



## Physiological Evaluation Of Correlation Between *Dhatwagnimandhya* And Hypothyroidism

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**Abstract:** -The basal metabolic rate is reduced in hypothyroidism because the thyroid gland does not produce enough thyroid hormones. The major job of thyroxine is to support oxidative metabolism by acting as a catalyst. These roles are comparable to how Agni is described in Ayurveda. Agni (*jatharagni*, *bhutagni*, and *dhatvagni*) regulates all bodily metabolic processes. *Jatharagnimandya* results in *dhatwagnimandya* since *dhatvagni* depends on *jatharagni*. Although hypothyroidism is not directly described in Ayurveda, it can be linked to *dhatwagnimandya* (*ras* and *meda dhatwagnimandya*) based on its clinical manifestation. The health and altered condition of Agni might be related to the normal and abnormal function of the thyroid gland. The relationship between hypothyroidism and *Agnimandhya* is highlighted in this article.

**Key words-** Thyroid gland, hypothyroidism, *Agnimandhya*, *Dhatwagnimandhya*,

**Introduction-** Different problems that result in inadequate thyroid hormone synthesis cause hypothyroidism. The prevalence of hypothyroidism is higher in women than in men in society. It is not just limited to people in big cities, but includes both urban and rural locations. The ratio of girls with hypothyroidism to males is 6:1, and millions of people worldwide are affected.

Although hypothyroidism is not specifically stated in Ayurvedic writings, there are numerous references to it that may be found in various sources. If we examine the pathophysiology of hypothyroidism using Ayurvedic principles, we discover that the primary reason is a malfunctioning Agni. The three types of *Agni* are *jatharagni*, *bhutagni*, and *dhatvagni*. *Jatharagni*'s hypofunction, which affects *Dhatvagni*, finally produces a pathological chain of events and, ultimately, a diseased condition.

स्वस्थानस्थस्य कायाग्रेरंशा धातुषु संश्रिताः । तेषां सादातिदीप्तिभ्यां धातुवृद्धिक्षयोद्भवः ॥<sup>1</sup>

*Dhatvagni* and *Jatharagni* have a direct relationship, according to Acharya *Vagbhata*. Each and every Dhatu has a unique *Agni*, termed a *Dhatvagni*, and they are all a component of the *Jatharagni*. Therefore, when combined with *Jatharagni*, *Dhatvagni* also becomes *manda* (impaired) or *dipta* (aggravated), resulting in *Dhatu vruddhi* (excess accumulation) or *kshaya* (waning), as appropriate.

### Aim-

To study the correlation between *Dhatwagnimandhya* and Hypothyroidism.

## Objectives-

1. To examine hypothyroidism's physiological basis in contemporary science
2. To study the idea of *Agnimandhya*(decreased *Agni*) in *Ayurveda*.
3. To compare the clinical signs of *Agnimandhya* with hypothyroidism.

## Materials and Methods

This Study is mainly literary review from *Ayurvedic* texts *Bruhatrayi* and *Laghutrayi*. Modern aspect of applied physiology is reviewed from modern texts and by searching various medical research databases like google scholar, research articles published in various Ayurvedic journals and national research databases etc.

## Ayurvedic view

Though the exact description of Hypothyroidism is not given in Ayurvedic classic but to understand Pathogenesis of hypothyroidism according to Ayurveda it is mainly due to hypo-functioning of *Agni*.

Hypo functioning of the *jatharagni* leads to pathological sequences in the *Dhatwagni* and the development of the disease condition. Numerous systems contribute to the hypothyroidism's etiology. According to *Ashtaninditapurusha*, *Atihrsvata* and *Atisthulata* are symptoms of hypothyroidism and cretinism, respectively. The current demand might not be satisfied by all sorts of correlation. *Charaka*, however, has provided advice for such a dilemma by stating that,

विकारनामाकुशलो न जिहीयात् कदाचन । न हि सर्वविकाराणां नामतोऽस्ति ध्रुवा स्थितिः ॥<sup>2</sup>

It means it is not possible to give the name to all the disease.

