

Effect of Jalakumbhi Kshar (*Eichhornia crassipes* (Mart.) Solms) Included in an Ayurvedic Management of Hypothyroidism: A Case StudyNancy,^{1*} Rosy Gupta²

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ABSTRACT:

Hypothyroidism is a chronic endocrine disorder characterized by impaired thyroid hormone production, leading to disturbances in metabolic activities and multiple systemic manifestations. It is more prevalent among women and elderly individuals and commonly presents with fatigue, constipation, oedema, dry skin, hair fall, weight gain, and reduced physical activity. In Ayurveda, these features may be correlated with *Kaphaja Galaganda* involving *Agnimandya* (impaired digestion), *Ama* accumulation (metabolic toxins), and vitiation of *Kapha* and *Vata dosha*. A 65-year-old female patient presented with generalized weakness, anorexia, body swelling, constipation, dry skin, and palpitations. She had been receiving Levothyroxine 75 µg/day for hypothyroidism for the previous eight years. Clinical examination revealed periorbital puffiness, coarse cold skin, and bilateral lower limb oedema. Baseline investigations showed an elevated serum thyroid stimulating hormone (TSH) level of 14.23 µIU/mL and a Zulewski's clinical score of 8/12. The patient was treated with *Jalakumbhi Kshar* 350 mg, *Gokshura Churna* 2 g, *Punarnavadi Mandoor* 500 mg, and *Makoya Ark* 20 mL with water twice daily for three months. During the treatment period, the Levothyroxine dose was gradually reduced from 75 µg/day to 50 µg/day at the first follow-up and further to 25 µg/day at the second follow-up based on symptomatic improvement and thyroid function assessment. Progressive improvement was observed in both subjective and objective parameters. At the end of treatment, serum TSH decreased to 5.519 µIU/mL and Zulewski's clinical score reduced to 2/12. Clinical symptoms improved markedly, and no adverse events were reported. This case highlights the potential utility of *Jalakumbhi Kshar*-based Ayurvedic management in hypothyroidism.

KEYWORDS: Ayurveda, *Eichhornia crassipes* (Mart.) Solms, *Galaganda*, Hypothyroidism, *Jalakumbhi Kshar*, Pontederiaceae family.

Received: 09.05.2026

Accepted: 03.06.2026

Published: 09.06.2026



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INTRODUCTION:

Hypothyroidism is a metabolic endocrine disorder resulting from deficient production or impaired action of thyroid hormones [1]. It is more commonly observed in females and elderly individuals and is associated with symptoms such as fatigue, constipation, weight gain, dry skin, oedema, hair fall, and generalized weakness. Reduced thyroid hormone activity affects multiple metabolic processes and significantly impairs quality of life. The standard management of hypothyroidism mainly includes hormone replacement therapy. Although effective in maintaining thyroid hormone levels, many patients continue to experience associated symptoms and seek supportive or alternative therapeutic approaches for better symptomatic relief and overall well-being [2].

In Ayurvedic literature, hypothyroidism is not described as a separate disease entity; however, its clinical manifestations can be understood under the spectrum of *Kaphaja Galaganda*, *Agnimandya*, *Ama*, and *Kapha-Vata Dosha Dushti*. Impairment of *Jatharagni* (Gastrointestinal digestive and metabolic function) and *Dhatvagni* (Tissue-level metabolism) leads to defective metabolism and accumulation of *Ama* (Metabolic toxins), producing symptoms resembling hypothyroidism [3]. In Ayurveda, hypothyroidism can be understood as a condition associated with *Mandagni* (Digestive insufficiency), reflecting reduced metabolic activity. Disturbance of *Agni*, along with impairment of *Rasa* (Plasma and lymphatic nourishment system) and

Meda Dhatus (Lipid metabolism) and decreased function of *Pitta Dosha*, leads to the formation of *Ama* at the levels of *Jatharagni*, *Bhutagni* (Elemental biochemical transformation and metabolism), and *Dhatvagni*. Clinical features of hypothyroidism such as fatigue, lethargy, heaviness, constipation, drowsiness, poor appetite, and digestive sluggishness resemble manifestations of *Ama* [4].

The condition is further associated with aggravation of *Kapha* and *Vata Dosha* along with depletion of *Pitta*. Impairment at the *Dhatu* level, especially involving *Rasa* and *Meda Dhatu*, is considered important in its pathogenesis [5]. Many symptoms also correlate with conditions described in Ayurveda such as *Vataja Shotha* (characterized by non-pitting edema—a feature of myxedema) [6] and *Rasapradoshaja Vikara* (characterized by loss of appetite, heaviness, fatigue) [7]. Considering the chronic and systemic nature of hypothyroidism, Ayurvedic management focuses on improving *Agni* and reducing *Ama*.

