

An Ayurvedic perspective on hypothyroidism conceptual understanding and management approaches

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ABSTRACT:

Hypothyroidism, a clinical condition characterized by insufficient production of thyroid hormones, presents with a wide range of metabolic, cognitive, and systemic manifestations. While conventional bio-medicine attributes its etiology to autoimmune thyroiditis, iodine deficiency, or post-ablative causes, emerging interest in integrative approaches has drawn attention to Ayurvedic perspectives. In Ayurvedic literature, symptoms resembling hypothyroidism are described under conditions such as *Galaganda* and *Udara Roga*, with imbalances in *Kapha* and *Vata* doshas often implicated. Traditional formulations, dietary modifications, and *Panchakarma* therapies are employed to restore hormonal balance and metabolic function. This review synthesizes contemporary biomedical understanding with Ayurvedic concepts, aiming to bridge the gap between modern endocrinology and classical wisdom. The integration of both systems may offer a more holistic, personalized approach to the management of hypothyroidism,

warranting further interdisciplinary research and clinical validation.

Keywords: - Hypothyroidism, Galaganda, Ayurveda, Panchakarma, Vata -kapha, Endocrinology

INTRODUCTION: -

The concept that lifestyle factors play a critical role in the onset and progression of disease is well-established in Ayurveda. With the advent of modernization and the influence of Western culture, there has been a significant shift in dietary patterns and lifestyle practices. Unhealthy eating habits coupled with a sedentary lifestyle have contributed to the rising incidence of various lifestyle-related disorders, particularly metabolic conditions.

The thyroid gland is a vital component of the endocrine system, regulating a broad spectrum of physiological functions, including metabolic, respiratory, cardiovascular, digestive, nervous, and reproductive processes, either directly or indirectly. A deficiency of thyroid hormone, or reduced tissue responsiveness to it relative to metabolic demands, leads to a condition known as hypothyroidism. This disorder poses a

significant public health challenge globally, affecting both developed and developing nations. The prevalence of hypothyroidism in developed countries ranges between 2–5%, while subclinical hypothyroidism is reported in approximately 4–15% of the population [1]. In urban India, the prevalence is estimated at 10.95%, with a considerable proportion (around 3.47%) remaining undiagnosed. The condition is more commonly observed in females and elderly individuals [2]

Autoimmunity is recognized as a key factor in the etiology of hypothyroidism. The disease is often associated with complications such as dyslipidemia, a major risk factor for cardiovascular and other systemic disorders. At its peak, hypothyroidism can lead to severe and life-threatening complications, and patients frequently require lifelong hormone replacement therapy.[3] This has generated growing interest in exploring alternative approaches, particularly those rooted in traditional systems such as Ayurveda, for a holistic understanding and management of the condition.

This review aims to interpret hypothyroidism through the lens of Ayurvedic principles, with the objective of formulating a comprehensive Ayurvedic management protocol. A critical analysis of the disease has been conducted by examining its pathogenesis and clinical manifestations through classical Ayurvedic texts and contemporary research databases. The symptoms are evaluated in the context of imbalances in *Doshas*, *Srotas*, *Agni*, and other fundamental Ayurvedic concepts. An effort is made to propose a standard *Samprapti* (pathogenesis) of hypothyroidism and to outline a

treatment approach in accordance with Ayurvedic doctrine.

Materials and Methods

This study was conducted through an extensive literature review and critical analysis of relevant sources. The pathogenesis of hypothyroidism was explored using contemporary pathology textbooks authored by various experts in the field. Additionally, a comprehensive search was performed across multiple online medical research databases, including PubMed, Google Scholar, and other national repositories, to collect up-to-date scientific data and insights.

In parallel, classical Ayurvedic texts were critically reviewed to understand the condition from an Ayurvedic perspective. Particular emphasis was placed on interpreting the pathogenesis of hypothyroidism in terms of Ayurvedic principles, specifically considering the roles of *Dosha*, *Dushya*, *Agni*, and *Srotas*. An integrative approach was adopted to correlate and analyze the findings from both modern and traditional systems of medicine.

OBSERVATION & DISCUSSION: -

Thyroid hormones, primarily triiodothyronine (T3) and thyroxine (T4), play a crucial role in regulating a wide range of physiological processes throughout all stages of life. These hormones exert both direct and indirect effects on nearly every organ system in the body. One of their fundamental roles is in promoting growth, particularly by enhancing amino acid uptake by tissues and stimulating enzymatic systems involved in protein synthesis, thereby facilitating bone growth and development.

