

Thyroid Disorders From Ayurvedic Perspective.

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Abstract:

According to Ayurveda, Tridosha are basic constituents which controls all physiological activities, while according to modern science, nervous system and endocrine system controls body mechanism, where nervous system controls sensory and motor function while hormones secreted by various endocrine glands control glandular secretions.

Vata, Pitta and Kapha Dosha co-ordinates and co-operate each other to carry out every physiological activities. Hormones are the most important chemicals on which human health depends, just as balanced state of Dosha is needed to maintain health.

Direct references of hormones and endocrine glands are not available in compendia, but anatomical position of particular endocrine gland can throw light on association between particular gland and Dosha. Thyroid functions can be retrospectively studied from the symptoms of hypo and hyper secretion of thyroid gland, this type of study is definitely helpful for enhancement of Ayurvedic clinical practice.

Key Words: Tridosha, Thyroid gland, Prime location of Kapha Dosha, Disorders of Thyroid gland.

Introduction:

Hypofunction and hyper function of thyroid gland share a prevalence of approximately two percent of adult population. This endocrine gland secretes two important hormones which have various general effects on metabolism and which are particularly important for normal growth and development.

Anatomically, according to Ayurveda, thyroid gland is situated in one of the prime location of Kapha dosha i.e. Kantha Pradesh. Hence Kapha dosha is one of the important factors to control thyroid function. Functionally Pitta dosha controls thyroid activity since Pitta dosha is responsible for all the metabolic actions carried out at tissue level. So thyroid dysfunction also includes deranged metabolism of Dhatu (Tissue). That's why different therapeutic approaches must be taken into consideration while treating thyroid disorders.

Short Review Of Physiological Actions Of Thyroid Hormones:⁽¹⁸⁾

1. Growth and development of the brain during intrauterine life in early childhood.
2. Thyroid enhances breakdown of glycogen to glucose. Conversion of glycogen to glucose is called glycolysis.
3. Thyroxin enhances gluconeogenesis. Conversion of amino acids and fatty acids to glucose is known as gluconeogenesis.
4. Thyroxin stimulates fat breakdown, excess thyroxin leads to weight loss due to rapid fat breakdown.
5. Basal metabolic rate increases.

6. Respiratory rate, heart rate and cardiac output increases.
7. Hyperthyroidism leads to hyper activity of central nervous system and patient gets irritated.
8. Excess thyroxin enhances protein breakdown and muscles become weak.
9. Thyroxin stimulates appetite and secretion of digestive enzymes.

Process of Metabolism According To Ayurveda:⁽¹⁰⁾

The multi dimensional process of biological transformation in the body are controlled and regulated by Agni.

Agni is responsible for entire events of transformation (Paka) in the different tissue domain.

As thyroid hormone regulates metabolism, cardiac output, muscle activity, it can be said that thyroid functions can be correlated with Agni and all Dosha.

Just like Thyroid hormones, Agni by the way of Pitta enhances cellular metabolism and transformation.

As Pitta controls transformation and Vata Dosha controls heart rate, blood flow, cardiac output, in the same way thyroid hormone has excitatory effects on the above said activities of heart.

As Agni and Pitta enhances metabolism to meet the increased demand of oxygen and blood, Vata Dosha increases cardiac output and blood flow which eventually increases heart rate.

Symptoms of hyperthyroidism are outcome of exaggerated functions of Vata and Pitta Dosha while hypothyroidism symptoms can be correlated with Kapha Vriddhi symptoms.

Just like Thyroid hormones, Vata Dosha increases cardiac output and blood flow which eventually increases heart rate.

Functions Of Agni:^(1,2,11)

Broadly, Agni is classified into three types -

- 1) Jatharagni
- 2) Panchabhautik Agni
- 3) Dhatawagni.

Functions Of Jatharagni:

Among these three types of Agni, Jatharagni has got prime importance because functions of other Agni depends on it.

Quality of life, strength of life, desire to perform any activity, luster of body, development and nourishment of the body, these factors depend on balanced state of Jatharagni.

Dhatwgni:⁽¹²⁾

Thyroid hormone functions are very much similar to Dhatawgni. BMR is regulated by coordinated functions of Jatharagni and Dhatawgni. Jatharagni, Bhootagni are equally relevant in total process of Paka in the body. Biological transformation occurring at molecular level are similar to bhootagni vyapara. Tissue level Paka is the function of Dhatawgni while primary Pachan is executed by Jatharagni. Whatever be the nature of tissue level and molecular transformation it is well under the direct influence of balanced Jatharagni.

AIM:-

To study Ayurvedic perspective of thyroid disorders.

Objectives:-

1. To study about physiological functions of thyroid hormones.
2. To study symptoms of thyroid disorders.
3. To correlate symptoms of thyroid disorders with vitiated activity of Vata, Pitta & Kapha.

Materials And Methods:-

According to Charaka, it is not important to label disease but to understand patho-physiology on the basis of Vata, Pitta and Kapha from Ayurved point of view. So, function of thyroid gland can be analyzed on the basis of Dosha functions.

We have seen previously, thyroid hormone functions are very much similar to functions of Dhatawgni.

