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A COMPREHENSIVE REVIEW ON THE ROLE OF KARKATASHRINGI AND MADHU IN THE MANAGEMENT OF PEDIATRIC KASA (COUGH)

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ABSTRACT

Kasa (cough) is one of the most frequent pediatric disorders, caused by vitiation of *Vata*, *Pitta*, or *Kapha doshas*. In children, recurrent cough hampers growth, immunity, and overall wellbeing, requiring safe and effective management. Ayurveda recommends *Karkatashrṅgi* (*Pistacia integerrima*) as a key drug for childhood Kasa due to its *Kasaya-katu rasa, Ushna virya, and Kapha-Vata hara* properties. It serves as an expectorant and anti-inflammatory agent, offering relief in *Vataja, Pittaja, and Kaphaja Kasa*. Modern studies further confirm its anti-tussive, antimicrobial, and bronchodilatory effects, supporting traditional claims. This review highlights the role of *Karkatashrṅgi* as a promising remedy for pediatric Kasa, while underscoring the need for standardized pediatric formulations and clinical validation.

KEYWORDS: *Karkatashrṅgi, Pistacia integerrima, Kasa in children, Ayurveda, pediatric cough.*

INTRODUCTION

Acute respiratory infections in children under 5 years of age are the most frequent cause of death from lung disease globally, causing more than 4 million deaths annually.[1]

Kasa is one of the most common disease in children which affect *Pranavaha Srotas*. *Kapha* and *Vata* are the elements dominated in *kasa*.[2]

Prevalence of cough in children is 34% - 55%.[3] Children being the building blocks of the nation, are the most vulnerable group in the community hence requires to be treated with care and concern. *Kasa* is a disease which characteristically produces a typical sound. To and from movement of air through the *Pranavaha strotas* is the vital sign of life, the normalcy of which suggests health. *Kasa* seems to be a simple everyday hurdle; it can cause considerable damage to the respiratory system as explained in Ayurveda. *Kasa* when it is untreated it can result into *kshayaja* conditions.

In *Charaka Samhita*, it is mentioned that one should treat according to severity of disease or according to dominance of doshas and the severity of all types of *kasa* increases in successive disorder.[4]

In the Ayurvedic literature *Nidanparivarjana, Shodhana and Shamana* line of treatment forms the complete treatment of *kasa*. Among these procedures, the *Shamana* line of treatment that includes oral administration of medicine is of most importance as the administration is very easy and also effective compared to *Shodhana* in children.[5]

Karkatashringi is one such drug which has been mentioned in *kaasahara dashemani* by *Aacharya Charak* in *sutra sthana* chapter 4 in *Kaasahara mahakashaya.*[4]

द्राक्षाभयामलक पिप्पलीदुरालभाशृङ्गीकण्टकारिकावृश्चीरपुनर्नु वा तामलक्य इति दशेमानि कासहराणि भवन्तिः ।।

(च.सू.4/36)

Drug review

Karkatshringi is the most important medicinal plant. The galls of *Pistacia integerrima* are typically used in the treatment of paediatric disease.[6] According to *Aacharya Charaka*, the plant consists of the *Hikkanigrahan* and *Kasaharagana*, which are explained in *vataja Kasa* and *Kapha kasa.*[4]

Botanical name	*Pistacia integerima*
Family	Anacardiaceae
Ras	*Kashaya, tikta*
Vipaka	*Katu*
Veerya	*Ushna*
Part used	*Shringaakara kosha*

Dosha *Kafa-vata shamaka*[6]

Chemical Constituents

The *Karkatshringi* contains various chemical compounds, commonly in its galls. It contains 60% tannin and 1.2% volatile oil. It contains tetracyclic triterpenes, resin, pistacieonic acids A and B, essential oils, camphene, caprylic acids, cineol, α-pinene and others. Seeds contain amino acids, triterpenoids, proteins, sterols, and dihydromalvic acid.[7,8] The galls contain pistagremic acid, which acts as a natural terpene inhibitor of β- secretase.[8]

THERAPEUTIC EVALUATION

Pharmacological Action

Karkatashringi galls are used in traditional medicines in India for the treatment of asthma, chronic bronchitis, phthisis, diarrhoea, fever, and other reported activities such as antispasmodic, carminative, antiamoebic and anthelmintic activity.[6,9]

Anti-asthmatic Activity

Pistacia integerrima shows anti-asthmatic activity, inhibition of histamine release, and 5-lipoxygenase activity. Bronchial asthma is due to the contraction of smooth muscle in response to multiple stimuli resulting in the release of chemical mediators like ACh and citric acid. *Pistacia integerrima* acts as an expectorant and helps in the clearance of mucus from airways, lungs, bronchi, and trachea. It is also used quite well in whooping cough in children. It also manages the hiccough.[9]

