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Management Of Vataja Kasa Through Ayurveda In Pediatric Patient : A Case Study

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ABSTRACT

Vataja Kasa is the most frequently encountered problem in the Balyavastha . Vataja kasa is the one of the common complaint in daily paediatric practice and it is also a symptom of Nidana various diseases of respiratory system. Kasa roga (cough) significantly affects children , causing discomfort and reducing their quality of life. If Vataja Kasa is not properly managed , it can progress into chronic condition, creating distress for both the child and the parents. Classical Ayurvedic texts describe several cost effective formulations with Kasahara (cough relieving properties). One such formulation is Bharangyadi Lehya , known for its antitussive effects.

Aim: To evaluate the efficacy of Ayurveda Management on Vataja Kasa

Study design : Single Case Study

Study Place : PMTs Ayurved College , Shevgaon

Duration of study : 14 days and follow up after 7 days

Follow up : 0^{th} ,7^{th} , 21^{st} days

Methodology: Internal medications play a vital role in alleviating the signs and symptoms of *Vataja Kasa* (dry cough), a condition primarily caused by the aggravation of *Vata Doṣha*. Ayurvedic management emphasizes the use of formulations that pacify *Vata*, lubricate the respiratory tract, and restore tissue strength. Among the various therapeutic preparations, **Bharangyadi Lehya** has been found to be particularly effective. This *Lehya Kalpana* serves as a safe and efficacious remedy that provides symptomatic relief through its *Vata-Kapha shamaka*, *Kasahara*, and *Rasayana* properties. It helps in reducing dry and spasmodic cough, soothing throat irritation, and enhancing respiratory efficiency. Thus, Bharangyadi Lehya offers a holistic, natural, and well-tolerated Ayurvedic approach for the management of *Vataja Kasa*.

Keywords- Vatakaphahar, Shuskakasa, Swarbheda Praanvahasrotas, Vataja kasa, Paediatric.

INTRODUCTION

Cough (Kasa Roga) is one of the most common symptoms seen in respiratory diseases and is experienced by the majority of patients.[1] It is defined as a three-phase expulsive motor act consisting of an inspiratory phase (deep inhalation), a compressive phase (forceful exhalation against a closed glottis), and an expulsive phase (sudden opening of the glottis followed by rapid airflow during exhalation)[2].In India, cough has been reported as the second most common symptom in primary care practices.[3] Childhood cough is one of the most frequently encountered clinical complaints in any pediatric outpatient department (OPD) that is not only troublesome to children but also affects the quality of life of both the child and the parents leading to recurrent hospital visits, parental distress, and worries.[4] Approximately 35% of preschool children and around 9% of 7–12-year-old children present with cough as a chief complaint.[5] Cough is often presented as an independent clinical presentation and also as part of respiratory system disorder. Acute cough lasting for 3 weeks is mostly viral and resolves spontaneously,[6,7] whereas untreated cough becomes chronic and may lead to various complications, e.g., cardiovascular, constitutional, gastrointestinal, genitourinary, musculoskeletal, neurologic, ophthalmologic, psychosocial, and skin complications.[8] Currently, over-the-counter antitussives, antihistamines, and antihistamine-decongestant combinations are prescribed in children with acute cough and are reported with the potential of causing side effects.[9,10] Contemporary antitussive medications such as dextromethorphan and glaucine develop side effects such as restlessness, sleep, headache, blurred vision, vomiting, cough crisis, dizziness, and vomiting.[11,12]

Ayurvedic classical texts describe Kasa Roga as a major disorder of the Pranavaha Srotas (respiratory system), which corresponds to cough in modern medicine . Early management of Kasa Roga in children is essential ,as it causes considerable discomfort , disrupts their daily activities, and leads to parenteral concern and anxiety.{13} In addition to being a distinct diseases , is also recognized as a Nidanarthakara roga(a cauasative factor for secondary ailments) that can give rise to kshaya Roga (emaciation){14}. Among the five types of kasa roga, Vataja Kasa is characterized by several symptoms , including Shushka Kasa (Dry cough), Swarbheda (hoarseness of voice) Shushka-UraKantha-vaktratam , AlpakaphaNishthivana , Daurbalya{15}.