Jalakumbhi Bhasma along with *Gomutra* has been described in *Galaganda Chikitsa* in *Chakradatta Chikitsa Sangrah*, supporting its therapeutic relevance in conditions correlated with *Galaganda* [8]. *Jalakumbhi* (*Eichhornia crassipes* (Mart.) Solms) is described as having *Tikta* and *Katu Rasa*, *Laghu* and *Ruksha Guna*, *Sheet Virya* and *Madhura Vipaka*. It possesses *Tridoshnashaka* (Homeostatic regulator of physiological functions) property and useful in *Raktavikara* (Hematological disorder), *Jwar* (Pyrexia), *Shosha* (emaciation) [9]. The *Kshar* in general being *Katu ras*,

Tikshan Guna, Ushana Virya and Tridoshashamaka, Shothapachana (Anti-inflammatory and resolution of inflammatory exudates), *Lekhan* (Hypolipidemic), *Kapha-medahara* (Anti-obesity and lipid-lowering action) properties [10] and the actions are conceptualized for correcting metabolic impairment and reducing clinical manifestations associated with hypothyroidism. *Gokshura Churna* was administered as an adjuvant medicine because of its supportive action in edema and weakness. *Punarnavadi Mandoor* due to anaemic condition was included considering the chronic nature of the disease and associated weakness. *Makoya Ark* was used to enhance metabolic regulation, detoxification and to support liver functioning. Based on these therapeutic properties, *Jalakumbhi Kshar* along with supportive Ayurvedic formulations was selected for the present case to evaluate its effect in the management of hypothyroidism.

CASE REPORT:

Patient Information- A 65-year-old female patient visited our private clinic on 20/08/2025 with complaints of anorexia, generalized weakness, dry skin, excessive hair fall, swelling over the body, constipation, palpitations, and dry cough. The patient was a known case of hypothyroidism for the past eight years and was taking Tab. Levothyroxine 75 µg/day regularly. There was no history of diabetes mellitus, hypertension, tuberculosis, epilepsy, or any other major systemic illness.

General Examination-

- Periorbital puffiness present
- Bilateral lower limb swelling present
- Skin was coarse and cold on palpation
- Pulse rate: 88/min
- Blood pressure: 128/92 mmHg
- Patient was afebrile
- Weight: 70kg

Pallor, icterus, cyanosis, clubbing, and lymphadenopathy were absent. Respiratory and cardiovascular examinations did not reveal any significant abnormality.

Diagnostic assessment:

The patient was evaluated according to Ayurvedic principles using *Ashtavidha Pareeksha* [Table 1] [11]. The diagnosis of hypothyroidism was made using haematological parameters including thyroid profile and Zulewski's clinical score. In this case Zulewski's clinical score was 8 [12].

THERAPEUTIC INTERVENTION:

- *Jalakumbhi Kshar* 350mg two times in a day empty stomach with lukewarm water
- *Gokshura Churan* 2gm two times in a day empty stomach with lukewarm water
- *Punarnavadi Mandoor* 500mg two times in a day after meal with lukewarm water
- *Makoya Ark* 20ml+20ml water two times in a day after meal

Preparation of *Jalakumbhi Kshar*-
Figures 1-15

Jalakumbhi Panchanga [fig. 1,2,3]

Fresh *Jalakumbhi* collected, washed, cut, dried and burnt [fig. 4, 5, 6]

Prepared *Jalakumbhi Bhasma* soaked in water overnight [fig. 7, 8, 9]

Strained 21 times to get clear liquid and start boiling [fig. 10, 11, 12]

Evaporated liquid till completely dried, scraped, powdered and then "*Jalakumbhi Kshar*" was obtained [fig. 13, 14, 15,]

All other market preparations were used.

Timeline: In the present case, the treatment was continued for 90 days [Table 2]

Therapeutic Assessment: It was done on the basis of change in Zulewski's clinical score and laboratory investigations after each follow up [Table 3 and 4].

