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REVIEW ARTICLE

A Fundamental Study of Dhatvagnimandya with Special Reference to Hypothyroidism

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ABSTRACT

Background: Hypothyroidism is one of the most common hormone disorders seen in daily practice. In this condition the thyroid gland does not make enough thyroid hormone, so the speed of work inside every cell becomes slow. Patients feel tired, gain weight, feel cold easily and suffer from constipation, dry skin and dull thinking. Classical Ayurveda texts do not name this disease directly. However, the Ayurvedic idea of Agni (the digestive and metabolic fire) and especially Dhatvagni (the tissue-level fire) gives a clear way to understand a disease of slow metabolism.

Aim and objectives: To study the concept of Dhatvagni and Dhatvagnimandya as described in classical Ayurveda texts. To correlate Dhatvagnimandya with hypothyroidism. To review the basic role of Dhatvagnimandya in the causation (Samprapti) and features of hypothyroidism, and to point out the treatment principles that follow from it.

Materials and Methods: This was a conceptual and analytical (literary) study. Classical texts such as Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya, with their commentaries, were studied for Agni, Dhatvagni, Dhatu Poshana, Ama, Srotas and Galaganda. Standard modern books and research papers were studied for thyroid physiology and hypothyroidism. Both sets of ideas were then compared point by point.

Result and Discussion: The clinical picture of hypothyroidism matches the qualities of increased Kapha Dosha (Guru, Shita, Manda, Snigdha, Sthira), with later involvement of Vata, and disturbance of Rasa and Meda Dhatu. Weak Jatharagni leads to weak Dhatvagni. This causes formation of Ama, blockage of channels (Srotorodha) and poor nourishment of tissues (Dhatu Poshana). Most features of Ama, such as Gaurava, Alasya, Klama, Aruchi and Malasanga, are seen in hypothyroid patients. The actions of thyroid hormone (raising basal metabolic rate, heat production and use of nutrients) are very similar to the actions of Agni.

Conclusion: Hypothyroidism can be understood in Ayurveda as a Kapha Pradhana, Dhatvagnimandya Janya Vyadhi, that is, a Kapha-dominant disease born from weak tissue metabolism. Thyroid swelling, when present, can be compared with Galaganda. The principles of management follow from this: Deepana, Pachana, Anulomana, Kapha Shamana, Rasayana and proper Pathya-Apathya. Clinical studies are now needed to test this model.

Keywords: *Dhatvagnimandya, Agni, Dhatvagni, Hypothyroidism, Ama, Srotorodha, Kapha Dosha, Rasa Dhatu, Meda Dhatu, Galaganda*

1. INTRODUCTION

Thyroid diseases are among the most common hormone problems in the world, second only to diabetes. In India, about 42 million people are believed to have some kind of thyroid disease.[1] A large survey in eight Indian cities found hypothyroidism in about 10.95% of adults, and about one-third of these people (3.47% of the total) did not know that they had the disease.[2] The problem is much more common in women and in older people.[3]

The thyroid gland makes two main hormones, thyroxine (T4) and triiodothyronine (T3). These hormones control how fast the body uses energy. They act on almost every organ, including the heart, brain, gut, muscles, skin and reproductive organs. When the hormone level falls, or when the tissues do not respond to it properly, all body work becomes slow. This slow state is called hypothyroidism. Its common signs are tiredness, weight gain in spite of poor appetite, intolerance to cold, constipation, dry and rough skin, hair fall, hoarse voice, slow pulse, puffiness of the face and slow thinking.[3]

Ayurveda explains the whole of body metabolism through the idea of Agni. Acharya Charaka says that life span, colour, strength, health, enthusiasm, growth, glow, Ojas and even life itself depend on Agni. When Agni stops, the person dies; when it is balanced, the person lives long without disease; and when it is disturbed, disease starts.[4]

Agni works at three levels: Jatharagni in the gut, five Bhutagni at the level of the five elements, and seven Dhatvagni at the level of the seven body tissues. When the Dhatvagni becomes weak, the condition is called Dhatvagnimandya. In this state the tissues are not properly formed or nourished, and half-processed material collects in the body. The person feels heavy, lazy and slow, and gains weight. These features look very much like hypothyroidism.