The main evident feature of Vataja Kasa is dry cough which is found in many diseases, such as tropical pulmonary eosinophilia, idiopathic pulmonary fibrosis and upper respiratory tract infections,[16] that leads to irritation and inflammation in the nostrils, nasal cavity, mouth, pharynx, and larynx.The current study considered Vataja Kasa of acute phase originating due to allergic manifestations that cause cough receptor hypersensitivity resulting in persistent dry cough lasting up to weeks and hence necessitating prompt ayurvedic intervention. Acharya Chakradatta has enumerated Bharangyadi lehya[17] as a combination of 6 potent antitussive herbal drugs [Table 1] that have additional properties such as immunomodulators, and Rasayana effect (rejuvenator

Contents Of Bharangyadi Lehya –

Sanskrit Name	Latin Name	Rasa (Taste)	Guna (Qualities)	Vipaka	Karma (Action)
Bharangi	*Clerodendrum serratum*	Tikta (bitter), Katu (pungent)	Laghu (light), Ruksha (dry)	Katu	Shwasahara (relieves cough/asthma), Kasahara (anti-cough)
Pippali	*Piper longum*	Katu	Laghu, Tikshna	Madhura	Deepana (appetizer), Rasayana (rejuvenative)
Shunthi	*Zingiber officinale*	Katu	Laghu	Madhura	Deepana, Shothahara (anti-inflammatory)
Draksha	*Vitis vinifera*	Madhura, Kashaya	Snigdha	Madhura	Vatakaphahara
Karkatshrungi	*Pistaciae integerima*	Tikta, Kashaya	Laghu, Ruksha	Katu	Shwasahara, Vatakaphahar
Shati	*Hedychium spicatum*	Tikta, Katu, kashaya	Laghu, tikshna	Katu	Kaphavatahar
Taila	-		Snigdha		Tridoshaghna
Guda	*Saccharum officinarum*	Madhura	Guru (heavy), Snigdha	Madhura	Brimhana (nourishing)

Aim: To evaluate the efficacy of Ayurveda Management on Vataja Kasa

Primary Objective : To find the efficacy of Bharangyadi lehya in management of Vataja Kasa

Secondary Objective: To identify effective ayurvedic interventions in respiratory disorders.

Case Description: On 18/02/2025, a male patient aged 12 years, OPD reg. no. 1101, visited OPD of Kaumarbhritya, Sant Eknath Ayurved hospital, with Shushka Kasa(dry cough),Shuska Gala (dry throat), Swarbheda and frequent waking at night due to coughing. They took medicine from nearest medical centre but did not got relief. So, they presented to OPD of Kaumarbhritya, Sant Eknath Ayurved Hospital, Shevgaon for management of symptoms of Shuska Kasa (dry cough).

History of present illness-

Apparently patient was healthy before 6 day she gradually acquired some bout of dry cough in the night and day with dry throat and Swarbheda. The patient was unconcerned about it and ignored it, but after some time, his mother noticed continuous bouts of dry cough with some roughness in his voice. After that patient's parents took her nearby hospital. There he was diagnosed with dry cough (vatajakasa) and given suitable medicine to him. Patient took 4 days of treatment but he didn't getfull relief. In order to get a suitable solution for above said complaints they visited our hospital Sant Eknath Ayurved hospital for further management.

Immunization Status: Immunized as per WHO schedule.

Social History -

- Residential Area- Rural

-Personal Hygiene -Poor Sanitation :- Poor Drinking Water

- Normal Developmental History: Gross Motor:- Achieved Fine Motor

- Achieved Personal And Social :- Achieved Language

-Achieved Toilet Training

- Achieved Dietetic History:- vegetarian diet

A) General examination: GC- Fair BP-100/60 mm of hg Height- 145 cm Weight- 28 kg BMI Heart Rate :- 88/M Temperature :- 98.8 F Respiratory Rate :_ 20/M B) Systemic Examination: Respiratory System:-AEBE Normal Cardiovascular System:- S1S2 Normal GIT System :- P/A Soft And Non Tender Central Nervous System:- Patient Was Concious And Oriented Local Examination: Pallor:- Absent Jaundice :- Absent Clubbing:- Absent Lymphnodes:-Not Palpable Skin :- Normal Hair , Nails :- Normal 4. MATERIAL AND METHOD Centre of Study: This study was carried out in Kaumarbhritya department of SANT EKNATH AYRVED HOSPITAL,SHEVGAON.

B) Study Design: Simple and Single Case Study.

C) Dosha: Vata, Dushya: Rasa, Adhisthana: Pranvaha Srotus

Study setting •

The study was conducted at OPD of Kaumarbhritya (ayurvedic pediatrics), PMTs Ayurved College ,Shevgaon.

