidentol 1 and 2, dianthronic heteroside. Seeds contain emodin, toxalbumin and chryso-robin.

Lavanga^[15]

Botanical name- *Caryophyllus aromaticus* Linn, **Family-** Myrtaceae

Lavanga is pungent and bitter in taste, light in action, useful for vision, cold in potency, appetizer, digestants, promotes taste. It can surely and quickly cures diseases like thirst, vomiting, distension, colic pain, cough, dyspnoea, hiccough and tuberculosis.

The Chemical components- Beta Caryophyllene, eugenol, furfural, methyl benzoate, valeraldehyde, vanillin, eugenetin, alpha- cardinol, atetophenone, fenchol, hexanone, methyl palmitate, palustrol, propyl benzoate, alpha thujene.

Ela^[16]

Botanical name- *Elattaria cardamomum*, Maton, **Family-** Scitamineae

The small variety of *Ela* alleviates *Kapha* diseases, dyspnoea, cough, haemorrhoids, and difficulty in micturation. It is pungent in taste, cold in potency light in action and reduces *Vata*.

The chemical components- Limonene, d- alpha terpinol, borneol, cineol and sabinene.

CONCLUSION

The above literary review reveals that all the Kasahara drugs are having Tikta, Kashaya, Madhura Rasa, Ushna Virya and Katu Vipaka and Laghu Ruksha Gunas which mainly take part in the Samprapti Vighatana of Kasa. Therefore the further scope of the study is that to

make standard of these drugs as per SOPs to evaluate the anti cough property with the other modern drugs along with the clinical study.

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