Ayurveda also teaches that a physician need not feel embarrassed if a disease has no name in the texts. What matters is to understand the Dosha, the Dushya, the site and the cause, and then to treat.[5] On this basis, the present study tries to explain hypothyroidism through the concept of Dhatvagnimandya.

2. AIM AND OBJECTIVES

- To study the concept of Dhatvagni and Dhatvagnimandya as described in classical Ayurveda texts.
- To correlate Dhatvagnimandya with hypothyroidism.
- To review the basic role of Dhatvagnimandya in the causation (Samprapti) and features of hypothyroidism, and to point out the treatment principles that follow from it.

3. MATERIALS AND METHODS

3.1 Study design

This was a conceptual, descriptive and analytical study based only on literature. No patient, animal or drug was used.

3.2 Sources of data

- **Classical Ayurveda texts:** Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, Ashtanga Sangraha, Bhavaprakasha, Sharangadhara Samhita, Madhava Nidana and Yogaratnakara, along with available commentaries.
- **Modern books:** standard books of anatomy, histology, physiology, pathology, endocrinology and internal medicine.
- **Research articles:** papers from indexed journals and trusted online databases on hypothyroidism, its prevalence and its Ayurvedic understanding.

3.3 Inclusion and exclusion of material

Only authentic classical texts and peer-reviewed or standard modern sources were included. Matter dealing with Agni, Dhatvagni, Ama, Srotas, Galaganda, thyroid physiology and hypothyroidism was selected. Unverified, non-academic and repeated sources were left out.

3.4 Method of study

The study was done in five steps: (1) reading and collecting the classical references; (2) reviewing the modern literature; (3) comparing the two systems; (4) linking the concepts (conceptual correlation); and (5) building a combined (integrative) explanation of the disease.

3.5 Parameters compared

Table 1: Parameters taken for comparison

Ayurvedic parameters	Modern parameters
Agni (Jatharagni, Bhutagni, Dhatvagni)	Thyroid hormones (T3 and T4)
Dosha (mainly Kapha, with Vata)	TSH and the hypothalamus–pituitary–thyroid axis
Dhatu (mainly Rasa and Meda)	Basal metabolic rate (BMR)
Ama (improperly processed material)	Cellular metabolism and energy production
Srotas (body channels)	Clinical features and laboratory findings

3.6 Method of analysis

The collected matter was analysed in four ways: (a) side-by-side comparison of Ayurvedic and modern ideas; (b) mapping of the disease process in both systems; (c) step-by-step building of the Samprapti; and (d) correlation of each symptom of hypothyroidism with an Ayurvedic concept.

3.7 Ethical aspect

As this was a purely literary study with no human or animal subjects, ethical clearance was not required.

4. CONCEPTUAL REVIEW

4.1 Concept of Agni

In Ayurveda, Agni is not a visible flame. It is the power that digests, changes and builds. Acharya Marichi, in Charaka Samhita, says that the Agni present inside Pitta gives good or bad results depending on whether it is normal or disturbed. Normal Agni gives proper digestion, clear vision, normal body heat, good colour, courage, joy and clarity of mind; disturbed Agni gives the opposite.[6]

Acharya Sushruta asks whether Agni is something other than Pitta, and answers that no separate Agni is seen apart from Pitta. Pitta itself, because of its fiery nature, does the work of burning and cooking, and so it is called the inner fire (Antaragni).[7] He names five Pitta: Pachaka, Ranjaka, Sadhaka, Alochaka and Bhrajaka.[8] Charaka counts thirteen Agni in all.[9]