According to *Ayurvedic* literature, the human body is thought of as a duplicate of the world, including everything that can be found there. Every living thing that is composed of *Panchmahabhuta* experiences the "wear and tear" phenomena of *Chaya* and *Apachaya*. *Dhatu*s remains balanced because to their harmony. A doctor should focus on the elements that cause all biochemical changes in the body in order to preserve this balance. This ability has been described as *Agni*.

आयुर्षणो बलं स्वास्थ्यमुत्साहोपचयौ प्रभा । ओजस्तेजोऽग्नयः प्राणाश्वोक्ता देहानिहेतुकाः ॥

शान्तेऽज्ञौ म्रियते, युक्ते चिरं जीवत्यनामयः । रोगी स्याद्विकृते, मूलमग्निस्तस्मान्निरुच्यते ॥<sup>3</sup>

## Jatharagni

अन्नस्य पक्ता सर्वेषां पक्त्णामधिपो मतः । तन्मूलास्ते हि तद्वृद्धिक्षयवृद्धिचयात्मकाः ॥ तस्मात्तं विधिवद्युक्तैरनपानेन्धनैर्हितैः । पाटयेत् प्रयतस्तस्य स्थितौ ह्यायुर्बलस्थितिः ॥<sup>4</sup>

It maintains life and various biophysical and biochemical factors which participates in the course of digestion and metabolism. *Jatharagni* is most important as it influences other *Agni* inside a living body. *Jatharagni* is considered between *Amashaya* and *Pakvashaya*.

