

## CONCEPT OF *DHĀTWAGNI* VIKAR W. S. R TO HYPOTHYROIDISM AND ITS TREATMENT WITH SOME INDIGENOUS DRUGS

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### ABSTRACT

Thyroid hormone regulates the metabolic process of the body. Failure of thyroid hormone to meet the metabolic need of the body results in hypothyroidism. Hypothyroidism is posing a major clinical challenge for clinicians both in developing as well as developed world. The modern treatment has many adverse effects. So there is an urgent need of safe and effective *Āyurvedic* management needs the proper understanding of pathogenesis of hypothyroidism as per the principles of *Āyurveda*. This review is made with an effort to understand the disease in *Āyurveda* perspective. On reviewing the clinical presentation of hypothyroidism from various sources it is found that in hypothyroidism there is abnormality of *Jātharāgni* and *Dhātwaḅni*

along with abnormality of *Kapha* and *Vāta Dosha* as well as *Rasavaha*, *Raktavaha*, *Medovaha*, *Sukravaha* and *Manovaha Srotas*. These factors should be addressed during *Āyurvedic* management of hypothyroidism.

**KEYWORDS:** Hypothyroidism, *Samprāpti*, *Agni*, *Dhātwaḅni*, *Dosha*, *Rasavaha Srotas*.

### INTRODUCTION

Thyroid disorders are very common in Human beings. Hypothyroidism is a Hypo metabolic state caused due to deficiency of Thyroid hormones. Increasing trend of hypothyroidism is common to the society, more prevalent among the females. It is not only confined to

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metropolitan population but also extends to rural and urban areas. Ratio of disease occurrence among females and males<sup>[1]</sup> is 6:1. The term hypothyroidism has not been mentioned in *Āyurvedic* texts. Many diseases described in modern medicine are not described by that name in *Āyurvedic* text. It is suggested that *Āyurvedic* scholar should diagnose and treat that diseases according to their *lakshana*(sign and symptoms), status of *Agni*, *Dosha Dhātu* and *Mala*.<sup>[2]</sup> When we analyzes the pathogenesis of hypothyroidism, *Agni Māndya* seems to be the basic cause. In *Charak Samhitā* eight type of *Nindita Purushas*<sup>[3]</sup> have been described, which can be taken as functional disorders of endocrine.

As per the concept of *Agni*, normalcy of *Agni* is must for body function rhythmicity.<sup>[4]</sup> According to the view of allopathic systems, metabolic activity of the body is controlled by thyroid hormone secretion and if we move our eyes towards *Āyurveda*, we will find that metabolic processes of the body are under the control of *Jātharāgni*, *Bhutāgni* and *Dhātwāgni*.<sup>[5]</sup> So the cause of disease is alteration in metabolic activity which, according to *Āyurveda*, is vitiation of *Dhātwāgni*.

This vitiation can occur in two ways – when *Jātharāgni* gets impaired, on one hand, its moieties which are distributed to *Dhātwāgnis* get impaired disturbing status of *Dhātwāgnis* too, while, on the other hand, this *Jātharāgnimāndya* leads to formation of *Ama* (qualitative) which in turn causes *Srotorodha*. Due to above pathological sequences, vitiated *rasa Dhātus* formed causing impairment of other *Dhātus* too and thus, a chain of pathological events is started. *Jātharāgni Māndya* once created can be corrected at earlier state but vitiation of *Dhātwāgnis* once created can't be purified easily. On this basis, we can assume disease chronicity and its *kricchasādhyatā*. Moreover, longer duration of treatment is needed to cure *Āma* at *Dhātu* level. This *Dhātwāgni vikriti*, If not treated properly can reach up to genetic levels (*Sukra and Shonita*) which may give an idea about congenital Hypothyroidism (as per modern system)

### **NIDĀNA**

Glancing at the nature of the disease, we come to the point that *Dhātwāgni vikriti* (Hypo functioning) plays very important role in causing pathogenesis which in turn is caused by *Jātharāgni Māndya*. As the prime factor in causation of the disease is *Agni Māndya*, therefore, factors causing vitiation of *Agni* can be considered under *Nidāna* factors of the disease.