• Hematological investigations were done at the Pathology Laboratory, PMTs Ayurved College ,Shevgaon.

Ethical considerations-

Patient information sheet and written informed consent/ assent form were prepared in Hindi language. Patients/ parents explained the objectives of the present study, plan of study, outcome measures, responsibilities, and possible risks and harms in the study. Patients were recruited in the study after duly signing the written informed assent/consent for their voluntary participation. All the laboratory investigations were free of charge for the patients Initial screening and patient recruitment Children presenting with Shushka Kasa (dry cough) along with two or more other classical cardinal features of Vataja Kasa (acute cough) within the duration of 21 days were screened for enrollment.

Inclusion criteria

- Patients presenting with classical cardinal features of Vataja Kasa.

- Patients of Vataja Kasa with chronicity < 21 DAYS DURATION

Exclusion criteria

• Patients having Kasa (cough) as Upadrava or Anubandha lakshana (complication) of other systemic diseases

• Patients suffering from any severe disease of lower respiratory tract infection

• Patients/parents not coming for follow-up or not taking medicine as directed.

Criteria for clinical assessment Vataja Kasa

Subjective criteria

1) Shushka Kasa (dry cough)
2) Alpa Kapha Nishthivana
3) Shushka Urakanthavaktratva (dryness in chest, throat, and mouth)
4) Daurbalya
5) Swarbheda

Gradation of subjective criteria-

1) Shushka Kasa –

Score	Description
0	No cough
1	Mild Irritant dry cough but does not disturb the night sleep
2	Moderate Irritant dry cough which disturbs the night sleep but subside after medication
3	Severe irritant dry cough not relieved by any measures and keeps patient awake

2) Alpa Kapha Nishthivana-

Score	Description
0	Absence
1	Occasional expectoration
2	Expectoration with mild of dry cough
3	Expectoration with persistence of dry cough

3) Shushka Urakanthvaktrata-

Score	Description
0	Absent
1	Mild
2	Moderate which relieved by home remedies
3	Severe is constant dryness of oral cavity

4Daurbalya –

Score	Description
0	Absent
1	Mild weakness but doesn't hamper day to day activities
2	Moderate weakness which alters the routine ,but subside by rest
3	Severe weakness

5)Swarbheda

Score	Description
0	Absent
1	Present

Objective Prameter – CBC(Complete blood count)

AEC(Absolute eosinophil count)

Treatment –

Day	Bharangyadi leha
0th	10 gm dose in three divided dose
7th	10 gm dose in three divided dose
21st	Follow up period

Medication has given to the patient for 14 days with 1 follow up after 7 days done on 21stday. Bharangyadi leha given to the patient for reducing the above said sign and symptoms of Vatajakasa.

Observation table –

Sr. No.	Sign &Symptoms	On 0th Day	On 7th Day	On 21st Day
1	Shushka kasa	2	1	0
2	Alpa kapha Nishtivana	2	1	0
3	Shushka urakanthavaktrata	2	1	1
4	Darbalya	2	1	0
5	Swarbheda	1	0	0

Observation Before treatment and after treatment (Objective Criteria)

Investigations	Before treatment 0th Day	After treatment 14th Day
Hb %	11.3	11.4
AEC	554	324
Total WBC count cell/mm3	12,700	7500
Differential Count (%)Neutrophil	74	47
Lymphocytes	47	39
Eosinophil	3	2
Monocytes	4	3
Basophil	00	00
Platelet count /cmm	215000	289000

Overall assessment criteria –

Improvement in result	Sign and symptoms
1. Poor improvement	≤ 25% relief in sign and symptoms
2. Mild improvement	25- 50% relief in sign and symptoms
3. Moderate Improvement	51- 75 % relief in sign and symptoms
4. Marked Improvement	76 – 100% relief in sign and symptoms

OBSERVATION AND RESULTS

Regular oral use of Bharangyadi leha was observed. Which help in reducing the sign and symptoms of Vatajakasa(dry cough). After administration of drug patient got good symptomatic result i.e Sushkakasa, Swarbheda, Daurbalya , Shushkamukha and gala, time to relief in cough and throat irritation.

DISCUSSION –

Mode of action as per pharmaceutical action

A] Bharangi- has anti-inflammatory, antibacterial, antispasmodic, anti-allergic and expectorant properties. These properties help this Avaleha in relieving the symptoms like swelling, breathing difficulty, spasm of respiratory system, swarbheda and in boosting immunity of body. UsnaVirya, Vatasamaka property provide relief in Vatajadoshasamana, kasa and kill microorganisms.