FOLLOW UP AND OUTCOMES:

The patient received *Jalakumbhi Kshar* along with *Gokshura Churna*, *Punarnavadi Mandoor*, and *Makoya Ark* continuously for 90 days. Clinical evaluation was carried out at monthly intervals to observe changes in symptoms, thyroid profile, and overall health status. Throughout the treatment period, the patient remained under regular clinical follow-up. Levothyroxine therapy was continued at a dose of 75 µg/day initially, which was

subsequently tapered to 50 µg/day at the first follow-up and further reduced to 25 µg/day at the second follow-up based on the patient's clinical status and thyroid function assessment. Progressive symptomatic relief was noted during successive follow-up visits. Reduction in periorbital puffiness, pedal edema, constipation, dryness of skin, generalized weakness, and sensation of heaviness became evident gradually during the course of therapy. Assessment using Zulewski's clinical scoring system demonstrated continuous improvement during treatment. The baseline score of 8/12 reduced to 7/12 during the first follow-up, 4/12 during the second follow-up, and finally 2/12 after completion of therapy [Table 3]. Laboratory investigations also showed favourable changes. Serum TSH level decreased from 14.23 µIU/mL before treatment to 11.56 µIU/mL at the first follow-up, 7.48 µIU/mL at the second follow-up, and 5.519 µIU/mL at the end of treatment [Table 4]. No adverse events, intolerance, or treatment-related complications were observed during the study period. The patient tolerated the prescribed medications well and experienced overall improvement in physical well-being and quality of life.

Table 1: Ashtavidha Pariksha:

<i>Nadi</i>	<i>Vata-Kaphaj</i>
<i>Jihwa</i>	<i>Malavrata</i>
<i>Mala</i>	<i>Savibandhapravrutti</i> (Constipation with difficulty in bowel evacuation)
<i>Mutra</i>	<i>Pravrutti</i> was normal with 5–6 times/day and 1 time at night
<i>Shabda</i>	Clear
<i>Sparsha</i>	<i>Ruksha</i> and <i>sheet</i>
<i>Drika</i>	<i>Samanya</i>
<i>Akriti</i>	<i>Pandur</i> (<i>Pallor</i>)

Table 2: Therapeutic intervention:

Date	Treatment
20/08/25	Counselling was done 1. <i>Jalakumbhi Kshar</i> 350mg + <i>Gokshura Churan</i> 2gm two times in a day empty stomach with luke warm water 2. <i>Punarnavadi Mandoor</i> 500mg two times in a day after meal with luke warm water 3. <i>Makoya Ark</i> 20ml+20ml water two times in a day after meal
1 st follow up (19/09/25), 2 nd follow up (19/10/25) and 3 rd follow up (18/11/25)	No fresh complaints, improvement in signs and symptoms. Continue the same treatment during each follow up.

Table 3: Change in Zulewski's clinical score after each Follow Up

	Evaluation	Before treatment	1 st follow up	2 nd follow up	3 rd follow up
Signs	Slowing of movements	0	0	0	0
	Ankle reflex	0	0	0	0
	Coarse skin	1	1	1	0
	Periorbital puffiness	1	1	0	0
	Cold skin	1	1	1	1
Symptoms	Diminished sweating	1	1	0	0
	Voice hoarseness	1	0	0	0
	Paraesthesia	0	0	0	0
	Dry skin	1	1	1	1
	Constipation	1	0	0	0
	Hearing impairment	0	0	0	0
	Weight increase	1	1	1	0
Total Score		8	7	4	2

Table 4: Change in laboratory investigations after each follow up:

	Investigations	Before treatment	1 st Follow up	2 nd Follow up	3 rd Follow up
Thyroid Function Test	Serum TSH (μ IU/mL)	14.23	11.56	7.48	5.519
	Serum T3 (ng/dl)	132	138	124	107
	Serum T4 (μ g/dl)	8.33	6.34	8.12	7.38
Lipid Profile	Cholesterol (mg/dl)	132	130	126	116
	Triglyceride (mg/dl)	238	232	226	208
Blood	Hb% (gm/dl)	10.2	10.4	11.2	11.4



fig. 1



fig. 2



fig. 3



fig. 4



fig. 5



fig. 6



fig. 7



fig. 8

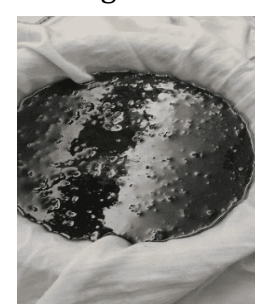


fig. 9



fig. no. 10



fig. no. 11



fig. no. 12



fig. no. 13



fig. no. 14



fig. no. 15

Figures- (1-15) Preparation of Jalakumbhi Kshar

RESULT AND DISCUSSION:

