IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

AYURVEDIC MANAGEMENT OF ALLERGIC BRONCHITIS (SWASA) IN A PEDIATRIC FEMALE PATIENT: A CLINICAL CASE REPORT

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ABSTRACT

Allergic Bronchitis is a chronic airway inflammatory condition associated with immune hypersensitivity to environmental allergens such as dust and pollution. In Ayurveda, it is correlated with Vata-Kaphaja Swasa Roga involving Pranavaha Strotas Dushti. This case report presents the Ayurvedic management of a 9-year-old female suffering from a recurrent dry cough for four years, aggravated in evening hours and dust exposure. The patient had a history of nebulization, i.e., with Budesonide and Levosalbutamol from age 5. Treatment included Pratimarsha Nasya with medicated ghee and internal formulations including Total Care 3X Rasa, Choti Dudhi Swaras, Haridrakhandam, and Sitopaladi Churna Vati to relieve airway obstruction, reduce inflammation, and boost immunity. Progressive and sustained improvement was noted. 20% relief in the first follow-up, complete relief by the second follow-up, and no recurrence thereafter. This case demonstrates that Ayurvedic treatment focusing on Vata-Kapha balance can effectively manage pediatric allergic bronchitis and prevent corticosteroid dependency.

Keywords: Shwasa Roga, Allergic Bronchitis, IAFA Ayurveda, Pediatric Allergy, Pranavaha Srotas.

1. INTRODUCTION

Allergic bronchitis is a chronic inflammatory airway disorder characterized by bronchial hypersensitivity, excessive mucus secretion, and episodic respiratory distress triggered predominantly by environmental allergens such as dust, smoke, pollutants, and aeroallergens. A dysfunctional immune response causes IgE-mediated mast cell activation, release of inflammatory mediators, and airway mucosal edema, leading to persistent cough and airflow limitation. [1-2] Pediatric populations have a significantly higher risk due to immature immunity and frequent allergen exposure, ultimately resulting in dependency on bronchodilators and corticosteroids, which carry long-term adverse effects such as growth retardation and hormonal suppression. [3-4]

As per Ayurveda, this disease can be correlated with Vata-Kaphaja Shwasa Roga, wherein vitiated Kapha obstructs the Pranavaha Strotas, thereby disturbing Pranavayu movements and causing dyspnea, cough, and chest congestion.[5] Classics describe that the origin of pathology lies in Agnimandya, leading to Ama formation, which further aggravates Kapha and initiates Srotorodha.[5-6] Chronicity sets in when Vata becomes secondarily aggravated, resulting in recurrent attacks and breathing difficulty. Ayurvedic treatment principles include Kapha-Vata Shamana, Strotoshodhana, Agnideepana, and Rasayana therapies to correct immune

dysfunction, prevent obstruction, and restore pulmonary physiology.[7] Nasya Karma has been highlighted as an effective local intervention for Urdhvajatrugata Rogas, including respiratory allergies, due to its ability to deliver medicine directly to the nasal-bronchial passage (Nasa hi Sirso Dwaram). Several classical herbs such as Vasa (Adhatoda vasica), Yashtimadhu (Glycyrrhiza glabra), Guduchi (Tinospora cordifolia), and Argemone mexicana have been scientifically proven for their anti-inflammatory, bronchodilatory, immunomodulatory, and antihistaminic actions. [8-11]

Thus, integration of Ayurvedic therapeutics offers a safe and effective approach in pediatric allergic bronchitis, addressing root-level dysfunction and preventing relapse [12]. This case report presents a successful management outcome of a pediatric female patient with chronic Allergic Bronchitis treated using Ayurvedic interventions without any corticosteroid support.

2. CASE PRESENTATION

Patient: 9-year-old Female

History Duration: 4 years

Major Symptom: Dry cough, increased in the evening and with dust exposure

Vitamin D: 8.69 ng/ml (deficiency)

Past Treatment: Steroid and bronchodilator nebulization since age 5

Diagnosis: Allergic Bronchitis (Shwasa Roga)

3. AYURVEDIC DIAGNOSIS

Dosha: Vata-Kapha

Dushya: Pranavaha Srotas

Samprapti: Kapha Avarana of Prana Vayu results in Srotorodha and manifestation of Shwasa Lakshana

