

Rapid clinical improvement in a 10-month-old infant with acute lower respiratory tract infection following pure Ayurvedic Management: A Case Report

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Abstract

Background: Acute lower respiratory tract infections (LRTI) in infants often present with breathlessness, tachycardia, and chest signs such as intercostal retractions. While standard care includes supportive measures and, where indicated, antibiotics, evidence on purely Ayurvedic management in this age group is limited.

Case presentation: A 10-month-old female infant presented with H/o fever, cough, running nose, irritability, refusal to feed, and breathlessness. Examination revealed bilateral coarse crepitations, intercostal retractions, and tachycardia. She was managed with oral Ayurvedic formulations (Tribhuvan Kirti Ras, Karkatshringi, Kantakari, Bibhitak, pooshkarmool, dadimtwak, Trikatu, Shringbhasma and Shwas Kuthar Ras) and a gentle chest massage using sesame oil infused with garlic and carom seeds (ajwain). Within 24 hours, cough frequency decreased, intercostal retractions reduced significantly, feeding improved, and sleep normalized. Treatment continued for 5–6 days with sustained improvement.

Conclusion: This case suggests that a carefully selected, classical Ayurvedic regimen may be associated with rapid symptomatic relief in infantile LRTI. Further systematic studies with safety monitoring are warranted.

Keywords: case report; lower respiratory tract infection; infant; Ayurveda; Shwas Kuthar Ras; Tribhuvan Kirti Ras; external oleation.

1. Introduction

Acute lower respiratory tract infection (LRTI) in infants is a leading cause of morbidity and healthcare utilization globally. Typical features include cough, fever, tachypnea, chest retractions, and crepitations on auscultation. Standard management emphasizes supportive care, oxygen where needed, and antibiotics when bacterial etiology is suspected. ^[1]

In Ayurved, conditions resembling LRTI are often approached under “*Parshuka*” (Harihar Samhita)) and *dwidoshaj* or *tridoh j jwar*, with treatment aimed at pacifying *Kapha* and *Vata*, clearing airway secretions, and improving respiratory mechanics. Classical herbo-mineral formulations such as Shwas Kuthar Ras and Tribhuvan Kirti Ras are traditionally indicated for fever, cough, bronchitis, and asthma, with reported anti-inflammatory, bronchodilatory, and antitussive properties in preclinical and clinical reviews. ^{[2][3]}

External oleation therapies using fortified medicated oils are also part of Ayurvedic pediatric care (*Kshira/Ghrita Abhyanga*), with local application intended to reduce chest tightness and improve comfort. However, published case reports documenting purely Ayurvedic management of acute LRTI in infants under 1 year remain sparse.

We report a 10-month-old infant with acute LRTI who showed rapid clinical improvement after initiation of a classical Ayurvedic regimen, highlighting potential benefits and the need for rigorous safety evaluation.

2. Case Presentation

2.1 Patient Information

A 10-month-old female infant was brought to the outpatient department by her parents with a 3–4 day history of fever, followed by cough, running nose, irritability, refusal to feed, and noticeable breathlessness. No prior history of similar episodes, chronic illness, or hospitalization was reported. Family history was non-contributory. Immunization status was reported as age-appropriate.

2.2 Clinical Findings

On examination, the infant weighed 7.5 kgs was tachycardic with visible intercostal retractions and audible cough bouts. Respiratory assessment revealed bilateral coarse crepitations on auscultation. Abdominal examination was unremarkable (soft, non-tender). No cyanosis or stridor was noted at rest.

2.3 Diagnostic Assessment

Given the outpatient setting and resource constraints, the diagnosis was primarily clinical, consistent with acute LRTI (likely viral bronchiolitis/early pneumonia spectrum). Laboratory tests (complete blood count, CRP) and chest radiograph were not performed at initial visit but were planned if deterioration occurred.

3. Timeline

Day	Clinical status & interventions
Day 0 (presentation)	Fever (3–4 days prior); cough, rhinorrhea, irritability, poor feeding, breathlessness. Exam: bilateral coarse crepitations, intercostal retractions, tachycardia., afebrile. Started Ayurvedic oral therapy and chest massage.
Day 1 (24 hours)	Marked reduction in cough bouts; intercostal retractions significantly reduced; infant slept well; feeding slightly improved.
Days 2–6	Continued same regimen; progressive symptomatic improvement; no adverse events reported.