Table 2: Thirteen types of Agni

Type	No.	Site of action	Main work
Jatharagni	1	Amashaya and Grahani (stomach and small intestine)	First digestion of food; separates Sara (useful part) and Kitta (waste); controls all other Agni
Bhutagni	5	Works on the five elements present in food	Changes the Parthiva, Apya, Agneya, Vayavya and Nabhasa parts of food into forms the body can use
Dhatvagni	7	One inside each Dhatu	Processes the nutrient fluid inside each tissue, forms the tissue and its by-products

4.2 Jatharagni

Jatharagni is the chief of all digestive fires. All other Agni depends on it. When it becomes strong, they also become strong; when it becomes weak, they also become weak.[9] Therefore Charaka advises that it should be protected with proper food and drink, just as a fire is kept alive with proper fuel.

4.3 Bhutagni

Food is made of the five great elements (Panchamahabhuta). After Jatharagni has done its work, the five Bhutagni act on the matching elemental parts of food. In this way the earth part of food nourishes the earth part of the body, the water part nourishes the water part, and so on.[10] Bhutagni therefore makes outside matter fit to become body matter.

4.4 Dhatvagni

The seven Dhatu (Rasa, Rakta, Mamsa, Meda, Asthi, Majja and Shukra) hold and support the body. Each Dhatu has its own Agni. With the help of this Agni, the nutrient fluid that reaches the tissue is digested again and divided into two parts: Prasada (the pure, nourishing part) and Kitta (the waste part).[11]

The Prasada part builds the same Dhatu and also feeds the next Dhatu in the chain. The Kitta part forms the Mala (by-product) of that Dhatu.[11] In simple words, Dhatvagni is the fire of each tissue that decides how well that tissue is built, kept and renewed.

Table 3: Seven Dhatvagni, their products and by-products

Dhatvagni	Acts in	Nourishes next	Mala (by-product)
Rasagni	Rasa Dhatu	Rakta	Kapha
Raktagni	Rakta Dhatu	Mamsa	Pitta
Mamsagni	Mamsa Dhatu	Meda	Kha-mala (wax of ear, nose, etc.)
Medagni	Meda Dhatu	Asthi	Sweda (sweat)
Asthyagni	Asthi Dhatu	Majja	Kesha and Loma (hair), Nakha (nails)
Majjagni	Majja Dhatu	Shukra	Sneha of eyes, skin and stool
Shukragni	Shukra Dhatu	Ojas (essence)	No Mala

From a modern point of view, Dhatvagni can be compared with the chemical work that goes on inside cells. This includes the action of enzymes, the breaking down of food molecules to release energy (catabolism) and the building of new proteins and tissue parts (anabolism).

4.5 Dhatvagnimandya

Acharya Vagbhata explains that parts of the main body fire (Kayagni) live inside each Dhatu. When these parts become weak, the Dhatu increases; when they become too sharp, the Dhatu decreases.[12]

So, in Dhatvagnimandya, the Dhatu increases in amount but not in quality. Tissue is not properly processed. The useful part is less, the waste part is more, and half-processed material (Ama) collects. This is like a slow metabolic state where building of stores is more and burning of stores is less. Weight gain, puffiness and high cholesterol in hypothyroidism fit this picture. The opposite state, sharp Dhatvagni, causes tissue loss, which is similar to the weight loss of an overactive thyroid.

4.6 Concept of Ama

When Agni is weak, the first product of digestion (Adya Rasa Dhatu) is not properly cooked. This unripe, spoiled material staying in the Amashaya is called Ama.[13]

Ama is heavy, sticky and blocking. When the Dosha are mixed with Ama (Sama Dosha), Vagbhata lists the following signs: blockage of channels, loss of strength, heaviness, disturbed movement of Vata, laziness, indigestion, spitting, retention of wastes, loss of taste and tiredness.[14]

4.7 Galaganda in Ayurveda

The thyroid gland is not described as a separate organ in classical texts. Possible reasons are: the texts give more weight to function (Dosha, Dhatu, Agni) than to separate structures; a normal thyroid is not seen or felt from outside; and fine dissection tools were not available. However, swelling in the front of the neck is clearly described as Galaganda.

