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CONCEPT OF AGNI IN AYURVEDA WITH SPECIAL REFERENCE TO THYROID DISORDERS

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ABSTRACT

Agni, the fundamental metabolic principle described in Ayurveda, governs digestion, absorption, assimilation, and cellular transformation through its thirteen functional types. Balanced *agni* sustains vitality, immunity, and systemic harmony, whereas its impairment leads to metabolic dysfunction and disease. In the contemporary era, metabolic disorders—particularly thyroid diseases—have emerged as major global health concerns due to rapid lifestyle transitions, dietary irregularities, and chronic psychological stress. From a biomedical perspective, thyroid disorders such as hypothyroidism and hyperthyroidism arise primarily from hormonal imbalance and autoimmune mechanisms affecting the thyroid gland, a key regulator of basal metabolic rate, thermogenesis, growth, and nutrient utilization. This review explores thyroid disorders through both biomedical and Ayurvedic frameworks, highlighting *agni* as a central integrative concept linking digestive, metabolic, and systemic processes. It emphasizes that correction of *agni* through *deepana*, *pachana*, *srotoshodhana*, and *dosha*-specific therapies forms the cornerstone of Ayurvedic management. Integrating classical Ayurvedic insights with modern endocrinology may provide a comprehensive and holistic approach to understanding, preventing, and managing thyroid dysfunction.

KEYWORDS: *agni*, thyroid disorders.

INTRODUCTION

Agni, a fundamental concept in Ayurveda, represents the biological fire that governs all transformative processes in the body.[1] The thirteen types of *agni* regulate digestion, absorption, assimilation, and cellular metabolism. Balanced *agni* sustains vitality, immunity, and overall health, whereas impaired *agni* leads to metabolic disturbances and disease.[2] In today's world, metabolic disorders have become a major global health challenge, largely driven by rapid lifestyle changes, unhealthy dietary patterns, and chronic stress. Among these, thyroid disorders hold a central position because the thyroid gland plays a key role in regulating basal metabolic rate, thermogenesis, growth, and nutrient utilization through the secretion of thyroid hormones. Conditions such as hypothyroidism and hyperthyroidism can significantly disrupt multiple physiological systems, affecting energy levels, weight regulation, cardiovascular function, and mental health. Modern biomedicine explains thyroid disorders primarily in terms of hormonal imbalance and autoimmune mechanisms. In contrast, Ayurveda interprets such conditions as manifestations of disturbed *agni* at various levels. Understanding thyroid dysfunction through both biomedical and Ayurvedic perspectives offers a more holistic insight into metabolic imbalance, integrating physical, biochemical, and functional dimensions, and thereby laying the foundation for integrative approaches to prevention and management.

MATERIALS AND METHODS

In Ayurveda, *agni* is regarded as the fundamental biological fire responsible for digestion, metabolism, transformation, and vitality. It governs the conversion of food into absorbable nutrients and further supports tissue nourishment (*dhatu Poshana*), immunity (*ojas)*, and overall health. Classical texts describe *agni* as the determinant of life *(ayu*), strength *(bala)*, complexion (*Varna*), and longevity.[3]

Agni is described in Ayurveda as the fundamental biological force responsible for digestion, absorption, assimilation, and transformation of food into bodily tissues. Acharya Charaka explains that *agni* resides primarily in the *grahani*, the seat of digestive activity, where ingested food undergoes processing under the influence of *Jatharagni*. Through the process of *sara–kitta vibhajana*, the nutritive essence (*sara*) is separated from waste (*kitta*). The *sara* nourishes the dhatus sequentially through the action of dhatvagni, supporting growth, strength, immunity, and vitality, while the *kitta* forms the *malas* such as *purisha*, *mutra*, and

sweda for elimination. Proper functioning of *agni* ensures complete digestion, tissue nourishment, and maintenance of physiological balance.[4]