The given drugs in combination act as antagonists to the main morbid factors i.e., *Dosha* and *Dushya* to cause *Sampraptivighatana* (breaking of pathogenesis) to all of the symptoms of the disease. According to the fundamentals of Ayurveda, for the cure of any disease, breaking pathogenesis is the basic line of treatment [13]. Hypothyroidism has *Kapha-Vataja* clinical manifestations. Keeping in mind the pathogenesis of Hypothyroidism, we have selected *Jalakumbhi* which has *Tikta*, *Katu Rasa* and *Laghu*, *Ruksha Guna*, *Sheet Virya* and *Madhura Vipaka* and *Tridoshashamaka* properties [14]. So, due to *Tikta Rasa* and *Laghu*, *Ruksha Guna* *Jalakumbhi* act as *Ama Pachana*, *Shoshahara* and *Shamana* of aggravated *Kapha*, hence increasing the *Dhatwagni*. The *Kshar* has *Katu Ras*, *Tikshan Guna*, *Ushana Virya* and *Tridoshashamaka*, *Shothapachana*, *Shoshana* (Drying and reducing excess fluid retention), *Lekhan* (Scraping and reducing excess tissue accumulation), *Kapha-Medahara* properties [15] which additionally helped to correct metabolic impairment and clinical manifestations associated with hypothyroidism.

Gokshura Churna was administered as an adjuvant medicine because of its supportive action in edema and weakness as it is having *Madhura Ras*, *Guru-Snigdh Guna*, *Sheet Virya* and *Madhura Vipaka* and it is also *Tridoshashamaka*, *Shothahar*, *Balakrit* (Strength-promoting), *Shwasahara* (Anti-dyspnoeic), *Kasahara* (Antitussive) properties [16].

Punarnavadi Mandoor was included considering the chronic nature of the

disease and associated weakness. This yoga is useful in *Shotha* (Inflazmmation), *Pandu* (Anemia) and *Aanaha* (Flatulence) [17].

Makoya Ark was used to enhance metabolic regulation, detoxification and support liver functioning as it is having *Tikta Ras*, *Laghu- Snigdh Guna*, *Anushna Sheet Veerya*, *Katu Vipaka* and having *Tridoshagna*, *Shothahar*, *Mutrajanana* (Diuretic), *Rasayana* (Rejuvenative, immunomodulatory and restorative therapy) properties [18].

So in this study overall therapeutic response observed in the patient may be due to the combined effect of *Amapachana*, reduction of *Kapha-Vata Dushti*, improvement of *Agni*, and correction of fluid imbalance.

CONCLUSION:

The present case showed significant improvement in clinical symptoms and laboratory parameters after administration of *Jalakumbhi Kshar* along with *Gokshura Churna*, *Punarnavadi Mandoor*, and *Makoya Ark* in hypothyroidism. Reduction in swelling, constipation, dryness of skin, weakness, and puffiness was observed, along with decrease in serum TSH from 14.23 μ IU/mL to 5.519 μ IU/mL and improvement in Zulewski's clinical score from 8/12 to 2/12. The therapeutic effect may be attributed to correction of *Agnimandya*, reduction of *Kapha-Vata Dushti*, and elimination of *Ama*. Although it is based on a single case, the findings suggest that *Jalakumbhi Kshar*-based Ayurvedic management may provide supportive benefits in hypothyroidism. Further

large-scale clinical studies are needed to establish its efficacy scientifically.

Declaration of patient consent:

Written informed consent was obtained from the patient for publication of clinical details and investigation findings, while maintaining confidentiality and concealment of identity.

Limitation of the study:

This study is based on a single case and lacks long-term follow-up and comparative assessment. Further controlled clinical studies with larger sample size are needed to scientifically evaluate the efficacy and safety of *Jalakumbhi Kshar* in hypothyroidism.

Acknowledgement:

The author expresses sincere gratitude to Dr. Rosy Gupta for continuous guidance, valuable suggestions, and academic support throughout the study. The author also acknowledges the cooperation of the patient during treatment and follow-up period.

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor: The corresponding author is the guarantor of this article and its contents.

Source of support: None

How to cite this article:

Dr. Nancy, Dr. Rosy Gupta. Effect of Jalakumbhi Kshar (*Eichhornia crassipes* (Mart.) Solms) included in an Ayurvedic Management of Hypothyroidism: A Case

Study. Int. J. AYUSH Case Reports. 2026; 10(2): 1-9.

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