Charaka says that when Kapha is aggravated and settles outside the throat, it slowly produces a swelling called Galaganda.[15]

Sushruta says that aggravated Vata and Kapha, together with Meda, settle in the neck (Manya) region and gradually form a swelling with their own signs; this is Galaganda.[16]

He describes three types: Vataja, Kaphaja and Medaja (Table 4).[17] A swelling in the neck, big or small, that hangs like a scrotum (Mushkavat Lambate) is called Galaganda.[18] Among the causes, excessive use of sweet taste (Madhura Rasa)

and use of water from certain rivers of the Himalayan region are mentioned.[19,20] Since Galaganda is one of the twenty Nanatmaja (specific) disorders of Kapha, all Kapha-increasing factors may also be taken as its causes.[21]

Table 4: Types of Galaganda according to Sushruta

Feature	Vataja	Kaphaja	Medaja
Pain	Pricking pain	Mild pain	Painless
Colour	Blackish or reddish with dark veins	Same as skin	Pale
Touch	Hard, later very smooth	Cold, firm, large	Soft, unctuous
Growth	Slow	Very slow	Hangs like a gourd; size changes with body weight
Itching	Absent	Severe	Severe
Other signs	Bad taste, dry palate and throat	Sweet taste, coating of palate and throat	Oily mouth, unclear voice

4.8 Modern review: thyroid gland and hypothyroidism

Anatomy and histology

The thyroid is a butterfly-shaped gland in the front of the neck. It has two side lobes joined by a narrow isthmus that lies in front of the 2nd to 4th tracheal rings. It weighs about 20–25 g in adults and moves up during swallowing.[22] It is made of many round follicles. Each follicle is lined by one layer of follicular cells and is filled with colloid, which contains thyroglobulin. Parafollicular (C) cells between the follicles make calcitonin.[23]

Formation of thyroid hormones

Follicular cells pick up iodide from blood with an iodide pump. The enzyme thyroid peroxidase changes iodide into active iodine, which joins tyrosine units of thyroglobulin to form MIT and DIT. Two DIT join to form T4, and one MIT with one DIT forms T3. When needed, colloid is taken back into the cell, broken down and the hormones are released into blood.[23,24] More than 99% of the hormone in blood is bound to proteins (thyroxine-binding globulin, transthyretin and albumin). The gland releases mostly T4, but T3 is the more active form; about 80% of T3 is made from T4 in body tissues by deiodinase enzymes.[24]

Control of secretion

The hypothalamus releases TRH, which makes the pituitary release TSH. TSH makes the thyroid grow and release hormones. When T3 and T4 rise, they reduce TRH and TSH (negative feedback). In primary hypothyroidism, the hormones fall and TSH rises.

Actions of thyroid hormones

T3 enters the cell and acts on receptors in the nucleus. It switches on many genes. As a result, it increases the basal metabolic rate and oxygen use of almost all tissues, increases the number and activity of mitochondria and of the Na+/K+-ATPase pump, increases heat production, increases the use of glucose, fats and proteins, helps clearance of cholesterol from blood, raises heart rate and gut movement, and is needed for normal growth and brain development.[25]

Hypothyroidism: types and causes

Hypothyroidism is a state of low thyroid hormone action. It may be primary (disease of the thyroid itself, the most common type), secondary (low TSH from the pituitary), tertiary (low TRH from the hypothalamus) or, rarely, due to tissue resistance to the hormone.[26,27] The commonest cause in adults is autoimmune (Hashimoto's) thyroiditis. Other causes are treatment of hyperthyroidism with radioactive iodine or surgery, iodine deficiency or excess, drugs such as lithium and amiodarone, and inborn defects of hormone formation.[28]

Clinical features

In newborn babies the deficiency causes cretinism, with poor growth and mental retardation, unless treated early. In adults the onset is slow. Common features are tiredness, sleepiness, cold intolerance, weight gain, constipation, dry and rough skin, hair fall and loss of the outer part of the eyebrows, hoarse voice, puffy face, slow pulse, slow relaxation of tendon reflexes, poor memory, depression, muscle aches, heavy or irregular periods, and low sex drive. A typical

change is the collection of water-holding glycosaminoglycans (mainly hyaluronic acid) in the skin and other tissues, because they are broken down slowly. This gives a non-pitting swelling called myxoedema.[29] Severe untreated cases may end in myxoedema coma, which is a medical emergency.