4. TREATMENT PROTOCOL

4.1 External therapy

- **Pratimarsha Nasya:** Nasa Yoga Ghrutam 2–3 drops BID

Action: Kapha Shodhana, Prana Vayu Anulomana

- IAFA Nasal All Clear Spray- sprayed directly into the nostril by closing the other nostril BID
- Steam inhalation by adding Halin Capsule

4.2 Internal Medications

Formulations	Dose	Action
IAFA Total Care 3X Rasa	20 ml BID	Bronchodilator and Immunomodulator
IAFA Respiro Detox Formula	¼ Tsp BID	Anti-allergic, detoxifier
Sitopaladi Churna Vati	1-tab TID	Expectorant restores airway patency
Triphala Swaras	15 ml HS	Detox and Agni Deepana
Chhoti Dudhi Swaras	7.5 ml BID	Anti-allergic reactions reduce hyperreactivity
Haridrakhandam Churnam	½ tsp BID	Anti-inflammatory

4.3 Pathya and Apathya (Dos and Donts)

Based on Ayurvedic dietary principles and the patient's Kapha-Vata dominant pathology, the following measures were advised to improve Agni, regulate digestion, and prevent Ama accumulation.

4.3.1 Pathya (Advised Foods and Practices)

- Light, warm, freshly cooked meals
- Frequent sipping of lukewarm water throughout the day
- High-fiber vegetables and seasonal fruits (especially pomegranate and apple daily)
- Inclusion of green leafy vegetables once a day
- Curd only at midday, combined with black pepper
- Regular use of digestive herbs like fennel, cumin, and curry leaves
- Spices to enhance Agni, like garlic, ginger, turmeric, black pepper
- Soft, easily digestible, low-histamine diet to reduce inflammation
- Gentle breathing exercises like Nadi-Shodhana Pranayama
- Yogasanas supporting lung expansion, like Ustrasana, Dhanurasana, and Baddha-Konasana

4.3.2 Apathya (Foods and Factors to Avoid)

- All dairy products, like milk, paneer, butter, and cheese, have been replaced with soy milk or almond milk
- Fatty, oily, deep-fried, and greasy foods
- Packaged and processed food, such as food color, preservatives, and artificial sweeteners
- Cold food and drinks that aggravate Kapha and airway obstruction
- Fruits to avoid, like bananas and avocado
- Spicy and very sour food items
- Exposure to dust, smoke, perfumes, and chemical fumes
- Sudden temperature changes
- Any known allergens triggering cough and nasal irritation

4.3.3 Herbal Home Remedies

- Cumin water i.e., ½ tsp cumin boiled in 200 ml water, and sip warm
- Fennel water i.e., ½ tsp fennel boiled in 200 ml water, to improve digestion
- Curry leaves in meals for natural Vata-Kapha balance

5. RESULTS

5.1 Clinical follow-up result

The patient was monitored across four scheduled follow-ups for approximately. 3.5 months. Progressive improvement was documented in both subjective symptoms and functional respiratory status.

Table 1: Follow-up Summary

Follow-up Date	Clinical Change	Symptoms Status	Assessment
10/04/2023	Baseline	Dry cough daily, worse in the evening and with dust exposure	Severe bronchial hypersensitivity, history of nebulization dependency
15/05/2023	Approx. 20% relief	Reduced cough frequency, improved sleep, and decreased nasal obstruction	Marked early response, adherence good, no steroid use
17/06/2023	Complete relief	No cough for the last 7 days, weight normalized	Immune and airway functions restored, no respiratory distress
28/07/2023	Sustained remission	Rare mild cough only occasionally	Continued symptom-free routine activities, no emergency medications