(1) Physiological factors affecting *Dhātwāgni* (described in concept of *Agni*) When, tend to be abnormal, cause pathogenesis.

(2) Under *Ādhyatamika hetus*, *Ādibala Pravritta*, *Janmabala Pavritta* and *Dosha bala pravritta hetus* help in causing diseased condition.

e.g. (a) In *Adibala Pravritjanya Vyādhi*, *Bijabhāga Dushti* takes place.

According to modern, inheritance may be the cause (Cong. Hypothyroidism).

(b) Under *Janmabala Pravritta Vyādhis*, *Sushruta* has given examples of *Muka*, *Vāmana*, *Jada*<sup>[6]</sup> types. Here, *Jada* (*Mandabuddhi*) can be considered as cretin baby (neonatal Hypothyroidism).

(c) Vitiating of *Sharir* as well as *Mansika Doshas* may be the causative factors considered under *Dosha bala Pravritta Hetus*.

(3) As we know that *Dhātuparampara* (qualitative and quantitative production of *Dhātus*) is maintained by two factors.

(i) Intensity of *Agni*.

(ii) Availability of the fuel (*Āhararasa*)

Therefore, anything affecting these two factors can be considered to cause disease.

These are as follows-

Excessive intake of water, erratic intake of food, *Vegavidhāraṇa*, day sleep etc. and psychological factors<sup>[7]</sup> e.g. Anxiety, fear, greed, Anger, Jealousy.

(4) Non-gratification and dishonor of the desires of *Dauhrida* can lead to the occurrence of *Vyādhi*. This can be interpreted as follows-

(a) According to *Sushruta*<sup>[8]</sup>, development of fetus takes place in fourth month which is also a stage of *Dauhrida* in mother. If, at this stage, mother's desires are not fulfilled then it may lead to the birth of a paralyzed, hump-backed, crooked arms lame, dwarfed, defective eyed child etc. This condition may be analyzed according to modern parlance as a child of congenital hypothyroidism (cretinism) (i.e. stunting of body growth and retardation of mental development).

(b) According to modern science, thyroid is formed in 8<sup>th</sup> week and trapping of I<sub>2</sub> occurs from 12<sup>th</sup> week (4<sup>th</sup> month) which is again, a period of *Dauhrida* as per *Āyurveda*. This may happen that non gratification of mother's desires at this stage may lead to deformity in particular organ functions. This hypothesis, however, needs further evaluation.

**PURVARUPAS (PRODROMAL SYMPTOMS)**

*Purvarupas* are the caution lights to warn the patient and doctor about the pathogenesis happening in the body and makes us run towards exact diagnosis of the disease. In Hypothyroidism, it goes unnoticed for several years. Therefore, prodromal features are not mentioned in books.

**RUPA**

*Rupa* is a manifested stage of disease. It, on one hand, provides clue for the confirmed diagnosis and simultaneously, on the other hand, tells about severity and chronicity of the diseased condition. *Rupas* always appear after *Doshadushya Sammurcchnā*, *Rupa* (symptomatology) of this disease as per *Āyurveda* is as follows-

**Weight Gain:** It may be due to *Meda* and *Kapha Dosha* involvement. Because of *Guru Guna* of *Kapha Dosha* and *Pruthvi* and *Jala Mahabhuta* involved in *Kapha Dosha*, the weight gain occur. It is also *Rasa Nimittaja Vyādhi* as shown by *Āchārya Shushruta*.<sup>[9]</sup> It can also be considered as, Hypometabolism i.e. hypo functioning of *Dhātawāgni*. *Dhātawāgnimandhya* leads to less formation of *Dhātus* and thus, accumulation of *Mala* which may result in weight gain.