Diagnosis and treatment

Diagnosis is made by blood tests. In primary hypothyroidism, TSH is high and free T4 is low. In subclinical hypothyroidism, TSH is high while free T4 is still normal. Anti-TPO antibodies point to autoimmune thyroiditis. Raised cholesterol and anaemia are common. The standard treatment is daily levothyroxine. The usual full dose in adults is about 1.6 µg per kg body weight per day; in older people and heart patients it is started at a low dose and increased slowly. The dose is adjusted by checking TSH after about 6–8 weeks.[30]

5. OBSERVATIONS AND RESULTS

The comparison of Ayurvedic and modern literature gave the following observations.

5.1 Dosha and Dushya involved

Most symptoms of hypothyroidism match the qualities of increased Kapha: Guru (heaviness), Shita (coldness), Manda (slowness), Snigdha (oiliness) and Sthira (stability). Many of the twenty Nanatmaja disorders of Kapha, such as Tandra, Atinidra, Staimitya, Gurugatrata, Alasya, Apakti, Galaganda, Atisthaulya, Shitagnita and Shvetavabhasata, are seen in hypothyroid patients. Likewise, many disorders of Rasa Dhatu, such as Ashraddha, Aruchi, Gaurava, Tandra, Angamarda, Panduta, Srotorodha, Klaibya and Agninasha, are part of the same picture.[31] Vata is involved later because the channels are blocked; this explains constipation, dryness, body ache and muscle cramps.

5.2 Symptom-wise correlation

Table 5: Ayurvedic interpretation of the features of hypothyroidism

Feature	Ayurvedic term	Main reason in Ayurveda
Weight gain	Sthaulya, Meda Vriddhi	Guru and Snigdha Guna of Kapha; Dhatvagnimandya leads to excess but poorly formed Meda
Tiredness, weakness	Klama, Daurbalya	Poor Dhatu Poshana due to weak Dhatvagni
Laziness, sleepiness	Alasya, Tandra, Atinidra	Kapha Vriddhi and Rasa Dushti; Manda Guna
Cold intolerance	Shitasahishnuta, Shitagnita	Shita Guna of Kapha; less metabolic heat (Ushma) due to weak Agni
Poor appetite	Aruchi, Agnimandya	Mandagni with Kapha and Ama
Constipation	Vibandha, Malasanga	Kapha and Ama block the downward movement of Apana Vata
Puffiness, myxoedema	Shotha	Sthira, Snigdha and Picchila Guna of Kapha; Srotorodha
Dry, rough skin	Twak Raukshya	Poor nourishment of later Dhatu; secondary Vata
Hair fall	Khalitya	Weak Asthyagni (hair is the Mala of Asthi)
Hoarse voice	Svarabheda	Kapha coating of the throat
Slow pulse	Manda Nadi	Manda Guna of Kapha
Body ache, stiffness	Angamarda, Stambha	Vata obstructed by Kapha and Ama
Slow thinking, poor memory	Buddhimandya, Smritihrasa	Tamas and Kapha covering the mind; Manovaha Srotas involvement
Anaemia, pallor	Panduta	Rasa Dushti causing poor formation of Rakta
Menstrual problems	Artava Dushti	Disturbed Rasa Dhatu, whose Upadhatu is Artava