5.2 Graphical Representation of Clinical Response

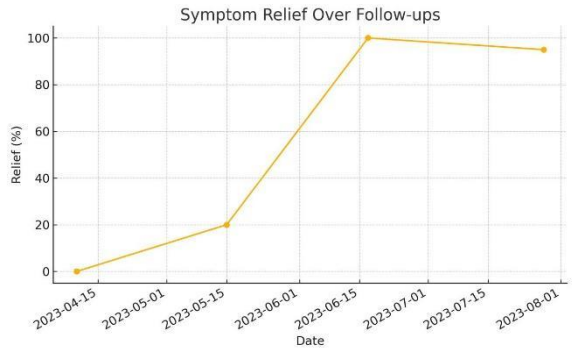

Figure 1

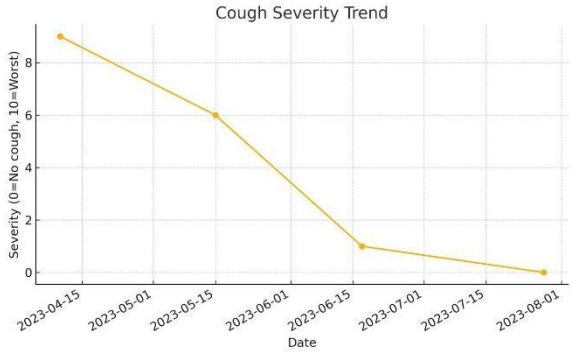

Figure 2

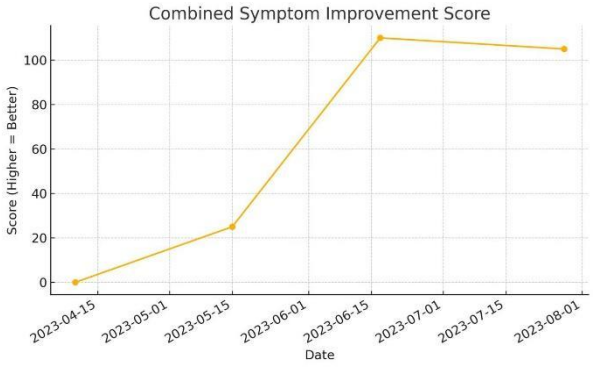

Figure 3

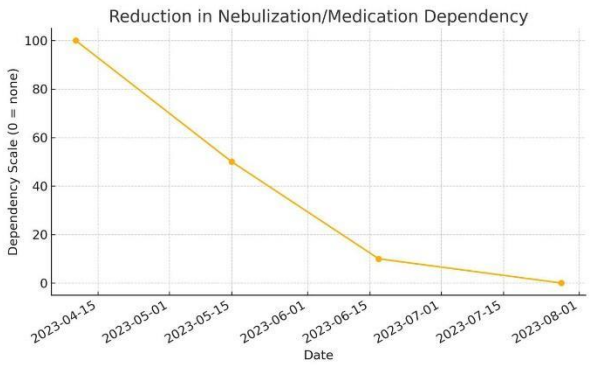

Figure 4

Table 2: Interpretation of Graph

Graph	Interpretation
Figure 1: Symptom Relief Trend (%)	Shows a rapid reduction in allergic response with approximately 100% recovery by the 2nd follow-up
Figure 2: Cough Severity Trend (0–10)	Cough burden dropped from severe to zero by the end of therapy
Figure 3: Combined Symptom Score	Demonstrates respiratory recovery
Figure 4: Reduction in Nebulization or Medication Dependency	Complete freedom from nebulizer within the treatment period

6. DISCUSSION

6.1 Pathophysiological Understanding

Allergic bronchitis is caused by a chronic hypersensitivity response where exposure to airborne allergens causes IgE-mediated mast cell activation and the release of inflammatory mediators such as histamine and leukotrienes, leading to bronchial mucosal edema, mucus hypersecretion, and airway obstruction, which clinically manifests as persistent cough and breathing difficulty [13-15]. In Ayurveda, this pathophysiology closely corresponds to Vata-Kaphaja Shwasa, wherein Agnimandya initiates Ama formation that subsequently vitiates Kapha, causing Pranavaha Strotorodha (airway blockage) and secondary Vata Prakopa, resulting in labored breathing and recurrent episodes of cough. The chronicity of the condition further impairs Rasa and Rakta Dhatu circulation, weakening mucosal defense mechanisms and increasing hypersensitivity. Thus, both modern and Ayurvedic perspectives convey the role of immune dysregulation, Kapha stagnation, and Prana Vayu obstruction as the root pathological mechanisms responsible for the recurrent allergen-triggered bronchial irritation experienced by the patient.

