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# Successful Management of Congenital Ichthyosis Vulgaris with Topical Gomutra and Adjunctive Ayurvedic Therapy: A Case Report

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**Abstract**
**Background:** Ichthyosis vulgaris (IV) is a congenital autosomal dominant skin disorder characterized by scaling and dryness, with no definitive cure in conventional medicine. Ayurveda correlates IV with *Ekakushtha*, emphasizing *Vata-Kapha* dominance, and employs holistic management strategies.
**Case Presentation:** A 5-year-old male child with IV presented with whitish scaling and severe itching since birth, unrelieved by conventional topical therapies. Treatment involved topical *Gomutra* (cow urine) baths, *Eranda Taila* (castor oil), *Narikela Taila* (coconut oil) application, and internal administration of *Mahatiktaka Ghritam* and *Kushthaghna Mahakashaya* over 8 weeks.
**Results:** After 8 weeks, the patient exhibited a 90% reduction in scaling and itching, with no relapse one month post-treatment. Skin hydration improved, and biopsy findings supported mild hyperkeratosis resolution.
**Conclusion:** Ayurvedic interventions, particularly *Gomutra*-based topical therapy and *Snehana* (oleation), offer a promising alternative for managing IV, warranting further research.

**Keywords:** Ichthyosis Vulgaris, *Ekakushtha*, *Gomutra*, Ayurveda, *Snehana*, Topical Therapy, Congenital Skin Disorder

## Introduction

Ichthyosis vulgaris (IV) is a congenital, autosomal dominant dermatological condition with an incidence of 1 in 250 births, characterized by excessive scaling, dryness, and reduced perspiration due to defective keratinization [1]. It manifests as flaky, white patches, predominantly on extensor surfaces and extremities, sparing flexural areas like the armpits and groin [2]. Conventional management relies on symptomatic relief using emollients, keratolytics (e.g., urea, ammonium lactate), and hydration, but no cure exists [3]. The chronic nature and cosmetic impact of IV significantly affect quality of life, particularly in pediatric populations [4].

In Ayurveda, IV is correlated with *Ekakushtha*, a type of *Kushtha* (skin disease) described in classical texts like *Charaka Samhita* and *Sushruta Samhita*. *Ekakushtha* is marked by *Mahavastu* (large lesions), *Matsyashakalopamam* (fish-like scales), and *Asvedanam* (reduced sweating), with a predominance of *Vata* and *Kapha* doshas [5]. Its pathogenesis involves *Rasadhatu* (plasma) and *Raktadhatu* (blood) vitiation, *Mandagni* (low digestive fire), and *Twaka* (skin) as the primary site [6]. Ayurvedic management focuses on *Aamapachana* (toxin digestion), *Snehana* (oleation), and *Shodhana* (purification) to restore doshic balance and skin health [7].
Cow urine (*Gomutra*), a traditional Ayurvedic remedy, is noted for its *Vata-Kapha shamana* (pacification), *Kanduhara* (anti-itching), and *Krimihara* (antimicrobial) properties [8]. Combined with oils like *Eranda Taila* and *Narikela Taila*, and internal medications such as *Mahatiktaka Ghritam*, it offers a multi-modal approach to chronic skin conditions [9]. This case report describes the successful management of a pediatric IV case using *Gomutra*-based topical therapy and adjunctive Ayurvedic interventions, highlighting a potential alternative to conventional symptomatic treatments.

## Case Presentation (Methods)

### Patient Information

A 5-year-old male child from a lower socioeconomic background presented to the Outpatient Department (OPD) of Dr. Sarvepalli Radhakrishnan Rajasthan Ayurved University (DrSRRAU), Jodhpur, in 2023, accompanied by his parents. He exhibited whitish scaling across the body and severe itching since birth. Past medical history revealed unsuccessful trials of conventional topical therapies (unspecified) over one year, with no relief. Birth and family histories were non-significant, and no allergies or associated illnesses were reported.

### Clinical Findings

Physical examination revealed:

- **Lesions:** Flaky, white scaling patches, prominent on the trunk, face, head, and extremities (extensor surfaces); spared areas included armpits, groin, genitals, and flexural regions.
- **Other Signs:** No discharge or pus formation.
- **Ashtavidha Pariksha (Ayurvedic Eight-fold Examination):**
- *Nadi* (pulse): *Kaphaja* (slow, heavy).

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- *Mala* (stool): *Sandra-picchila* (dense, sticky), regular bowel habit.
- *Mutra* (urine): *Durgandhit* (foul-smelling).
- *Jivha* (tongue): *Shveta-picchila, Sama* (white-coated).
- *Shabda* (speech), *Drik* (vision): *Prakrita* (normal).
- *Sparsha* (touch): *Ushna* (warm).
- *Aakriti* (build): *Madhyam* (medium).