**Hoarseness of voice:** *Sharangdhara* has mentioned hoarseness of voice as a *Kaphaja Vikāra*.<sup>[10]</sup> It can be also said that, due to increase in *Manda Guna* of *Kapha*, Hoarseness of voice appears.

**Anorexia:** It is due to *Mandāgni* by influence of *Kapha Dosha*<sup>[11]</sup> and *Rasa Dhusti*.

**Coarse and Dry Skin:** Augmented *Rasa* cannot nourish *Rakta Dhātu* leads to dryness and coarseness of skin.<sup>[12]</sup> Due to coarse and dry skin *Udard* may be occur, which is a *Nānātmaja Vyādhi* of *Kapha Dosha*.

**Constipation:** From the *Āyurvedic* point of view, the *Appakarshani Gati* of *Mahāsrotasa*, which plays a role in *Anulomana* of *Mala* and *Vāyu*, gets to slow down, owing to the aggravated *Kapha* in *Pakvāshaya* with increase of *Manda Guna* of *Kapha* and vitiated *Vāta* by obstruction of *Vridhdha Kapha*. *Vāyu Prakopa* results in *Gādhavarchastvam*<sup>[13]</sup> (constipation).

**Anaemia:** According to *Āyurveda*, *Pāndutā* is due to *Rasa Dushtijanya* as well as *Kapha Dosha*.<sup>[14]</sup>

**Menstrual Disturbances:** *Rasa Dushti* occurs in hypothyroidism. It may be unable to nourish *Upa Dhātu Ārtava*<sup>[15]</sup> and *Uttar Dhātu Rakta*. As a result of this *Ārtava Pravriti* may be disturbed.

**Cold Intolerance:** *Kapha* and *Vāta Dosha* with its *Shita Guna* leads to coldness.<sup>[16]</sup>

**Sluggishness:** Sluggishness means slowness in performance. *Ālasaya* and *Anga Shatihlya* can be included in it. Due to the increased of *Manda Guna* of *Kapha*, results for lack of enthusiasm for performing any work.<sup>[17]</sup> Modern medical science has mentioned that increase of the pressure of cerebrospinal fluid, lethargy, laziness, drowsiness etc. occurs. *Charaka* also mentions that *Shithilatā* as a *Rasaja Vikāra*.<sup>[14]</sup>

**Puffiness of the face:** Vitiated *Kapha* obstruct *Rasavāhini Strotāmsi*. As *Kapha* is composed by *Āpa* and *Pārthiva Mahābhutas* and dominated by properties of heaviness and steadiness, thickened features and puffy features appears in patients.

**Bilateral peripheral oedema:** This non-pitting type of oedema found in hypothyroidism is due to increase in muco-protein ground substance. This is due to *Sthira Guna* of *Kapha Dosha*. All the above symptoms indicate the involvement of *Kapha Dosha*, *Rasa Dhātu*, and *Rasa Dhātwāgni* in the Hypothyroidism. Above all *Kapha Dosha* plays a major role in the disease Hypothyroidism. It can be correlated the features of *kaphaj Sotha*.<sup>[18]</sup>

**Coarse and Dry Hair and Hair loss:** *Dhātwāgnimāndhya* leads to augmentation of *Dhātu* which cannot nourish *Uttar Dhātu* i.e. *Asthi* which results in coarse and dry hair or hair loss.<sup>[19]</sup>

**Bradycardia:** Bradycardia may result from propagation of *Kapha* with its *Manda Guna*.

**Excessive sleep:** *Kapha Vriddhi* causes *Tandrā* and *Atinidrā*.<sup>[20]</sup>

**Forgetfulness:** It is said that, natural state of *Kapha* is strength (*Bala*) for the body. But in hypothyroidism, *Kapha* is in vitiating state. As a result the three types of *Bala*, *Dehabala*, *Agnibala* and *Manobala* may be diminished. Abated *Manobala* may cause forgetfulness.