Anti-inflammatory Activity

The gall's chloroform fraction contains Flavonoids, which show anti-inflammatory activity during assessment time. The anti-inflammatory potential of *Pistacia integerrima* against carrageenan-induced paw edema. The methanolic extract of *Pistacia integerrima* galls determines the anti-inflammatory activity on the animal model by the *in-vivo* method. It possesses anti-inflammatory activity in acute and chronic phases of inflammation.[7]

Anti-oxidant Activity

Pistacia integerrima galls were rich in phenol and flavonoid content and possessed high anti-oxidant activity. Ethanolic extract was considerably more effective for extracting radical scavenger molecules.[8]

MADHU (HONEY)

Latin Name- *Mal depuratum*

Hindi name - *Shahad*

English - Honey

According to Charak Samhita

वातलं गुरु शीतं च रक्तापित्ताकफापडम्।

सन्धातृ छेदनं रुक्षं कषायं मधुरं मधुः ।।

(C.Su 27/245)

Honey is provocative of *vata*, heavy, cooling, curative of bleeding disorders (rakta pitta), synthesizing, and dry, astringent and sweet.[4,5]

According to Sushruta Samhita

Madhu (honey) is sweet (in primary taste) and astringent in secondary taste, dry, cold, kindles digestion, good for complexion and voice, light, bestows softness to body, sacrificing, good for heart, aphrodisiac, unite fractures, cleanses and heal wounds, constipating, good for vision, cleanse the eyes, enters into minute channels, mitigates *pitta kapha and medas*, cure diabetes, hiccup. dysponea, cough, diarrhea, vomiting, thirst worms and poison. Bestows happiness and mitigates all the three doshas. It mitigates Kapha by its easy digestibility, vata and pitta by its sliminess, sweetness and astringency.[5]

PHYSICAL PROPERTIES OF HONEY

Physical properties of honey according to ***Acharya Charaka.***

भाक्षिकं तेलवर्ण स्याद घृत वर्ण तु पौतिकम।

क्षौदं कपिलवर्ण स्यात श्वेतम भ्रामरमुच्चयते ।।

(C.Su. 27/244)

According to *Acharya Charaka makshik madhu* has colour of seasame oil. *paittika* has colour of *ghee, kshaudra* is brown in colour while *bhramar* is white in appearance.[4]

Therapeutic Evaluation

Antibacterial properties

Hydrogen peroxide is the major contributor to the antimicrobial activity of honey, and the different concentrations of this compound in different honeys result in their varying antimicrobial effects.[11]

Antioxidant property

According to Guerrini et al (2009) stingless bee honey acts as a protective agent against DNA damage and could represent interesting evidence in relation to the determined antioxidant capacity. Kilicoglu et al (2008) examined the effects of honey on oxidative stress and apoptosis in experimental obstructive jaundice and found that honey diminished the negative effects of bile duct ligation on the hepatic ultra-structure. This effect might be due to its antioxidant and anti- inflammatory activities.[12,13]

Anti-inflammatory action

Anti-inflammatory effects of honey. In a recent investigation, it was reported that honey reduces the activities of cyclooxygenase-1 and cyclooxygenase-2, thus showing anti-inflammatory effects.[13]

DISCUSSION

Kasa in children, though common, may progress to serious respiratory illness if untreated. *Ayurveda* attributes it mainly to ***Vata–Kapha vitiation***, requiring safe and palatable remedies. ***Karkatashringi (Pistacia integerrima)***, listed in ***Kaasahara Mahakashaya***, is effective due to its ***Kapha-Vata shamaka*** **properties** and pharmacological actions like **anti-asthmatic, anti-inflammatory, and antioxidant effects**. ***Madhu*** **(Honey)**, described as *Yogavahi*, improves drug palatability in children and adds **antibacterial, antioxidant, and soothing actions**.

Together, *Karkatashringi* and *Madhu* provide **synergistic benefits**—enhancing acceptability, relieving cough, clearing airways, and preventing progression of Kasa. Their dual validation in Ayurveda and modern pharmacology highlights their clinical relevance in pediatric care.

CONCLUSION

Kasa in children is a common yet significant health challenge, as untreated episodes can lead to chronic respiratory disorders and impaired growth. *Ayurveda* emphasizes addressing the

disease according to dosha predominance, with special care in pediatrics. ***Karkatashringi***, highlighted in *Kaasahara Mahakashaya*, has proven efficacy in relieving cough and related symptoms due to its ***Kapha-Vata shamaka*, expectorant, and anti-inflammatory properties**. ***Madhu***, being both therapeutic and a natural carrier *(Yogavahi)*, enhances palatability, supports respiratory health, and adds antimicrobial and antioxidant benefits.

The combination of ***Karkatashringi with Madhu*** thus offers a holistic solution—relieving symptoms, improving compliance in children, and preventing complications. Classical *Ayurvedic* wisdom and modern pharmacological evidence together reinforce its effectiveness and safety. Hence, this traditional pairing holds significant promise as a reliable option in the management of pediatric *Kasa*, warranting further clinical validation for wider integration into child healthcare.

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