Day 7 (follow-up call/visit)	Parents reported near-resolution of cough and tachypnea, normal activity/feeding; no recurrence of breathlessness.
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4. Therapeutic Intervention

Ayurvedic Rationale

The case was approached as *Vata* – *Kapha* Jwara. The strategy combined:

Deepana–Pachana and *Shwasahara* and *Jwaraghna* (respiratory supportive and antipyretic) herbo-mineral formulations.

- **Lekhana** and *Kapha-shoshana* herbs to reduce secretions.
- **External oleation** to soothe chest muscles and improve local comfort.

Oral Ayurvedic Medicines

The following classical formulations were prescribed in age-appropriate, low doses under direct supervision:

1. Tribhuvan Kirti Ras

- Traditional indications: fever, cough, bronchitis, asthma due to *Kapha–Vata* vitiation. ^{[6][7]}
- Key ingredients (per classical references): Shuddha Hingula (purified cinnabar), Shuddha Vatsanabha (*Aconitum ferox*), Shunthi (*Zingiber officinale*), Pippali (*Piper longum*), Maricha (*Piper nigrum*), Tankana Bhasma (borax), Pippalamoola; processed with Tulasi, Dhattura, and Nirgundi juices.

2. Shringbhasma

- Its an calcined preparation and acts as an expectorant, antibacterial, antimicrobial, mild antipyretic, mucolytic agent and natural calcium supplement vividly used for asthma.

3. Trikatu

- It's a powerful blend of Black pepper, Long Pepper and dried ginger. The piperine in black pepper is known to increase the absorption and effectiveness of other herbs and nutrients and help respiratory tract clearance by expectorant activity.

4. Karkatshringi (*Bambusa arundinacea*)

- Traditionally included in *Kasahara* gana and one of the key ingredient of “*Balachaturbhadra choorna*” used as a *Kapha*-reducing, cooling expectorant in cough and respiratory congestion.

5. Kantakari (*Solanum xanthocarpum*)

- Classical “*Kasahara*”, “*shothahar*”, “*sheetprashaman*” herb; supports bronchodilation and secretion clearance.

6. Pooshkarmool : (Inula racemosa) One of the potent bronchodilator, expectorant and anti-inflammatory agent. By relaxing constricted airways and clearing excess mucus. It reduces inflammation, inhibits allergic reactions by its antihistaminic properties. Acharya Charak has mentioned pooshkarmool in “Shwashar gana”.

7. Dadimtwak : (Punica granatum) Its is considered as “Hridya” and works as an astringent , Kapha-Vatashamak and alleviates cough, bronchitis and breathlessness. The tannins and polyphenols soothe respiratory tracts, reduces inflammation, and manage excess mucus production. Dadimtwak powder acts directly on throat as well reducing irritation, inflammation and sore throat.

8. Shwas Kuthar Ras

- A herbo-mineral formulation mentioned in “ Bhavprakash” indicated in asthma, bronchitis, and chronic cough; reported to have anti-inflammatory, bronchodilatory, and antitussive effects clinical literature. ^{[2][3]}
- Ingredients typically include purified Parada (mercury), Gandhaka (sulphur), Vatsanabha, Tankana Bhasma, Manashila, Shunthi, Pippali, and Maricha.

Dosage:

Trinhuvankirti Ras 60 mg + Shwaskuthar Ras -30 mg +shringbhasma 20 mg + Trikatu 60 mg+ karkatshringi 125 mg + Bibhitak 125 mg + Kantkari 250 mg +pooshkarmool 125mg + dadimtwak mixed with honey given four times /day for initial 2 days.

External Application (Chest Massage)

A warm medicated oil was prepared and applied gently to the chest:

- **Preparation:** Two cloves of garlic (*Allium sativum*) and 125 mg of carom seeds (*Trachyspermum ammi*, ajwain) boiled in 150 ml of Sesameseed oil (*Taila*).
- **Application:** Gentle chest massage 2–3 times /day.
- **Rationale:** In Ayurveda, warm oil application over the chest is used to reduce *Vata*, ease breathing effort, and improve local circulation. Garlic and ajwain are traditionally considered *Kapha*-reducing and antimicrobial.