Hypothyroidism:

It is a hypo metabolic clinical state resulting from inadequate production of thyroid hormones for prolonged periods or resistance of the peripheral tissue to the effects of thyroid hormones.

Symptoms of Hypothyroidism:¹³

1. Weight gain
2. Fatigue
3. somnolence, generalized lethargy, tiredness
4. Psychosis, depression, mental sluggishness
5. Loss of libido
6. impotence
7. Muscular sluggishness and slow muscular activity due to delayed relaxation of tendons.
8. Extreme somnolence with excess of sleep
9. Decreased BMR (Basal metabolic rate.)
10. Cold intolerance.

Hypothyroidism Ayurvedic View:⁽¹³⁾

From the symptoms of Hypothyroidism, etiopathogenesis of doasha, dhatu and mala is determined.

Ayurvedic Etiopathogenesis of Hypothyroidism -⁽¹³⁾

Hypothyroidism is primarily a under activity of Agni.

Agni at Dhatu level is inhibited by multiple Hetus leading to diminished Agnivyapara in the body.

Various Srotasas are affected by Sanga (**Srotorodh/Obstruction**) type of Srotodushti in this type of condition.

Due to multiple Srotas involvement, related Dhatu functions are also impaired. As a result of poly Dhatu involvement, different Dhatusaras get compromised leading to both physical and mental features in hypothyroidism.

Manda Guna of Kapha Dosha is the key property in Vikalpasamprapti. Along with this, Vata gets involved making it more or less Vata-Kapha samsarga condition.

The Yogavahi property of Vata has strong contribution in etiopathogenesis of this particular disease.

Vata aggravates Kaphadushti in hypothyroidism.

Vata Dushti :^(7,4)

When Vata Dosha get imbalanced, then it results in diminished body activity and speech, loss of happiness, lethargy due to lack of perception etc. Ashtang Sangraha has mentioned some additional symptoms such as anorexia, delusion, excess salivation, nausea and disorders of digestive system.

Kapha Dushti:⁽⁶⁾

Vitiated Kapha Dosha produces characteristics like pallor, cold and clammy skin, lethargy, heaviness, flabbiness of body parts, hypersomnia and symptoms like dyspnea and cough. Ashtangsangraha added few more characters like obesity, obstruction of conveying channels, drowsiness, nausea, low digestive power, looseness of joints etc.

Table No.: 1
Correlation of Symptoms of Hypothyroidism :^(9,6,16)

Symptoms of Vitiated Vata	Symptoms Of Vitiated Kapha	Symptoms of Hypothyroidism
-	Shaitya (cold and dam skin)	Cold intolerance
-	Gaurav, Sthaulya	Weight gain
-	Aalasya	Generalized lethargy
Angasaad (Myalgia)	-	Tiredness,fatigue
Mudhasamdynata(lethargy due to lack of perception)	-	Mental sluggishness
Apraharsha (Depression)	-	Depression
Manda Cheshta (reduced physical activities)	-	Muscular sluggishness, low muscular activity due to delayed tendon reflexes
-	Atinidra (Solemnness)	Hypersomnia
-	Shlathangatva,Sandhivishlesh (flabbiness of joints and body)	Muscular sluggishness
-	Agnivaishamya (irregular response of Agni towards digestion and metabolism)	Decreased BMR (basal metabolic rate)

After observing these symptoms it can be clearly seen that metabolic activities in the body do not get accelerated properly. Impaired Chala property of Vata and Guru, Sheet and Manda properties of Kapha is responsible for impaired metabolism(Agnidushti)and other symptoms like anorexia, heaviness, lethargy etc

Hyperthyroidism:-⁽¹⁴⁾

Over production of Thyroid hormone is observed in case of hyperthyroidism.

Thyrotoxicosis - General term for the increased levels of triiodothyronine (T3) and tetraiodothyronine(T4).

Symptoms Of Hyperthyroidism:-

- High level of excitability
- Intolerance of heat
- excess sweating
- Muscular weakness.
- Mental irritability.
- Excess fatigue but unable to sleep
- Excess hunger due to increased basal metabolic rate.
- Increased Heart rate and cardiac output, due to increased BMR.

Hyperthyroidism-Ayurvedic View:⁽¹⁴⁾

Hyperthyroidism is basically an stage with definite vata-pitta

samsarga (conjugation). Dhatugata Atyagni is the hall mark feature of hyperthyroidism. Here atipravrutti of different stotasa's are evident from clinical features.

Following the Atyagni, Dhatupaak can be seen in different tissue components. As Dhatupaak progress, decline of Dhatusara is seen. Lakshana of Vaatvridhhi ,Pittavridhhi and Kaphakshaya can be correlated with symptoms of hyperthyroidism up to some extent.

Pitta Vridhhi:^(3, 9, 15)

Increased Pitta is expressed in yellow tinge to stool, urine, eyes and skin. It is characterized by sleeplessness, thirst and burning sensation. Also it shows yellow color of skin. Person due to increased Pitta feels desire for cold things. He becomes weak and his sense organs become weak as well.