In terms of metabolism, thyroid hormones significantly influence

carbohydrate metabolism by stimulating glucose uptake into cells, promoting glycogenolysis, and enhancing gluconeogenesis. These functions can be conceptually related to the actions of the *Rasavaha Srotas* in Ayurveda, which are responsible for the distribution of nutrition and energy to body tissues.

Additionally, thyroid hormones are integral to lipid metabolism. They mobilize lipids from adipose tissue and increase the rate of lipid oxidation to generate energy. This mirrors the functions attributed to *Medovaha Srotas*, which are involved in the transport and transformation of fat tissue in Ayurvedic physiology.

One of the hallmark effects of thyroid hormones is the elevation of basal metabolic rate (BMR) across most tissues, with notable exceptions including the brain, spleen, and gonads. This increase in BMR leads to elevated heat production and oxygen consumption, alongside enhanced utilization of energy substrates, often resulting in weight loss. These metabolic effects can be likened to the functions of *Agni* in Ayurveda, the principle responsible for digestion, metabolism, and transformation.^[4]

Furthermore, thyroid hormones influence cardiovascular physiology by upregulating adrenergic receptors in blood vessels, thereby contributing to blood pressure regulation. They also enhance cardiac output, heart rate, and myocardial contractility. The respiratory system is indirectly affected through the increased metabolic demand for oxygen and enhanced elimination of carbon dioxide, secondary to elevated BMR.^[5]

From an Ayurvedic perspective, these systemic effects may be interpreted as manifestations of balanced *Pitta* and

Vata Doshas, given their association with metabolism, movement, and transformation in the body. The *Srotases* (channels) primarily influenced by thyroid hormones include *Rasavaha*, *Mamsavaha*, *Medovaha*, *Asthivaha*, and *Shukravaha Srotas*, which correspond to the pathways involved in nutrition, muscle tissue, adipose tissue, bone tissue, and reproductive elements, respectively.

This integrative understanding underscores the interconnectedness between classical endocrine physiology and Ayurvedic principles, providing a holistic framework for evaluating thyroid function and its systemic implications.

Etiology (Nidana)

Hypothyroidism may result from inadequate functioning of the thyroid gland itself, known as primary hypothyroidism, or from insufficient stimulation by thyroid-stimulating hormone (TSH), referred to as secondary hypothyroidism. Primary hypothyroidism is commonly attributed to iodine deficiency, autoimmune conditions such as Hashimoto's thyroiditis, radiation therapy, certain pharmacological agents, or surgical removal of the thyroid gland.^[6]

From an Ayurvedic perspective, the causative factors (Nidana) are often associated with those that provoke *Kapha* and *Vata doshas*, induce *Agnimandya* (metabolic impairment), and cause *Rasapradoshaka* (vitiation of the plasma or nutrient fluid). These elements collectively contribute to the pathogenesis of hypothyroidism.

Pathogenesis (Samprapti)

The pathophysiology of primary hypothyroidism is understood through two principal mechanisms:

1. Deficiency of Thyroid Hormones – Typically resulting from destruction of thyroid follicles, as observed in autoimmune conditions like Hashimoto's thyroiditis.

2. Peripheral Resistance to Thyroid Hormones – A condition wherein target tissues exhibit decreased responsiveness to circulating thyroid hormones.

In Ayurvedic terms, these mechanisms can be interpreted in two ways:

1. *Dhatukshaya Janya* (Due to Tissue Depletion) / *Beejadosha Janita* (Genetic Predisposition):

Prolonged exposure to incompatible dietary and lifestyle factors (*Apathya Nidan Sevana*) along with congenital defects (*Beejadosha*) results in *Tridosha Dushti* (vitiation of all three doshas), leading to impaired *Jatharagni* (digestive fire). This in turn causes *Dhatvagni* Mandya (diminished metabolic activity at the tissue level), ultimately resulting in sequential tissue dysfunction (*Uttara-Uttara Dhatu Vikriti*) and disturbance of *Ojas* (vital essence). The dysfunction of *Ojas*, often influenced by *Pitta* Dosha, weakens the immune system (*Vyadhi Kshamatva*) and predisposes the individual to autoimmune pathology affecting the thyroid. This manifests as a *Kapha-Pitta* predominant condition.