5.2 Therapeutic Protocol

Table 3: Phase-wise Ayurvedic Intervention Timeline

Follow-Up	Formulations Used	Route	Therapeutic Goal
10/04/23	Nasa Yoga Ghrutam, Total Care 3X Rasa, Respiro Detox Formula, Sitopaladi Churna Vati, and Triphala Swaras	External and Internal	Break Kapha-Vata pathology, initiate airway clearance, improve Agni (digestive fire)
15/05/23	Along with the above medicines, Choti Dudhi Swaras and Haridra Khandam are added	External and internal	Strengthen anti-allergic action, reduce hyperreactivity
17/06/23	New Aahar Amrutham Rasa added, and Choti Dudhi Swaras continued along with IAFA Respiro Detox Formula, Haridrakhandam Churna, Shitopladi Churna, Triphla Swarsa continued.	Internal and External	Immunomodulation after full symptom relief
28/07/23	Nasal All-clear Spray and Halin Capsule for Steam added externally along with the above-mentioned medicine.	External and Internal	Prevent recurrence

5.3 Pharmacological Correlation

The Ayurvedic formulations used in this case contain herbs that exhibit validated pharmacological properties aligned with the therapeutic needs of allergic bronchitis. *Adhatoda vasica* (Vasa) provides bronchodilatory and mucolytic actions due to its alkaloid vasicine, while *Glycyrrhiza glabra* (Yashtimadhu) soothes airway mucosa and reduces inflammation through glycyrrhizin-mediated immunomodulation. *Euphorbia hirta* (Chhoti Dudhi) has antihistaminic and anti-asthmatic effects, reducing bronchial hypersensitivity. Similarly, *Curcuma longa* (Haridra) acts as a potent anti-inflammatory and antiallergic agent owing to curcumin. Supportive formulations like Shitopaladi Churnavati enhance expectoration and improve respiratory patency, while Triphala strengthens the gut-immune axis, contributing to long-term immunological balance. Collectively, this personalized Ayurvedic treatment demonstrates bronchodilatory, antihistaminic, anti-inflammatory, and immunoregulatory effects that represent the rapid and sustained clinical remission observed in the patient.

Table 4: Formulations, Key Ingredients, and their actions

Formulation	Key Ingredients	Ayurvedic Actions	Modern Pharmacology
Total Care 3X Rasa	*Argemone mexicana*, *Leucas cephalotes*, *Adhatoda vasica*, *Euphorbia hirta*, *Glycyrrhiza glabra*, *Yavakshara*	Kapha-Vata Shamana, Kasa-Shwasa Hara	Bronchodilator, anti-inflammatory, antihistamine
Choti Dudhi Swaras	*Euphorbia hirta*	Amapachana, Vatanulomana	Antiallergic, anti-asthmatic
Aahar Amrutham Rasa	*Euphorbia thymifolia*, *Vitex negundo*, *Aegle marmelos*, *Phyllanthus niruri*, and *Boerhavia diffusa*	Agni Deepana, Rasayana	Enhances nutrient absorption, boosts immunity
Haridrakhandam	Haridra, Patra, Vidanga, Trivrit, Triphla, Nagakesara, Musta, Lauha Bhasma, Go Dugdha, etc.	Shotha Hara, Krimihara	It has curcumin, a strong anti-inflammatory, immunomodulating, anti-allergy, etc.
Sitopaladi Vati	Sita, Tavaksheera, Ela, Vanshlochan, Pippali	Kaphaghna, Anulomana	Expectorant, bronchodilator
Triphala Swaras	Haritaki, Bibhitaki, Amalaki	Rasayana, Gut-immune axis regulation	Antioxidant, microbiota modulation
Nasa Yoga Grutham	Cow ghee and Yashtimadhu	Uttam Nasya Dravya	Enhances local mucosal immunity
Nasal All-Clear Spray	Tulsi, Dronapushpi, Chandramulika, Agnimantha, Vacha, Ajaji, Madhuka, Saindhava Lavana	Shwasa, Peenasa Hara	Reduces nasal blocking and allergens
Halin Capsule Steam	Herb-steam inhalation	Opens Kapha-blocked channels	Mucolytic and bronchodilator

7. CONCLUSION

This case study demonstrates that Ayurvedic intervention based on Kapha-Vata balancing, Srotoshodhana, Agnideepana, and Rasayana principles can achieve rapid remission in pediatric Allergic Bronchitis, i.e., Vata-Kaphaja Shwasa Roga, without the need for corticosteroids or nebulization dependency. The combined approach of Pratimarsha Nasya and internal herbal formulations successfully reduced bronchial hyperreactivity, restored normal airway function, and strengthened host immunity, ensuring sustained symptom-free outcomes during follow-ups. The results highlight Ayurveda's therapeutic potential for chronic pediatric respiratory allergies, particularly when early intervention prevents progression and recurrence. This case supports further structured clinical studies to validate standardized Ayurvedic protocols as a safe, effective, and holistic alternative in long-term management of chronic allergic airway disorders.

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