5. Follow-up and Outcomes

Clinician-Assessed Outcomes

- **Within 24 hours:** Notable reduction in cough frequency; intercostal retractions significantly reduced; respiratory effort improved; infant slept through the from next day night.
- **Days 2–6:** Continued improvement; feeding improved; no recurrence of significant breathlessness.
- **Adverse events:** None reported during the observation period.

Parent-Assessed Outcomes

Parents reported improved sleep, reduced irritability, and return of appetite after 4- 5 days. No vomiting, rash, or worsening of symptoms was observed.

6. Intervention Adherence and Tolerability

The infant tolerated the regimen well. Parents administered the chest massage and oral medicines as advised. No dose adjustments were required.

7. Discussion

This case describes rapid symptomatic improvement in an infant with acute LRTI following a classical Ayurvedic protocol combining oral herbo-mineral formulations and external oleation. The clinical picture (fever, cough, tachypnea, retractions, crepitations) aligns with moderate LRTI, where standard care often includes close monitoring and, in some settings, antibiotics. ^[1]

8. Plausible Mechanisms

- **Shwas Kuthar Ras** and **Tribhuvan Kirti Ras** contain bioactive compounds (e.g., piperine from Pippali/Maricha, gingerols from Shunthi) with documented anti-inflammatory, antitussive, and bronchodilatory properties in preclinical models.
- **Kantakari** and **Karkatishringi** are classical *Shwasahara* agents that may aid mucus clearance and reduce airway resistance.
- **Bibhitak** having included in “Jwarhara” gana by Achary Charak and also has kaph Chhedan property .
- **External oleation** with warmed sesame oil plus garlic/ajwain may provide local soothing, mild antimicrobial effects, and improved chest wall compliance, contributing to reduced work of breathing.

9. Safety Considerations

Herbo-mineral formulations contain processed metals/minerals (e.g., mercury, arsenic compounds) and require strict quality control, purification (*shodhana*), and appropriate dosing, especially in infants. Published reviews note that SKR has been studied for toxicity and appears safe when prepared and prescribed correctly, but caution is advised in pregnancy, lactation, and young children unless under expert supervision.

Our case did not observe adverse events over a short follow-up; however, this does not establish long-term safety. Future reports should include baseline and follow-up labs (LFT, RFT) when using herbo-mineral drugs in infants.

10. Comparison with Literature

Published Ayurvedic case reports in pediatric respiratory conditions (e.g., recurrent pneumonia, bronchial asthma) describe improvement with multi-component classical regimens, supporting the plausibility of our findings. ^{[4][5][1]} However, high-quality prospective data in infants <1 year remain limited.

11. Strengths and Limitations

Strengths: Detailed temporal documentation; use of classical formulations with known indications; inclusion of external therapy; clear short-term outcomes.

Limitations: Single case; no laboratory/radiographic confirmation; short follow-up; potential for spontaneous recovery bias.

12. Patient Perspective

Parents reported that their child became calmer, slept better, and gradually resumed normal feeding after 3-4 day of starting treatment. They expressed satisfaction (Mother shared that there was 80% relief within first 24 hours) the improvement and no concerns regarding the treatment approach.

13. Learning Points (Take-Away Messages)

- A classical Ayurvedic regimen (Shwas Kuthar Ras, Tribhuvan Kirti Ras, Karkati Shringi, Bibhitak, Kantakari) plus gentle chest oleation was temporally associated with rapid improvement in an infant with acute LRTI.
- Careful patient selection, authentic sourcing, and expert dosing are critical when using herbo-mineral formulations in infants.
- Systematic case documentation and safety monitoring are essential to build evidence for Ayurvedic pediatric respiratory care.

14. Acknowledgment

I express gratitude to the Department of *Kayachikitsa* and Hospital Authority for giving me this opportunity to study this particular research topic. Special thanks to Mr. Anil Gujar Sir Hon'ble secretary of Maharashtra Arogya Mandal Hadapsar Pune- 411028 and Mr. Arun Gujar Sir Hon'ble Joint Secretary of Maharashtra Arogya Mandal, Hadapsar Pune- 411028, for co-operating throughout the research study.

15. Disclosure of conflict of interest

The authors declare that there was no conflict of interest regarding the publication of manuscript

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