**Generalized pain:** Hypothyroidism can be considered as *Dhātṽāgnimādhyajanya Vikāra*. Aggravation of *Vāta* by *Vaishmya* of *Dhātus* creates generalized aches and pain. *Angamarda* is mentioned as a *Rasaja Vikāra*.<sup>[21]</sup>

**Weakness:** Capability for work or for exercise or strength depends upon the normal state of *Deha Dhātu*. *Dhātu Vaishmya* leads to *Daurbalya* and *Klama*. *Balasaka* means *Bala Kshaya* which is included in a *Nānātmaja Vyādhi* of *Kapha Dosha*.

### CONCEPT OF TRIDOSHAS

The features of hypothyroidism can be analyzed as per the predominance of *Doshas* in the body.

Following table may be helpful in giving the clue about the involvement of *Doshas*:

Sr.no.	Symptom	Dosha involved	Reference
1.	Weight gain	<i>Kapha vriddhi</i> , <i>Pitta kshaya</i>	<i>Ch.Su.17/56</i> ; <i>A.H.Su.11/7</i> ; <i>Ch. Su.20/17</i>
2.	Loss of appetite	<i>Kapha Vriddhi</i> , <i>Pitta kshaya</i>	<i>A.H.Su.11/7</i> ; <i>A.H.Su.11/16</i>
3.	Puffiness of body features	<i>Kapha Vriddhi</i>	<i>Ch.Su.18</i> ; <i>A.H.Su.12/53</i>
4.	Dry and coarse skin	<i>Vāta Vriddhi</i> ; <i>Pitta Kshaya</i>	<i>Ch. Su.20/17</i> ; <i>Ch.Su.17/56</i>
5.	Minimal/absent sweating	<i>Pitta Kshaya</i>	<i>A.H.Su.12/52</i>
6.	Anemia	<i>Kapha Vriddhi</i> ; <i>Pitta Kshaya</i> ; <i>Vāta Vriddhi</i>	<i>Ch. Su. 17/56</i>
7.	Constipation	<i>Vāta Vriddhi</i>	<i>A.H.Su.11/6</i> ; <i>Su.Su.15/18</i>
8.	Hoarseness of voice	<i>Kapha Vriddhi</i> ; <i>Vāta Vriddhi</i>	<i>SharangdharCh.Chi.16/24</i> ; <i>Su.Su.15/18</i>
9.	Generalized aches, pain	<i>Vāta Vriddhi</i>	<i>Ch.Su.17/44</i>
10.	Muscular cramps, stiffness <i>Vāta</i>	<i>Vāta Vriddhi</i>	<i>Ch.Su.17/47</i> ; <i>Su. Su.20/11</i>
11.	Sluggishness	<i>Kapha Vriddhi</i>	<i>Ch.Su.17/55</i>

From the above table, we may compare that *Kapha* is in augmented state, *Vāta* is in prorogated phase. However, *Pitta* is suppressed.

Most of the symptoms of hypothyroidism show *Kapha* dominance. Glycosaminoglycans deposition in the tissues can be considered as *Kapha Vargiya Dravya* which will cause obstruction in the channels and hence obstruction to the proper movement of *Vāyu* producing *Margavaranajanya Vāta Prakopa*. Impaired metabolism can be considered as *Pitta Dushti*.

**SAMPRĀPTI (Pathogenesis)**

Different *Āhāraja* (dietary), *Vihāraja* (lifestyle) and *Mānasika* (psychological) etiological factors will lead to *Tridosha* vitiation including dominance of *Kapha* associated *Pitta Dushti* and *Mārgāvaranajanya Vātaprokopa*. This *Dosha* vitiation and *Agnimāndyakara Nidāna* will cause vitiation of *Agni* and vitiation of *Annavaha Srotas*. When *Jātharāgni* gets impaired, on one hand, this *Jātharāgnimāndya* leads to formation of *Āma* (qualitative) which in turn causes *Rasavaha Srotodushti* and *Srotorodha*. While, on the other hand, its moieties which are distributed to *Dhātwāgnis* get impaired disturbing status of *Dhātwāgnis* too. Due to above pathological sequences, vitiated *Rasa Dhātu* is formed causing impairment of other *Dhātus* too and *Malarupi Kaphavridhi* will lead to *Srotolepa* causing again *Rasavaha Srotodushti*. Thus, a chain of pathological events is started producing symptoms of *Rasa Dushti* like *Aruchi* (loss of appetite), *Gaurava* (Heaviness), *Tandrā* (sleepiness), *Pāndutā* (pallor), *Srotorodha* (obstruction of channels) etc. Vitiated *Rasa Dhātu* will produce vitiated *Uttarottara Dhātu* with respective *Sroto Dushti* and thus a syndrome involving many organ systems will get developed. Hence *Samprāpti Ghataka* involved can be summarized as follows,