1) ***Anti inflammatory activity-*** Anti-inflammatory effect in rats were assessed by the Granuloma pouch method. The anti-allergic activity was assessed by Milk induced Leucocytosis in mice and Bronchial Hyper-reactivity in ovalbumin – sensitized Guinea Pigs. (6 groups, n=6). This study showed that Low Dose (LD) of Bharangi root and High Dose (HD) of stem show antiinflammatory (23%) and anti-allergic activity (21%) comparable to Dexamethasone (21%) But the high dose of Bharangi root has promising anti-inflammatory (44%) and anti-allergic activity (35%). Anti-allergic activity is minimal (8.6%) in stem LD. This study points out that Bharangi Root is more effective than Stem and its HD is useful in antiallergic and anti-inflammatory activity in conditions such as asthama; which needs to be further confirmed.[18]

2. **Anti – asthmatic activity** The ethanolic extract of roots of Clerodendrum serratum attenuates production of inflammatory mediators in oval albumin-induced asthma in rats, rats at low dose and high dose.[19] Evaluate the anti-asthmatic activity of alcoholic extract of Clerodendrum serratum induced by oval albumin in Swiss albino mice (18-25g) at concentration100mg/kg and 200mg/kg significantly reduced the total number of cells ($p < 0.001$) eosinophils (** $p < 0.001$) in BAL compared with the untreated group of OVA sensitized mice. treatment with Clerodendrum serratum during the challenges significantly reduced the number of total cells in the BAL. Similar results peripheral blood count and eosinophil count were obtained.[20] In another study, a hydroalcoholic extract was prepared from the samples of a polyherbal drug –Bharangyadi which contained Clerodendrum serratum, Hedychium spicatum and Inula racemosa. In this study the graph clearly presented significant increase in lung volume and compliance and decrease in airways resistance which is can be seen as the decrease in the settling time in respect to normal patient response justifying the use of the drug in asthama.[21]

3.Wound healing activity-

Ethanolic extracts of roots and leaves of Clerodendrum serratum were obtained and their wound healing potency was evaluated on Albino rats. The results show higher wound healing potency of root extract as compared to leaf extract.[22]

4.Antibacterial activity- The ethanol extract of roots of the plant have been screened for their antibacterial activity. The extract (7.5 mg/disc) showed broad-spectrum antibacterial activity against gram positive and gram-negative bacteria. The results were compared with the standard drug streptomycin (10 µg/disc). The zone inhibition was found to be increased with the increase in concentration of the extract and thus exhibiting concentration dependent activity.[23]

5.Antihistaminic activity- It was of interest that both the alcoholic extract and the saponin isolated from the root bark of an indigenous plant, Clerodendrum serratum, which has been used for the treatment of bronchial asthma, caused release of histamine from lung tissue. Long term administration of the saponin

in 20 mg/kg doses caused significant depletion of the amines from the lungs of rats treated with the drug. The saponin fraction like other histamine releasing substance, was not found to manifest any antihistamine activity or to give protection against anaphylactic shock in sensitized guinea-pigs exposed to egg albumin (antigen) microaerosols. However, the continued daily administration of the drug, 20 mg/kg (1/15 of the LD50 dose 307.7 mg/kg), intramuscularly for 20 days to sensitized guinea-pigs have been found to gradually develop a defense against it anaphylaxis.[24]

6.Anti- microbial- Aqueous extract of Clerodendrum serratum stem bark, when screened against 13 pathogenic strains, exhibited a broad – spectrum activity by inhibiting seven strain s with inhibition zone ranging from 15 to 20 mm.[25]

7.Anti-allergic activity- The present study was screened by milk induced Leucocytosis in Albino mice with aqueous extract of Clerodendrum serratum root and stem in low (130 mg/kg, p.o) and high dose (260 mg/kg, p.o) respectively for fourteen days. Both root and stem have shown anti - allergic effect, but at high dose of Clerodendrum serratum root showed significant activity when compared with dexamethasone.[26]

B]Pippali :

Doshkaram: It alleviates the vitiated Kapha, Piita and Vata dosha and is used to treat the disorders that arise due to misbalance in Kapha, Vata and Pitta.

Abhyantranadisansthan: It is used as a brain tonic and balances Vata dosha.