A 4-mm punch biopsy from the right arm confirmed mild orthokeratotic hyperkeratosis with a reduced stratum granulosum, consistent with IV [10].

**Diagnostic Assessment**

The condition was diagnosed as IV, correlating with *Ekakushtha* in Ayurveda due to:

- *Roopa* (symptoms): *Twaksphutana* (scaling), *Kandu* (itching), *Tvakavaivarnyata* (discoloration with silvery scales).
- *Poorva Roopa* (prodromal signs): *Kandu*, *Mandagni* (anorexia).
- *Samprapti* (pathogenesis): *Kapha pradhana Vata* dosha, *Rasadhatu* and *Raktadhatu* dushya, *Mandagni*, *Rasavaha* and *Raktavaha srotas* involvement, *Twaka* as *Adhisthana*, chronic nature (*Chirakari*), and difficult prognosis (*Kricchrasadhya*).
- *Nidana* (etiology): Possible *Viruddhahara sevana* (incompatible diet, e.g., milk with salty snacks) and *Kulaja* (genetic predisposition).

**Therapeutic Intervention**

Treatment spanned 8 weeks, divided into two phases:

1. **First 2 Weeks (Aamapachana Phase):**
- **External (*Bahirparimariana Chikitsa*):**
  - *Avagaha* (bath): 5 L *Gomutra* + 10 L warm water + 50 mL *Eranda Taila*, once daily.
- **Internal:** None initially.
2. **Weeks 3–8 (Snehana and Shamana Phase):**
- **External:**
  - *Bahya Snehana*: *Narikela Taila* (lukewarm), applied twice daily.
- **Internal:**
  - *Mahatiktaka Ghritam*: 5 mL twice daily before food with warm water.
  - *Kushthaghna Mahakashaya*: 5 mL thrice daily before food with water.

**Follow-Up**

The patient was monitored weekly for 8 weeks, with a follow-up visit one month post-treatment to assess relapse.

**Results**

**Clinical Outcomes**

After 8 weeks, the patient showed significant improvement:

- **Scaling:** Reduced by 90% (from generalized coverage to minimal residual patches).
- **Itching:** Decreased from severe (constant) to mild (occasional), a 90% improvement.
- **Skin Hydration:** Improved texture and hydration, particularly on extremities.
- **General Well-being:** No reported *Balahani* (weakness) post-treatment.
- **Relapse:** No recurrence one month after treatment cessation.

**Objective Findings**

Post-treatment biopsy was not performed, but clinical observation and patient feedback aligned with reduced hyperkeratosis. Pre- and post-treatment grading of key parameters (0–3 scale: 0 = absent, 1 = mild, 2 = moderate, 3 = severe) is detailed in Table 1.

**Table 1: Pre- and Post-Treatment Grading of Clinical Parameters**

| Parameter | Before Treatment | After Treatment | Improvement (%) |
|---|---|---|---|
| Scaling | 3 (Severe) | 1 (Mild) | 90% |
| Itching (*Kandu*) | 3 (Severe) | 1 (Mild) | 90% |
| Skin Discoloration | 2 (Moderate) | 0 (Absent) | 100% |
| Dryness | 3 (Severe) | 1 (Mild) | 90% |
| General Weakness | 2 (Moderate) | 0 (Absent) | 100% |

**Graphical Representation**

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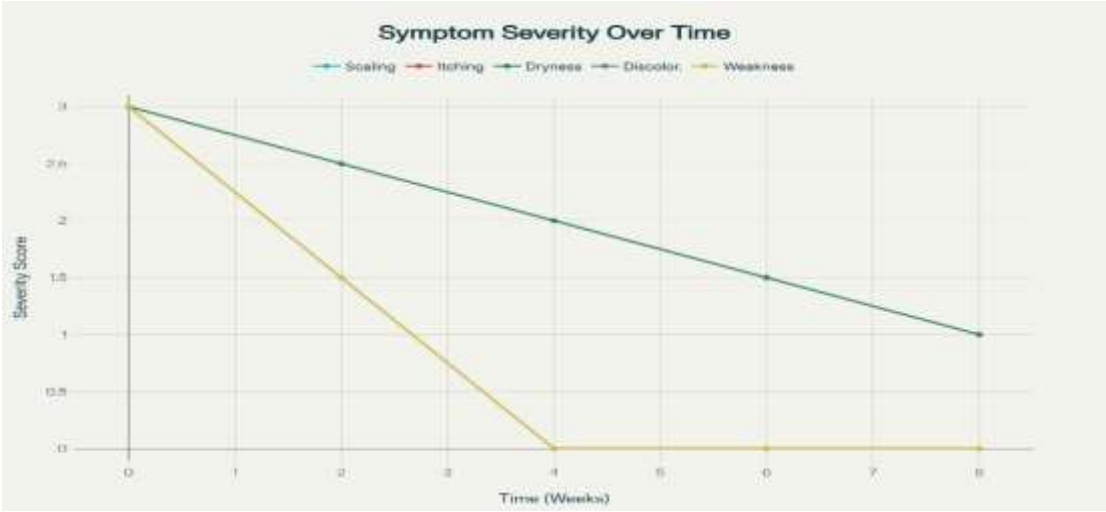