Vata Vridhhi:^(5, 12)

Vata when increased produces emaciation, black discoloration, desire for hot things, trem- ors, distention of abdomen, constipation, loss of strength, loss of sleep, loss of sensory func- tions, irrelevant speech, giddiness and timidity.

Kapha Kshay:^(6, 16)

Kapha undergoing kshaya causes giddi- ness ,twisting pains, loss of sleep, weakness, feeling of movements of hot fumes inside body, flabbiness of joints, palpitations and emptiness of all locations of Kapha.

Table No. 2
Correlation of Symptoms of Hyperthyroidism : ^(3, 9, 5, 12, 16, 17)

Symptoms of Vitiated Vata	Symptoms of Vitiated Pitta	Symptoms of Vitiated Kapha	Symptoms of Hyperthyroidism
Pralaap (irrelevant speech)			High level of excitability
	Antardaaha, Daaha (Burning sensation), Sheetabhilash (desire of cold things)		Intolerance of heat, excess sweating
Deenata (timidity)		Shlathasandheeta (flabbiness of joints)	Muscular weakness
Bhrama (giddiness)	Krodha (excess anger)	mental sluggishness	Mental irritability,
	Alpanidrata (sleeplessness)	Prajaagaran (sleeplessness)	Excess fatigue but unable to sleep
	Kshut Vridhhi (excess hunger)		Excess hunger due to increase in BMR
		Hrudrava (palpitation)	Increased heart rate due to increased BMR.
Karshya (Weight loss)			Weight loss

Discussion:

Multiple factors are involved in thyroid disorders.

Vitiation (Dushti) of Rasa, Rakta and Mamsa, Meda Dhatu is seen in hypo as well as hyperthyroidism.

Type of Srotodushti is Vimaargagaman and Sanga.

In Hypothyroidism primly Kapha and Vata Dushti occurs where Chala Guna (Kinesis / Mobility) of Vata get vitiated while Manda (sluggishness/Slowness), Guru (heaviness) Guna of Kapha get aggravated. Symptoms of hypothyroidism are apparently similar to Kapha Vridhhi and Kapha Dushti. Kapha vitiating diet leads to hypo-functioning of Agni (Agnimandya), which leads to synthesis and accumulation of Aama. Aama synthesis leads to Sanga (obstruction) type of Srotodushti in almost all Srotasas. Functions of Srotasa get deranged. As a result multiple body constituents including all Dosha, Dhatu and Mala get affected.

Poor appetite, constipation, weight gain, bradycardia, somnolence, lethargy are the symptoms of imbalanced Kapha Dosha as well as Hypothyroidism.. Menorrhagia is the only opposite feature to sanga – vikruti found in hypothyroidism.

Angasaad (Myalgia), Mudhasamdynata (lethargy), Apraharsha (Depression), Mandacheshta (less physical activities) are the symptoms of Vata imbalance as well as Hypothyroidism.

In hyperthyroid mainly Vata and Pitta Dosha are involved in pathogenesis. Ruksha, Guna (Dryness) of Vata and Tikshna, Ushna (Sharpness) Guna of Pitta get aggravated.

Aggravation of Tikshna Guna of Pitta dosha leads to hyper-functioning of Agni (Tikshna agni) which increases metabolic rate. Hence aggravation of Vata and Pitta leads to catabolism or Dhatukshaya.

Type of Srotodushti in Hyperthyroidism is Ati - Pravrutti, which is expressed in excess sweating, excess digestive secretions, excess appetite, occasional diarrhea . Mental responses also become sharp due to aggravation of sharpness of Pitta dosha due to which hyperthyroid patient becomes mentally fragile, irritable agitated, stressed which results in insomnia. Amenorrhea/Oligo menorrhea is the only symptom opposite to Ati - Pravrutti in hyperthyroidism.

To meet the high metabolic rate, vata dosha also accelerates cardiac activity which results in high cardiac output, tachycardia, high blood pressure. Weight loss, giddiness also indicates involvement of Vata dosha in hyperthyroidism.

Conclusion:

Vata, Pitta and Kapha are the body constituents which controls all physiological activities like digestion, locomotion, perception, procreation. Balanced state of three dosha is important to maintain homeostasis.

Disorders and functioning of endocrine glands in the body can be understood as the combined effects of Tridosha and Agni. All neurological regulations of endocrine glands are performed by Vata dosha . Hormones released from concerned glands are carried through the Rakta Dhatu. Hence hormonal activities can be understood by correlating

rhythmic combination functions of Tridosha. Thyroid hormones are metabolic in nature. Metabolism is basically a transformation process which involves Jatharagni and Dhatvagni. Considering all these thoughts it is ideal to say that endocrine activities are the product of balanced Dosha and Agni.

One to one co-ordination cannot be established in between thyroid hormone functions and Dosha Karma, but retrospective study of thyroid gland is essential to understand thyroid hormone functions from Ayurved point of view.

Treatment should be given to balance Agni and Vata, Pitta Dosha in case of hyperthyroidism while in case of hypothyroidism balancing of Agni, Kapha and Vata must be done. In both hypo and hyperthyroidism Vata Dosha and Agni are common factors, so one should take care of Agni and Vata Dosha.

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