5.3 Features of Ama seen in hypothyroidism

Table 6: Signs of Sama Dosha and their match in hypothyroidism

Sign of Ama	Meaning	Matching feature in hypothyroidism
Srotorodha	Blockage of channels	Slow tissue metabolism, fluid retention, goitre
Balabhramsha	Loss of strength	General weakness, poor stamina
Gaurava	Heaviness	Weight gain, puffy face
Anila Mudhata	Disturbed Vata movement	Slow pulse, slow reflexes, slow speech
Alasya	Laziness	Lethargy, too much sleep
Apakti	Indigestion	Poor digestion, low appetite
Malasanga	Retention of wastes	Constipation
Aruchi	Loss of taste	Anorexia
Klama	Tiredness without work	Fatigue, mental slowness

5.4 Thyroid hormone and Agni

Table 7: Functional similarity between thyroid hormone and Agni

Action of thyroid hormone	Matching function of Agni
Raises basal metabolic rate and oxygen use	Pachana and Parinama (digestion and transformation)
Heat production (thermogenesis)	Ushma and Dahana (body heat)
Growth and protein building	Dhatu Poshana and Upachaya (nourishment and growth)
Use of fats; lowers cholesterol	Proper Medagni; prevents Meda Vriddhi
Normal gut movement	Proper Jatharagni and Anuloma Gati of Vata
Alertness and mental speed	Sadhaka Pitta; Utsaha and Prabha
Deficiency causes general slowing	Mandagni causes Ama, Gaurava and Alasya

5.5 Samprapti Ghataka (factors of disease formation)

The factors taking part in the formation of the disease, arranged in the classical way, are given in Table 8. A similar pattern has also been reported in an observational study on hypothyroid patients.[32]

Table 8: Samprapti Ghataka of hypothyroidism as interpreted in this study

Factor	Details
Dosha	Kapha (Kledaka, Avalambaka) dominant; Vata (Samana, Apana, Vyana) secondary; Pachaka Pitta weak
Dushya	Rasa and Meda Dhatu mainly; later Rakta, Mamsa and Asthi
Agni	Jatharagnimandya, Bhutagnimandya (Parthiva and Apya predominance), Dhatvagnimandya (mainly Rasagni and Medagni)
Ama	Jatharagni-janya and Dhatvagni-janya Ama
Srotas	Rasavaha, Medovaha and Manovaha Srotas
Srotodushti	Sanga (blockage) and Vimarga Gamana
Udbhava Sthana	Amashaya
Sanchara	Rasayani (whole-body circulation)

Factor	Details
Adhishthana / Vyakti Sthana	Whole body (Sarva Sharira); Gala Pradesha when goitre is present
Rogamarga	Bahya
Nature	Chirakari (slow, long-standing)

5.6 Samprapti (sequence of disease formation)

Based on the above observations, the sequence of events leading to hypothyroidism may be shown as below.