Classically, *agni* is classified into thirteen types based on its site and function: *jatharagni*, five *bhutagni*, and seven *dhatvagni*. Among these, *jatharagni* is considered the most important, as all ingested food is first processed at this level. Situated in the *grahani*, it regulates digestion and influences vitality, strength, and the functioning of other forms of *agni*.[5] *jatharagni* is functionally described in four states: *samagni* (balanced), *vishamagni* (irregular), *mandagni* (diminished), and *Tikshnagni* (excessive). *Samagni* represents optimal digestion and health. *vishamagni* leads to inconsistent digestion with features such as bloating and irregular bowel habits. *mandagni* reflects low digestive power, resulting in heaviness and incomplete digestion, often associated with *kapha* dominance. *Tikshnagni* denotes hyperactive digestion, characterized by excessive hunger and burning sensations.[6]

Bhutagni corresponds to the five elemental fires related to the five *mahabhutas*—earth, water, fire, air, and ether. Each *bhutagni* acts on the respective elemental component of food, transforming it into a form suitable for assimilation into the body's elemental structure. *Dhatvagni*, present within each of the seven dhatus, further refines nutrients derived from *anna rasa*, ensuring proper tissue formation and maintenance. Together, these levels of *agni* coordinate digestion and metabolism at gross and subtle levels, sustaining structural integrity and functional harmony.[7]

Thyroid gland and thyroid hormones

The thyroid gland is a small, butterfly-shaped endocrine organ located in the front of the lower neck that produces hormones essential for regulating the body's metabolism, growth, and development. It contains follicular cells that synthesize and store thyroid hormones—primarily thyroxine (T4) and triiodothyronine (T3)—using iodine and the protein thyroglobulin; T4 is released in larger amounts and is converted to the more active T3 in peripheral tissues. These hormones influence basal metabolic rate, temperature regulation, protein and carbohydrate metabolism, and normal development of the nervous system, acting through nuclear receptors in virtually all body cells. Their release is controlled by a feedback loop involving thyroid-releasing hormone (TRH) from the hypothalamus and thyroid-stimulating hormone (TSH) from the anterior pituitary.[8]

Table no. 1: Correlation of function of *agni* with functions of thyroid hormones.[9]

Function of *agni*	Function of thyroid hormone
Paka	Metabolism of carbohydrate, protein, fat
Bala	Essential for normal activity of skeletal muscles
Utsaha	Essential for normal sexual function and to maintain normal sleep pattern
Ushma	Induced thermogenesis
Kshudha	Increase secretion and movement of GI tract
Medha	Stimulating factor for the development and maintenance of normal functioning of nervous system
Varna	Necessary factor for erythropoiesis

Table no. 2: Comparison of *dhatwagni* responsible for *dhatu karma* with thyroid hormone function.[9]

Dhatwagni	Function of *dhathu*	Normal thyroid hormone function
Rasagni	*Preenanam*	Increases the blood flow
Rakthagni	*Jivanam*	Necessary factor for erythropoiesis
Mamsagni	*lepa*	Essential for normal activity of skeletal muscles
Medagni	*Snehana*	Maintaining the weight of the body. Decrease the triglyceride and cholesterol level in plasma
Asthyagni	*Dharana*	Closure of epiphysis under the influence of thyroxine
Majjagni	*Purana*	Stimulating factor for central nervous system
Sukragni	*Garbha poshana*	Essential for normal sexual functions

Thyroid Disorders

Thyroid disorders comprise a range of conditions affecting the structure and function of the thyroid gland and are among the most common endocrine disorders worldwide. Their prevalence varies with age, sex, and iodine status, with women affected more frequently than men and incidence increasing in iodine-deficient populations.[10]

Hypothyroidism, characterized by deficient thyroid hormone production, most commonly results from autoimmune destruction of the gland (Hashimoto's thyroiditis), iodine deficiency, or post-surgical and radioiodine therapy. Primary hypothyroidism due to gland failure is more common than central causes related to pituitary or hypothalamic dysfunction. It may present with fatigue, weight gain, cold intolerance, constipation, bradycardia, and menstrual irregularities; severe untreated cases can progress to myxoedema coma.