2. *Avarana Janya* (Due to Obstruction):

The physiological roles of thyroid hormones parallel the actions of *Agni* in Ayurveda, which includes *Jatharagni*, *Dhatvagni*, and *Bhootagni* — all involved in metabolic transformations and maintenance of basal metabolic rate (BMR). Impairment of *Agni* due to *Kaphakara Nidana* (Kapha-aggravating factors) leads to accumulation of metabolic waste (*Dhatugata Mala*

Sanchaya) and subsequent *Srotorodha* (obstruction of bodily channels). This hampers the production of *Dhatu Sara* (quality essence of tissues), giving rise to the clinical manifestations of hypothyroidism on both physical and mental levels. Here, *Vata* acts as a *Yogavahi* (carrier) that further aggravates the *Kapha* imbalance, making it a *Vata-Kapha* dominant condition.

***Samprapti Ghatakas* (Components of Pathogenesis)**

Dosha Involved: *Vata* and *Kapha*

Dushya (Affected Tissues): *Rasa, Rakta, Mamsa, Meda, Asthi, Shukra*

Agni (Digestive and Tissue Metabolism): Impairment of *Jatharagni* and *Dhatvagni*
Srotodushti (Channel Pathology): *Sanga* (obstruction), *Vimargagamana* (abnormal flow)

Rogamarga (Pathological Pathway): *Bahya* (external), *Abhyantara* (internal), *Madhyama* (intermediate).^[7]

This integrative understanding bridges the gap between modern biomedical knowledge and Ayurvedic concepts, offering a comprehensive approach to the etiology and pathogenesis of hypothyroidism.

CLINICAL PRESENTATION /ROOPA: -

Hypothyroidism is characterized by a generalized slowing of metabolic processes, resulting in a wide array of clinical signs and symptoms. The severity and manifestation of these symptoms are largely dependent on the extent of thyroid hormone deficiency and the duration over which the condition has developed. The symptoms are often nonspecific, making early diagnosis challenging.

Table: -

Following table shows ayurvedic approach on hypothyroidism

Sr. no	Clinical presentation [8][9][10][11]	Srotas [13][14]	Doshas involved [12]
1	Weight gain	<i>Medovaha, rasavaha</i>	Kapha
2	Cold intolerance	<i>rasavaha</i>	Vata, Kapha
3	Lethargy	<i>rasavaha</i>	Kapha
4	Sleepiness	<i>Rasavaha</i>	Kapha
5	Hoarseness of voice	<i>Pranavaha</i>	Vata, Kapha
6	Bradycardia	<i>Rasavaha, raktvaha</i>	Kapha
7	Constipation	<i>Purishvaha</i>	Vata
8	Dry skin	<i>Rasavaha</i>	Vata
9	Hair loss	<i>Astivaha</i>	Vata
10	Depression	<i>Manovaha</i>	Vata
11	Morning puffiness over face	<i>Rasavaha</i>	Kapha
12	Non pitting oedema	<i>Rasavaha</i>	Kapha
13	Fatigue	<i>Rasavaha</i>	Vata, Kapha
14	Menstrual disturbance	<i>Manovaha</i>	Vata
15	Infertility	<i>Artavaha, Shukravaha</i>	Vata
16	Forgetfulness	<i>Manovaha</i>	Vata
17	Muscle pain	<i>Astivaha</i>	Vata

From an Ayurvedic perspective, the clinical features of hypothyroidism suggest a disturbance in both Jatharagni and Dhatvagni, indicating impaired metabolic and tissue-level functions.

Furthermore, there is evident vitiation of Kapha and Vata doshas, along with dysfunctions in multiple srotas, including *Rasavaha*, *Raktvaha*, *Medovaha*, *Shukravaha*, and *Manovaha* srotas.

Thyroid hormone, particularly triiodothyronine (T3), plays a critical role in regulating cardiac function and cardiovascular hemodynamics.^[15] In hypothyroidism, there is a marked reduction in cardiac contractility and cardiac output, coupled with increased peripheral vascular resistance. These changes point to the involvement of *Rasavaha srotas* morbidity in the pathophysiology of the disease.