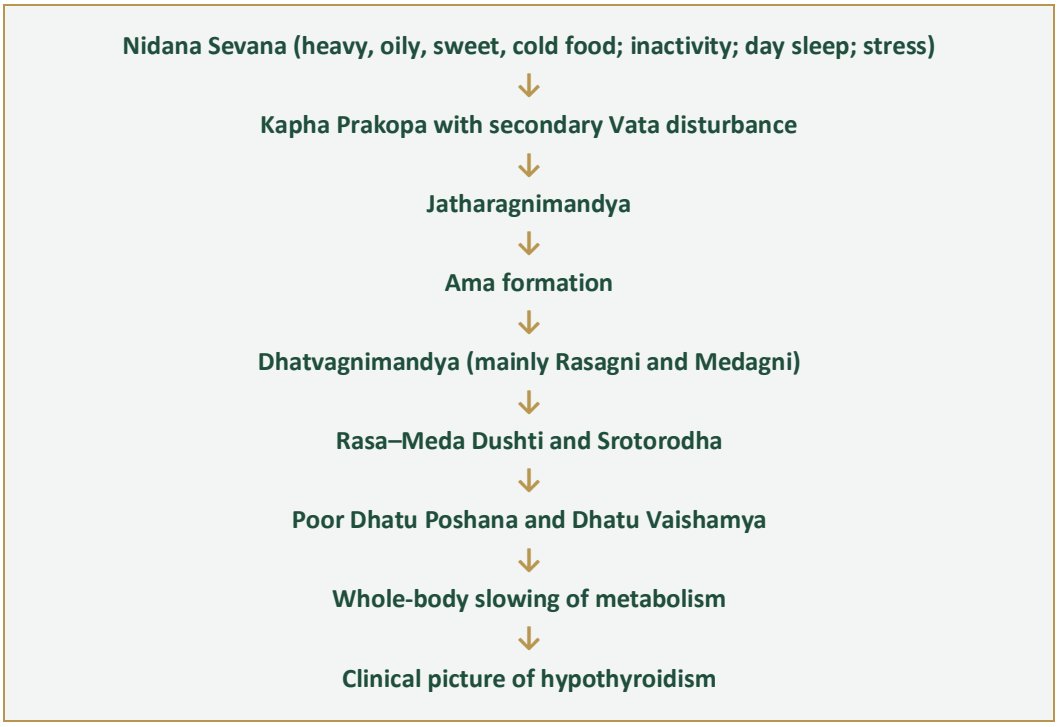


Figure 1: Proposed Samprapti of hypothyroidism

6. DISCUSSION

Modern science places the cause of hypothyroidism in the thyroid gland, but its effects are seen in every cell. The patient suffers not from a sick gland as such, but from slow metabolism everywhere. Ayurveda looks at disease mainly in terms of function. In this system, everything related to digestion, change and building of the body is the work of Agni. Hence a disease whose main feature is slow metabolism is best understood as a disorder of Agni. Using only Galaganda would explain the neck swelling but not the tiredness, cold intolerance, weight gain and slow thinking that most patients come with.

The texts clearly say that all Agni depend on Jatharagni. When wrong diet and lifestyle increase Kapha, the first effect is on Jatharagni. Food is not digested well and Ama is formed. The Rasa Dhatu that is formed is of poor quality. When such Rasa reaches the tissues, the Dhatvagni cannot process it well, and over time the Dhatvagni themselves become weak. This is Dhatvagnimandya. Vagbhata's rule that weak Dhatvagni causes increase of Dhatu explains why hypothyroid patients gain weight and become puffy even when they eat less.

In modern terms, thyroid hormone keeps the “speed” of cell chemistry. When it falls, the use of oxygen, the pumping of sodium and potassium, and the burning of fat and sugar all slow down. The body makes less heat and stores more. Substances such as glycosaminoglycans and cholesterol are cleared slowly and so collect in tissues. This is very close to the Ayurvedic picture of Dhatvagnimandya, where processing at the tissue level is slow and unprocessed material collects.

Ama is the link between weak Agni and widespread disease. Because Ama is heavy and sticky, it blocks the channels (Srotorodha). Nutrients cannot reach the tissues properly, and wastes cannot leave. This produces a vicious circle: blocked channels further weaken Agni, and weak Agni forms more Ama. Almost all signs of Sama Dosha are seen in

hypothyroidism (Table 6). The collection of glycosaminoglycans, which hold water and cause non-pitting swelling, can be thought of as a form of Ama and Kapha collecting in the tissues. Constipation is explained by Ama and Kapha blocking the path of Apana Vata.

The qualities of Kapha are exactly the qualities a hypothyroid patient shows: heavy body, cold skin, slow pulse, slow mind and stable, slowly growing swelling. Rasa Dhatu is the first to be affected because it is the first Dhatu to form after digestion and it feeds all others. Its main Mala is Kapha, so poor processing of Rasa adds to Kapha. Meda is affected next, giving weight gain and high blood fats. Vata comes in later. It is covered and blocked by Kapha and Ama, and the tissues it depends on are not well fed. This gives dryness of skin and hair, body pain, cramps and tingling.