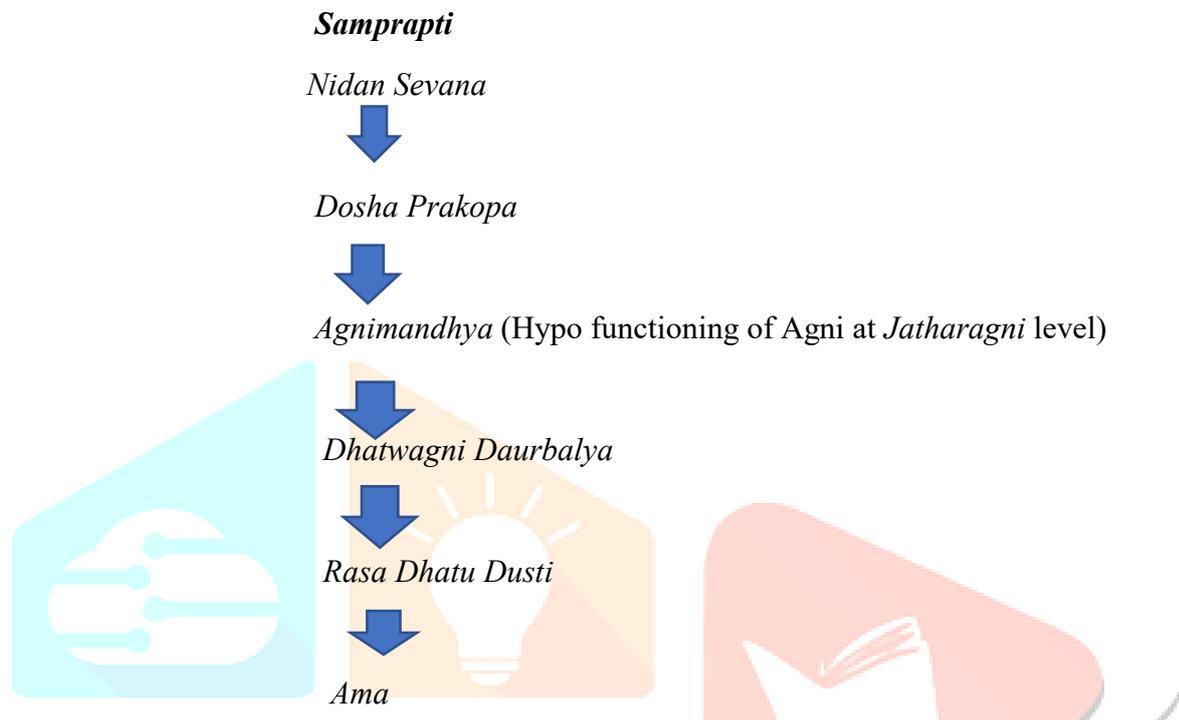
## Bhutagni<sup>5</sup>

Every large and little particle in the universe contains *Agni*. According to *Mahabhuta* predominance, each cell is *Panchbhautika*, and it can be with names like *Parthiva*, *Apya*, etc. According to our ancient science, basic food is transformed into elemental form by *Jatharagni* and then digested by *Agni* (*Bhutagni*), which causes a complete change in attributes and qualifies them to be acted upon by particular *Agni* present in *Dhatu*s to be assimilated.

## Dhatwagni

*Dhatwagni* is the name given to the Agni that *Ahararasa* uses to undergo additional metamorphosis (*Sukshmapaka*) till it acquires the status of a certain Dhatu. Our bodies are stabilized by Dhatu.

Hypo functioning of the *Jatharagni* (causes that reduce the capacity for digestion) results from *Agnimandyakara hetusevan*, and the initial rasa dhatu remains undigested. When it enters the stomach, it becomes vitiated by doshas and is referred to as Ama (Undigested Food). This ama leads to additional *Dhatvagnimandya* and *srotodushti*.



## Involvement of Agni in Hypothyroidism

<i>Jatharagni</i>		Ama Development of autoimmunity
<i>Bhutagni</i>		Iodine selective trapping of iodide, transport, uptake by thyroid cells
<i>Dhatwagni</i>		<i>Asthayi poshakamsha</i> of dhatu is vitiated. <i>Dhatawagnimandhya</i>

## Symptoms of hypothyroidism<sup>6</sup>

### Abnormal weight gain

Due to disturbed metabolic processes brought on by hypothyroidism, it happens when there is an imbalance between caloric intake and energy expenditure. This could be attributed to the *Dhatvagni mandya*, which results in *Dhatuvruddhi*, particularly *medovruddhi* (increased adipose tissue).

### Puffy appearance of body features

Puffiness of the face, especially the eyelids, hands, and feet is caused by the subcutaneous build-up of hydrophilic mucoproteins. This puffiness might be *kapha*-related. This puffiness appears as a result of its *prithvi* (solid) and *apa* (water) *mahabhuta* (great element) predominance features of heaviness and steadiness.

### Loss of Appetite

It might occur as a result of *Jatharagni's* hypofunction, which results in Ama and *Kapha*, which then leads to *Jatharagni* and *Dhatvagnimandya*.

## Dry, coarse skin and hair

Rasa *dhatvagni mandya* generates contaminated rasa dhatu, which results in inadequate nutrition for the next dhatu *Rakta* (blood), ultimately causing coarseness in the skin and hair. A weakened *vata* Dosha also contributes to skin dryness. Because of vitiated *mamsa dhatu* and loss of normality, *twak* (skin) *updhatu* (secondary bodily secretions) of *mamsa* (muscles) dhatu is compromised.

## Minimal /absent sweating

Pitta regulates body temperature physiologically because it causes the body to sweat excessive amounts of heat out of the body. Hypo functioning causes little to no perspiration.

## Anemia-

Following *dhatvagnimandya* rasa dhatu becomes vitiated, making it incapable of sustaining *uttardhatu*, *rakta* (Blood). Pandu (Anemia) has also been discussed in terms of the sickness rasa *dushtijanya vikara*.

## constipation

*Malavshambha* (constipation) can happen when *vata prakopa* (*ruksha guna*) and aggravated *kapha* (*manda guna*) resist the usual function of *apan vayu* (kind of *vata dosha*).