**SAMPRĀPTI GHATAKA**

- **Dosha** : *Kapha Vridhi* associated with *Pitta Dushti* and *Mārgavaranajanya Vāta Vridhi*
- **Dushya** : *Rasa, Meda* predominantly
- **Agni** : *Jātharāgni, Dhātwāgni*
- **Ama** : *Jātharāgni Māndya Janita, Dhātwāgnimāndya Janita*
- **Srotas** : *Rasavaha Srotas, Medovaha Srotas* predominantly
- **Srotodusti** : *Sanga, Vimārga-gamana*
- **Adhithana** : *Thyroid Gland*
- **Udbhavasthana** : *Āmāshaya*
- **Rogamarga** : *Bāhya*
- **Vyaktisthana** : *Sharira*

**Some Clinical Conditions Correlating With Hypothyroidism**

*Āchārya Charaka* described a clinical condition in *Dosha Vikalpa Kalpanā* presenting as *Pitta Kshaya* with *Kapha* and *Vāta Vridhi* which includes *Stambha* (Stiffness), *Shaitya* (cold intolerance), *Toda* (generalized aches), *Gaurava* (heaviness in the body), *Agni Māndya*

(impaired metabolism), *Bhaktaashraddha* (Loss of appetite) shows resemblance with clinical presentation of hypothyroidism.

- *Kaphāvritta Vāta*<sup>[22]</sup>: Symptoms quoted by *Āchārya Charaka* in *Kaphavritta Vāta*, *Kaphavritta Udana*, *Kaphavritta Samana*, *Kaphavritta Vyana* conditions show similarity with clinical presentation of hypothyroidism to some extent.
- *Kaphaja Pandu*<sup>[23]</sup>: *Gaurava* (heaviness in body), *Tandra* (sleepiness), *Panduta* (pallor), *Klama* (fatigue), *Shvasa* (dyspnoea on exertion), *Aalasya* (lethargy), *Aruchi* (loss of appetite), *Svaragraha* (hoarseness of voice), *Ushnakamita* are the symptoms of *Kaphaja Pāndu* which show similarity with hypothyroidism.
- *Kaphaj sotha*<sup>[21]</sup> and *Kaphaj Galaganda*

### Management

Management of hypothyroidism must be based on certain principle to curb the pathogenesis of the hypothyroidism. During treatment of Hypothyroidism we must follow following principle.

1. ***Dhātwnimandy Chikitsā***- treatment principle is to regulate proper function of *Agni* i.e. *Jātharāgni*, *DhātwaGni* and *Bhutāgni*. For this *Pippali Vardhāman Rasāyana* is depicted by *Charak*<sup>[24]</sup> can be selected for internal use. For this purpose old long pepper is more efficacious than fresh one.

### Method of Use

- A.) ***Samsodhan Chikitsā***- Prior to *Rasāyana* therapy proper *Samshodhan karma* should be performed along with *Smsarjan karma*.
- B.) ***Pippali Vardhamān Rasāyana***- For a man of good strength 10 fruits of *Pippali* should be taken with milk on first day. The number of fruits, in this way be increased by ten a day. *Pippali* must be taken in *Ksheerapāka* form. When the medicine is digested, one should take boiled rice of the variety called “*Sasthika*” with milk and ghee. Use the medicine for ten days. From the eleventh day the number of *Pippali* should be decreased by ten every day. In this way one thousand *Pippali* must be consumed. The *Rasāyan* which begins with six and three fruits of *Pippali* are administered in a man of average strength and little strength respectively.