Thyroid hormone contains iodine and acts as the main regulator of body heat and metabolic rate. In this sense it does what Agni does: it digests, transforms and keeps the body warm (Pachana, Parinama and Ushma). It may therefore be seen as a material carrier of Agni in the body. Its receptors are present in nearly all cells, just as Dhatvagni is present in all tissues. Low hormone thus parallels Mandagni at both the gut level and the tissue level. Some research also points to a link between gut health and thyroid function; this supports the Ayurvedic idea that Jatharagni and Dhatvagni affect each other.

When a goitre is present, Kaphaja Galaganda (cold, painless, slow-growing swelling with sweet taste and coated throat) and Medaja Galaganda (soft, oily swelling that changes with body weight) are the closest matches. Both share the Kapha–Meda nature of hypothyroidism. The mention of Himalayan river water as a cause is also interesting, as these regions are known for iodine deficiency. Still, Galaganda should be taken as the local expression, and Dhatvagnimandya as the deeper, whole-body basis of the disease.

If hypothyroidism is a Kapha Pradhana, Dhatvagnimandya Janya Vyadhi, the following principles become logical:

- **Deepana:** to kindle Jatharagni and, through it, the Dhatvagni.
- **Pachana:** to digest and remove Ama and so open the channels.
- **Anulomana:** to restore the normal downward movement of Vata and relieve constipation.
- **Kapha Shamana and Lekhana:** to reduce heaviness, puffiness and excess Meda.
- **Shodhana:** suitable purification such as Vamana or Virechana in strong patients, as advised by the physician.
- **Rasayana:** to improve the quality of the Dhatu after Agni is corrected.
- **Pathya-Apathya:** light, warm and freshly cooked food, regular exercise and Yoga; avoiding heavy, oily, cold and very sweet food and day sleep.

These principles are drawn from theory. They may support, but should not replace, thyroid hormone therapy. Patients already taking levothyroxine should not stop it without medical advice.

Overall view

Ayurveda: Kapha Prakopa → Jatharagnimandya → Dhatvagnimandya → Ama → Srotorodha → Dhatu Vriddhi of poor quality

↓

Modern: Thyroid failure → Low T3 and T4 → Slow cell metabolism → Slow breakdown of stored material → Tissue collection → Myxoedema and weight gain

↓

Common result: whole-body hypometabolism (hypothyroidism)

Figure 2: Parallel view of the disease in both systems

The two systems use different words but describe the same basic event: the fire of the body becomes low, so the work of building and burning becomes slow, and unprocessed matter collects.

7. CONCLUSION

Dhatvagni is the key factor that controls tissue-level metabolism, tissue building and balance in the body. Weakness of Dhatvagni (Dhatvagnimandya) leads to poor tissue formation, collection of Ama, blockage of channels and poor nourishment. Hypothyroidism, which is a state of whole-body slow metabolism, closely matches Dhatvagnimandya.

The disease is mainly Kapha-dominant, with later involvement of Vata, and mainly affects Rasa and Meda Dhatu. The chain Jatharagnimandya → Ama → Dhatvagnimandya → Srotorodha → poor Dhatu Poshana gives a clear Ayurvedic model of the disease. Hypothyroidism may be described in Ayurveda as a Kapha Pradhana, Dhatvagnimandya Janya Vyadhi. Goitre, when present, can be correlated with Kaphaja or Medaja Galaganda. Restoring Agni, removing Ama, balancing Kapha and Vata, and improving tissue nourishment form the logical base of Ayurvedic management.

8. LIMITATIONS AND FUTURE SCOPE

This was a literary study, and its findings are based on reasoning, not on clinical data. There is at present no standard tool to measure Dhatvagni, and different commentators may read the classical verses differently. Future work may include:

- clinical studies linking the status of Agni and Dhatvagni with TSH, T3 and T4 levels;
- development of a validated scale to assess Dhatvagni;
- trials of Deepana, Pachana and Rasayana measures as add-on therapy with levothyroxine;
- Prakriti-based studies for personalised care; and
- laboratory studies on the cellular basis of Agni.

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