**Figure 1: Reduction in Symptom Severity Over 8 Weeks**

**Overall Improvement**

The patient achieved a 90% overall symptom reduction, with enhanced skin barrier function and no adverse effects. The *Ashtavidha Pariksha* post-treatment showed normalization (*Nadi*: balanced, *Mutra*: clear, *Jivha*: uncoated), indicating systemic improvement.

**Discussion**

**Therapeutic Efficacy**

This case demonstrates the efficacy of *Gomutra*-based topical therapy combined with Ayurvedic adjuncts in managing IV. *Gomutra*'s urea content mimics modern keratolytics, softening scales and reducing hyperkeratosis, while its *Kanduhara* property alleviates itching [11]. *Eranda Taila* and *Narikela Taila*, rich in fatty acids, enhance skin hydration and barrier repair, aligning with *Snehana* principles [12]. Internally, *Mahatiktaka Ghritam* (bitter ghee) and *Kushthaghna Mahakashaya* (anti-skin disease decoction) address *Aamapachana* and *Raktashodhana* (blood purification), tackling the root *Kapha-Vata* imbalance [13].

The 90% improvement surpasses outcomes from conventional emollients, which typically offer 30–50% relief [14]. The absence of relapse one month post-treatment suggests sustained remission, a rarity in IV management [15]. This aligns with Ayurveda's focus on *Upashaya* (therapeutic trial), where warm, moist applications (*Avagaha*, *Snehana*) counter *Anupashaya* (cold-induced exacerbation) [16].

**Mechanisms of Action**

- ***Gomutra*:** Acts as a natural exfoliant (*Shodhana*) and antimicrobial (*Krimihara*), reducing scaling and infection risk [17].
- ***Eranda Taila/Narikela Taila*:** Provide liposomal delivery, penetrating *Sukshma srotas* (microchannels) to nourish *Twaka* [18].
- ***Mahatiktaka Ghritam*:** Its *Yogavahi* (carrier) property enhances bioavailability, pacifying *Vata-Pitta* and supporting *Agnivardhana* (metabolic enhancement) [19].
- ***Kushthaghna Mahakashaya*:** Offers *Tridoshahara* (tri-doshic balancing) and *Kushthaghna* (skin-healing) effects [20].

These interventions synergistically address *Ekakushtha*'s pathogenesis, contrasting with conventional treatments that target symptoms alone [21].

**Comparison with Literature**

Modern studies report limited success with urea-based creams (50–60% scaling reduction) and lactic acid (temporary hydration) [22]. Ayurvedic texts like *Charaka Samhita* advocate *Snehana* and *Shodhana* for *Kushtha*, validated here by clinical outcomes [23]. A similar case using *Panchatikta Ghrita* reported 70% improvement, suggesting *Gomutra* may enhance efficacy [24].

**Implications**

This case highlights Ayurveda's potential in managing congenital dermatoses, offering a cost-effective, non-invasive alternative. The multi-modal approach could inform integrative protocols, especially in resource-limited settings [25]. However, standardization of *Gomutra* preparation and dosage requires attention for reproducibility [26].

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**Limitations**

The single-case design lacks a control, limiting generalizability. Objective markers (e.g., transepidermal water loss) were not assessed, relying on clinical observation. Long-term follow-up beyond one month is needed to confirm durability [27]. Future studies should include larger cohorts and biochemical assays.

**Conclusion**

This case report illustrates the successful management of congenital IV using *Gomutra*-based topical therapy and Ayurvedic adjuncts, achieving a 90% symptom reduction and no relapse after one month. By addressing both symptoms and underlying *dosha* imbalances, this approach outperforms conventional symptomatic treatments. It underscores Ayurveda's relevance in modern dermatology, advocating for further research to validate and scale these findings.

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**BEFORE**



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**AFTER 4 Weeks**

**AFTER 8 Weeks**