**Anuloman Chikitsā-** This disease is originated due to *Dhātwāgni Māndy Janya Āma*. So certain *Anuloman* like *Hareetaki choorna* must be given.

**3. Medohar chikita:** *Maharshi Charak* has prescribed *Vidangādi Louha* in *Ati Sthoulya*. This can be taken in powder form (prepared from equal quantity of *Vidang*, *Nagar*, *Yav-Kshār*, *Louha Bhasma*, *Yava* and *Amalaka*) twice a day with *Madhu*.<sup>[25]</sup>

**4. Sothohar Chikitsā:** After analyzing the clinical feature of hypothyroidism with the *Tridosh*, we can consider hypothyroidic state as “*Kapha Vātaj*” variety of *Sotha*. Because in *Kapha Vātaj Sotha* not only the features of *Vātaja* and *Kaphaj Sotha* are present but also general features of *Vāta* and *Kapha* vitiation might be present according to our principle. Though *Dasamoola* has the property of *Vāta shaman*, *Kapha Shaman* and *Shothahar*, it can be prescribed to hypothyroid patients. *Charak* in his own text mentioned *Dashmoola* as *Shothahara*.<sup>[26]</sup> *Vridha Vāgbhatta* also gives a specific indication of “*Dashamoola*” as *Shothaghna*. *Vyosadi Choorna* is also depicted by *Charak* for *kaphaj Sotha* can be given in hypothyroidism.<sup>[27]</sup>

### 5. Kaphaj Galaganda Chikitsā

**Shodhana-** In *Āyurveda*, hypothyroidism is not as such mentioned but on basis of its clinical presentation we can co-relate it with *Kaphaja Galganda* for local symptom related with thyroid gland and *Kaphaja - Rasaja Vikāra* for its general symptoms. *Sushruta* and *Vagbhata*, both have prescribed *Vamana Karma* in the treatment of *Kaphaja Galganda*<sup>[28]</sup> as *Kapha Dosh*a plays a major role in the pathogenesis of Hypothyroidism.

**Shaman-**For the *Shamana Chikitsā Bhallātaka Vati* and *Galganda hara Vati* were used. *Bhallātaka Vati* contains *Bhallātaka*, *Haritaki*, *Guda* and *Tila*. *Bhallātaka* is considered as *Shothenashak*, *Dipana*, *Sheeta Prashamana*, *Hridayottejaka Kamottejaka*, *Agnivardhaka*. All these qualities of *Bhallātaka* may be beneficial for the treatment of the symptoms of Hypothyroidism. *Bhallātaka*<sup>[29]</sup> is specially anti *Kapha Dosh*a, which plays a major role in pathogenesis of hypothyroidism. The last three drugs are selected for avoiding the side effects of *Bhallātaka*. *Kanchnar Gutika*<sup>[30]</sup> has been specifically prescribed for *Galganda* treatment.

## CONCLUSION

Analyzing the symptomatology of the disease in view of *Āyurvedic* fundamental it is evident that *Kapha* dusti associated with vitiation of *Vāta Dosha* is the main event along with *Agni Māndya*. All these factors lead to *Annavah* and *Rasavah Srotadusti*.

HYypothyroidism is a *Vāta Kapha Pradhana Sannipātha roga*. So *Shodhana* which is *Kapha hara* and *Shamana* which is *Kapha Vātahara* is adopted here.

The method of *Samprāpti Vighatana* must follow on below mentioned principle.

- *Kapha Vāta hara Chikitsā*
- *Māmsa Medohara Chikitsā*
- *Srotho Sodhana Chikitsā*
- *Agni Deepana Chikitsā*
- *Vāta Anulomana Chikitsā*
- *Sothahara Chikitsā*

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