Hyperthyroidism, in contrast, results from excessive thyroid hormone production. The most common cause is Graves' disease, followed by toxic multinodular goitre and toxic adenoma. Biochemically, it is characterized by elevated T_3/T_4 with suppressed TSH. Clinically,

patients may experience weight loss, heat intolerance, tremors, palpitations, anxiety, and cardiac arrhythmias, with atypical presentations in older adults.[11]

RESULTS AND DISCUSSION

In Ayurveda, *agni* represents the body's metabolic and transformative force at digestive, tissue, and cellular levels. Since the thyroid gland regulates metabolic rate, growth, and energy balance, thyroid disorders can be interpreted as disturbances of *jatharagni* and *dhatvagni*. Improper diet, unhealthy lifestyle practices, and psychological stress *(aharaja, viharaja*, and *manasika nidanas*) lead to *jatharagnivaishamya*, resulting in incomplete digestion and formation of *ama.*

Impaired *jatharagni* subsequently disturbs *rasa dhatvagni*, causing abnormal *kapha* accumulation, *srotorodha (*channel obstruction), and *rasavaha srotodushti*. This affects the proper nourishment and circulation of *rasa dhatu*, producing symptoms such as heaviness, lethargy, anorexia, pallor, body aches, and reduced digestive power. Progressive involvement of successive *dhatus* leads to systemic manifestations. *Rasa* and *meda dushti* manifest as weight gain, fatigue, and lethargy; *Mamsa* involvement may produce *granthi* and muscular discomfort; *asthi* and *majja dushti* contribute to bone weakness and hair loss; *shukra dushti* may result in infertility and reduced libido. These features closely resemble the clinical presentation of hypothyroidism.

In hyperthyroid states, *vata-pitta* aggravation with relative *kapha* depletion is commonly observed, corresponding to *tikshnagni* or *atyagni*. Accelerated metabolism and *dhatupaka* explain weight loss, heat intolerance, tremors, palpitations, insomnia, excessive sweating, thirst, and increased appetite. The dominance of *ushna, tikshna, drava*, and *chala gunas* accounts for these clinical features.

Certain conditions such as thyroiditis demonstrate a dynamic state of *agni*, where *tikshnagni* and *agnimandya* may coexist at different metabolic levels. Even in hypermetabolic phases, digestive instability and *ama* formation may occur, reflecting *vishamagni.* In thyroiditis, particularly in its fluctuating phases, there may be periods resembling hyperthyroidism, reflecting *tikshnagni* at the systemic (*dhatvagni)* level, with accelerated tissue metabolism, heat intolerance, irritability, and weight loss. However, despite this apparent hypermetabolic state, the primary digestive fire (*jatharagni)* may remain unstable or weakened, leading to improper digestion and the formation of *ama*. This paradoxical situation demonstrates how

agnimandya can coexist with tissue-level metabolic overactivity. Furthermore, the irregularity and fluctuation seen in thyroiditis align with the concept of *vishamagni*, where *agni* alternates unpredictably between sharp and dull states, often influenced by *vata* imbalance. Thus, even during hypermetabolic phases, digestive instability, malabsorption, inflammatory responses, and toxin accumulation may persist. Ayurveda interprets this as a discoordination between *jatharagni* and *dhatvagni*, emphasizing that true metabolic health depends not merely on increased activity but on balanced, stable *agni.* Therefore, management focuses on stabilizing and harmonizing *agni* at all levels, clearing *ama,* pacifying aggravated *doshas*—particularly *Vata* and *Pitta*—and restoring coordinated metabolic function rather than simply suppressing symptoms.

Therefore, management of thyroid disorders in Ayurveda centers on correcting *agni.* In *agnimandya*, *deepana* and *pachana* are employed to kindle *jatharagni* and eliminate *ama,* followed by *srotoshodhana* to clear obstructions and restore *dhatu* nourishment. In *tikshnagni* states, *vata-pitta shamana* therapies are indicated. Addressing *vishamagni* is equally important in fluctuating conditions to re-establish metabolic balance and systemic harmony.

CONCLUSION

Clinical observation suggests a strong association between thyroid disorders and impaired *agni*. Although modern medical management primarily focuses on normalizing biochemical parameters, many patients continue to experience persistent symptoms of hypo- or hypermetabolic states. This indicates that biochemical correction alone may not fully address the underlying pathology. Therefore, thyroid disorders should be understood through the lens of *agni,* and management should aim at correcting agni dysfunction to achieve more comprehensive and sustained clinical improvement.

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