Biochemically, hypothyroid patients frequently present with elevated total cholesterol and low-density lipoprotein (LDL) cholesterol levels, along with decreased high-density lipoprotein (HDL) cholesterol.^{[16][17]} These dyslipidemia profiles significantly increase the risk of atherosclerosis and other cardiovascular diseases (CVD), which tend to improve with appropriate thyroid hormone replacement therapy. This clinical evidence supports the impairment of *Medovaha srotas* in hypothyroidism.

Additionally, hypothyroidism is associated with various neuropsychiatric and cognitive disturbances, indicating dysfunction in *Manovaha srotas*. These may manifest as depression, impaired memory, and reduced mental alertness, further emphasizing the systemic impact of thyroid hormone deficiency.

In conclusion, the multifaceted clinical presentation of hypothyroidism reflects a complex interplay of hormonal, metabolic, and neuropsychological factors. Integrating Ayurvedic principles with modern biomedical insights may

provide a comprehensive understanding of the disease and its management.

Line of Treatment for Hypothyroidism with Specific Therapeutic Targets: -

In the Ayurvedic management of hypothyroidism, a comprehensive line of treatment should be designed with a focused approach targeting *Agni* (digestive and metabolic fire), and the *Rasavaha*, *Mamsavaha*,

Medovaha, and *Manovaha Srotas* (specific bodily channels), along with the regulation of *Vata* and *Kapha* Doshas. The following therapeutic interventions are recommended:

1. *Dhatvagni Deepana* – Enhancement and regulation of tissue-level metabolic activity (*Dhatvagni*) to restore normal physiological functioning.

Drugs used: - Panchkola churna, Tablet Ademon, Molecular drug no 3

2. *Dhatugata Mala Pachana* – Metabolic digestion and elimination of pathological waste products accumulated at the tissue level.

Drugs used: -Gorakhmundi *swarasa*, Syp. Liv Detox, Molecular drug no 4A, Shiva gutika.

3. *Srotoshodhana* – Systematic cleansing and purification of the body channels (*Srotas*) to ensure optimal circulation and nutrient delivery.

A] Vamana- Madanpimpali Churnam, saindhavam, madhu

B] Virechana- Mishraka Sneha

C] Nasya-Anu tailam

4. *Vata-Kapha Shamana* – Pacification and balancing of the aggravated *Vata* and *Kapha* Doshas, which are primarily implicated in the pathogenesis of hypothyroidism.

Drugs used: - Punarnavadi kwatha, Syp Adoshaman, Molecular drug no 1, Cap. Thyrostat

5. *Manoharshana* – Restoration of psychological well-being and mental clarity, addressing the emotional and cognitive symptoms commonly associated with thyroid dysfunction.

6. *Rasayana* – Administration of rejuvenative therapies aimed at promoting tissue regeneration, enhancing vitality, and supporting long-term systemic balance.

Drugs used: - lahsuna Ksheerpaka, tablet Jostec health, Syp Tishi

This multidimensional therapeutic protocol aims to correct the underlying doshic imbalances, restore metabolic integrity, and improve both physiological and psychological health in individuals with hypothyroidism.

Conclusion: -

Although hypothyroidism as a distinct disease entity is not explicitly described in classical Ayurvedic texts, it can be understood within the Ayurvedic framework as a condition primarily associated with diminished activity of *Agni* (the metabolic fire). Various causative factors (*Hetus*) lead to impaired *Agni* at the *Dhatu* (tissue) level, resulting in obstruction (*Sanga*) within the bodily channels (*Srotas*). This disruption compromises the functional integrity of the affected *Dhatus*, thereby impairing both physiological and psychological well-being.

From an Ayurvedic perspective, hypothyroidism can be interpreted as a *Vata-Kapha Samsara* condition, wherein *Vata* acts as a *Yogavahi*—facilitating and intensifying *Kapha Dushti* (pathological aggravation). The systemic manifestations observed in

hypothyroidism are primarily due to *Dosha-Dushya Samoorchana* (complex pathological interactions between doshas and body tissues) occurring at multiple tissue levels.

Therefore, effective management of hypothyroidism in Ayurveda requires a comprehensive therapeutic approach targeting all underlying pathogenetic factors. Particular emphasis must be placed on balancing the doshas, enhancing the strength of *Agni*, clearing *Srotorodha* (channel obstruction), and supporting both physical and mental resilience (*Bala* of *Sharira* and *Manas*).

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