## Hoarseness of voice

mucinous deposits in the vocal cords (intralaryngeal cause) or external pressure on the laryngeal nerve (extra laryngeal cause) are the two main causes of hoarseness of voice in hypothyroidism. It might be caused by vitiated *Kapha* (*Manda Guna*), according to Ayurveda.

## Generalised aches & pain

Due to *rasa dhatvagnimandya angamarda* (generalised aches) seen & aggravated *vata dosha* may cause *ruja* (pain).

## Sluggishness

Agni hypo functioning leads to *Shaithilya*, *alasya* (sluggishness), which is caused by vitiated rasa dhatu and ama.

## Cold intolerance

Agni hypofunction results in vitiated Rasa dhatu, which is unable to nourish *uttardhatu Rakta* and leads to *sheetasatmya* (cold intolerance).

## Forgetfulness

*Tamoguna* (darkness) increases due to vitiated *kapha* dosha. Additionally, vitiated doshas have an impact on *Manovaha srotas*. The result of all this is *smrutialpata* (forgetfulness).

## Sleepiness

Rasa and *Kapha* that are vitiated make you tired. It might be caused by vitiated *kapha manda guna*.

## Muscle cramps/stiffness

Lack of nutrition leads the *kandara* (Tendons) and *snayu* (Muscles) *updhatu* of *rakta* and *medodhatu*, respectively, to malfunction. It may also be associated to the sluggish relaxation of the muscles, which results in stiffness and cramps (*sankoch*).

## Menstrual disturbances

*Rasa vridhhi*, which is in an *asthayi* (unstable) form, develops as a result of Agni's hypofunction. Due to its vitiation, this dhatu is incapable of supporting the *updhatu artava* (menstrual flow) and *stanya* (breast milk) correctly. Menstruation, or *artava pravrutti*, stops as a result. The second effect of vitiated doshas is *anartava* (amenorrhea), which is caused by obstruction of the *artava vaha srotas*.

## Involvement of vitiated Dhatu lakshanas in hypothyroidism symptoms

Dhatu	Symptoms
<i>Rasa</i>	Weight gain, Loss of appetite, heaviness of body, lethargy, generalized aches, Somnolence, premature aging symptoms like hair loss, cold intolerance, puffiness, Anemia, Menstrual disturbance, Infertility
<i>Rakta</i>	Slow pulse rate, Dry skin, Slowing of mental Activity, Lethargy
<i>Mamsa</i>	Heaviness in the body, Muscle ache, granthi, <i>Galaganda</i>
<i>Meda</i>	Tiredness, Sleepiness, sluggishness, Hyperlipidemia, Dyspnea on exertion
<i>Asthi</i>	Osteoporosis, osteoarthritis
<i>Majja</i>	Osteoporosis
<i>Sukra</i>	Loss of libido, infertility

## Discussion

Agni must be in a healthy state in order for the body to work rhythmically. According to the allopathic system, thyroid hormone regulates the body's metabolic process, however in Ayurveda, we discovered that *Jatharagni*, *Bhutagni*, and *Dhatvagni* are responsible for this regulation. Therefore, variation in metabolic activity, which in Ayurveda termed vitiation of *Dhatvagni*, is the root of disease. This vitiation can happen in one of two ways: when *Jatharagni* is damaged, *Dhatvagni* also suffers; alternatively, this *Jatharagni mandya* induces the production of ama, which results in *srotorodha*.

The previously mentioned abnormal sequences cause the *rasa dhatu* to become vitiated. resulting in the deterioration of subsequent dhatus as well, starting a cascade of pathogenic occurrences. Once generated, *Jatharagni Mandya* can be treated, however once created, *Dhatvagni's* vitiation is difficult to treat.

## Conclusion

Based on the previously mentioned studies, we may link *Dhatwagnimandhya* and hypothyroidism.

## Referances

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