Shawasansansthan: It is used to stop hiccups and is associated with antitussive and anti-asthmatic properties.

Antibacterial, Antimicrobial and Anti-amoebic: As per the reported study, the ethyl acetate extract of P. longum fruit showed effective antibacterial activity against selected bacteria or microbes using the agar well diffusion method. [58] In another study, the plant extracts exhibit significant antibacterial activity when tested against different bacterial pathogens such as Staphylococcus albus, Pseudomonas aeruginosa, E. coli, Bacillus megaterium and Salmonella typhi. [27]

Anti-asthmatic: As per the reported study, the P. longum fruit extract exhibited bronchorelaxation with 83% inhibiting activity in histamine-induced bronchospasm model in guinea pig at a dosage of 200 mg/kg. It was also reported that the petroleum ether extract exhibited significant antiasthmatic activity against the mice model. The antiallergic activity of the extract was also demonstrated using milk-induced leukocytosis in mice and passive paw anaphylaxis in rats. The extract showed a significant protective effect in histamine-induced bronchospasm in haloperidol-induced catalepsy and passive paw anaphylaxis.[28]

C]Shunthi-

Anti-Inflammatory - Zingiber officinalis is non-steroidal antiinflammatory drug.

Respiratory tract is the anatomical structure through which air moves in and out. It includes nose, pharynx, Larynx, trachea, bronchus and lung's. Main pathology of Respiratory tract is that inflammation in inner epithalial layer of Nose, Larynx, Pharynx, trachea, bronchus, Lung's. Gingeral, Shogaol and other structurally related substance in Ginger inhibit prostaglandin and leukotrine biosynthesis through suppression of 5-lipoxygenase. Antimicrobial Action: Zingiber officinale rhizome afforded three lipophilic analogues 6-gingerol, 8-gingerol and 10-gingerol that exhibited antimicrobial activity. The lipophilic analogues(8-gengerol and 10-gingerol) were more active [29] .

Antimicrobial, antiviral, and antifungal activity: The increasing order of grape anti-microbial activity is from flesh, whole fruit grape extract, fermented pomace, skin, leaves and seed [30]. Resveratrol exhibits a strong cytotoxic activity in cultured cells and has an antiviral action against polyomavirus [31]. Grape pomace polyphenols exhibited bacteriostatic as well as bactericidal activities against both the Gram Positive and Gram-negative bacteria. Resveratrol, a phenolic compound in grape have shown to possess antifungal activity against the human pathogenic fungi Candida albicans and the notable benefit of polyphenols against the chemical derived drug was that there was no induction of hemolytic activity on human erythrocytes. Thus, the observed antifungal activity of gapes has been attributed to their commercial applications and are being incorporated into the skin care cosmetics. Alcohol-free red and white wine

extracts have been shown to have moderate antifungal activities on Candida albicans depending on their total phenolic contents [32] .

D]Karkatshrungi –

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 [33]

Other Activities: Pistacia integerrima galls are quite good in the problem of edema. It helps to reduce fluid accumulation in the tissues. In contrast, these galls are also helped to provide relief from a problem like swelling in the legs, arms, hands, ankles, and feet which are associated with edema. Pistaciaintegerrima galls are useful in the gum diseases like pyorrhea and gingivitis. Decoction of galls is useful in the elimination of pus from gums also, it's anti-inflammatory activity to relieve pain [34].

E]Shati-

Anti-Microbial Effect: Antimicrobial activity was demonstrated by essential oil extracts from H. spicatum's rhizome. Hedychium spicatum extracts in petroleum ether and chloroform shown inhibitory action against both Gram (+) and Gram (-) bacterial cultures, including fungal cultures and a strain of Dimethylsulfoxide methicillin and vancomycin-resistant Staphylococcus aureus. While Hedychium spicatum's ethanol fruit extract shown antibacterial qualities against Salmonella sps., the rhizome terpenoid component of the plant was found to have antimicrobial action against Staphylococcus aureus, Shigella flexneri, Pasteurella multocida, and Escherichia coli. Filamentous fungus and Escherichia coli. [35,36]

Conclusion

Vataja Kasa is a prominent feature of vitiation of Vata and it is of more concern especially in children about respiratory disorder. Ayurveda remedies may have high potential to control the Vataja Kasa without any complication. In this study encouraging results was obtained in Vataja Kasa. There is significant reduction in the symptoms of Kasa with the use of Bharangyadi Lehya and is found to be safe and effective.

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