Physiological Evaluation Of Correlation Between 

**Dhatwagnimandhya** And Hypothyroidism

Dr. Komal Patel¹, (Prof). Dr. Rajesh Kumar Sharma², Dr.Dineshchandra Sharma³

1. P.G.Scholar, P.G.Dept. of Kriya Sharir, DSRRAU, Jodhpur, Rajasthan.  
2. Professor & H.O.D., P.G.Dept. of Kriya Sharir, DSRRAU, Jodhpur, Rajasthan.  
3. Associate Professor. P.G.Dept. of Kriya Sharir, DSRRAU, Jodhpur, Rajasthan.

**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 dhatwagni 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 कायाग्नेरंशा धातुषु संश्रितााः । 
तेषां सादाश्रतदीप्तिभ्ांधातुवृप्तिक्षयोद्भवाः ।।

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 (agreggated), 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,

विकारनामाकुशाली न जिहीयातः कदाचनः। न हि सर्वविकाराणिनामोपसिस्त्रृवा स्विस्तिः॥²

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. Dhatus 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.

आयुषवणों बलं स्वास्थ्यमुत्साहोपचयौ प्रभा, ओिेिोऽग्नयाः प्राणाश्वोक्ता देहाश्रनहेतुकााः।
शान्तेऽझौ श्रियते, युक्ते श्रचरं नीवत्यनामयाः। रोगी स्याश्रिक ृ ते, मूलमश्रग्निस्माश्रिरुच्यते॥³

Jatharagni

अत्यस्त पत्ता सर्वाः पत्तुणामिश्यो मतः। तन्मूलास्तं हि तद्विद्धिक्षयवृद्धिचयायामका।
पाट्यं प्रयत्तस्तस्य स्थितो हायायुथस्थित्वः॥⁴

It maintains life and various biophysical and biochemical factors which participate 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.

Bhutagni⁵

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 Dhatus 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.

Samprapti

Nidan Sevana

Dosha Prakopa

Agnimandhya (Hypo functioning of Agni at Jatharagni level)

Dhatwagni Daurbalya

Rasa Dhatu Dusti

Ama

Involvement of Agni in Hypothyroidism

<table>
<thead>
<tr>
<th>Jatharagni</th>
<th>Ama Development of autoimmunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutagni</td>
<td>Iodine selective trapping of iodide, transport, uptake by thyroid cells</td>
</tr>
<tr>
<td>Dhatwagni</td>
<td>Asthayi poshakamsha of dhatu is vitiated. Dhatawagnimandhya</td>
</tr>
</tbody>
</table>

Symptoms of hypothyroidism⁶

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 *dushti janya vikara*.

Constipation

*Malavashthambha* (constipation) can happen when *vata prakopa* (ruksha guna) and aggravated *kapha* (manda guna) resist the usual function of *apana 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 causes *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 vriddhi*, 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 *updhaatu artava* (menstrual flow) and *stanya* (breast milk) correctly. Menstruation, or *artava pravrtti*, 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

<table>
<thead>
<tr>
<th>Dhatu</th>
<th>Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Rasa</em></td>
<td>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</td>
</tr>
<tr>
<td><em>Rakta</em></td>
<td>Slow pulse rate, Dry skin, Slowing of mental Activity, Lethargy</td>
</tr>
<tr>
<td><em>Mamsa</em></td>
<td>Heaviness in the body, Muscle ache, granthi, <em>Galaganda</em></td>
</tr>
<tr>
<td><em>Meda</em></td>
<td>Tiredness, Sleepiness, sluggishness, Hyperlipidemia, Dyspnea on exertion</td>
</tr>
<tr>
<td><em>Asthi</em></td>
<td>Osteoporosis, osteoarthritis</td>
</tr>
<tr>
<td><em>Majja</em></td>
<td>Osteoporosis</td>
</tr>
<tr>
<td><em>Sukra</em></td>
<td>Loss of libido, infertility</td>
</tr>
</tbody>
</table>

### 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.
References

1. (Ashtang hridaya sutrasthan 11/34....pg.no.188) (Kunte & Shastrinavre, 2012)

2. Agnivesha, Charaka Samhita, revised by Charaka and Dradhbala, edited with ‘CarakaChandrika’ Hindi commentary by Dr. Brahmanand Tripathi, Volume 1, Published by Chaukhamba Surbharati Prakashan Varanasi, Year of reprint 2014, Sutrasthan 18/44, Page no. 278.

3. Agnivesha, Charaka Samhita, revised by Charaka and Dradhbala, edited with ‘CarakaChandrika’ Hindi commentary by Dr. Brahmanand Tripathi, Volume 2, Published by Chaukhamba Surbharati Prakashan Varanasi, Year of reprint 2014, Chikitsasthan 15/3,4, page no. 550. 5.

4. Agnivesha, Charaka Samhita, revised by Charaka and Dradhbala, edited with ‘CarakaChandrika’ Hindi commentary by Dr. Brahmanand Tripathi, Volume 1, Published by Chaukhamba Surbharati Prakashan Varanasi, Year of reprint 2014, Cikitsasthan 15/39,40, page no.558

5. Agnivesha, Charaka Samhita, revised by Charaka and Dradhbala, edited with ‘CarakaChandrika’ Hindi commentary by Dr. Brahmanand Tripathi, Volume 1, Published by Chaukhamba Surbharati Prakashan Varanasi, Year of reprint 2014, Cikitsasthan 15/13, page no.552