



“REVIEW OF CONCEPT OF AGNI IN THE MANAGEMENT OF THYROID DISORDERS – A LITERATURE STUDY”

Ayurveda

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ABSTRACT

BACKGROUND: The prevalence of metabolic diseases is increasing day by day due to change in lifestyle, faulty dietary habits and stress factors. Due to this, people have to face various problems like metabolic and hormonal imbalance such as thyroid disorders, diabetes mellitus and obesity etc. Thyroid gland plays a vital role in the endocrine system. It is estimated that about 42 million people suffer from thyroid disorders in India.

Agni is the unique concept of Ayurveda related to energy transformations in any form in the body. The thirteen types of Agni bring about all the chemical reactions and conversions in the body. Hormonal functions are similar to the functions of Agni in Ayurvedic perspective; thyroid hormone is one of them regarding this relation. The normal as well as abnormal functions of thyroid hormone may be correlated to healthy and altered status of Agni. Thyroid disorders are not described in Ayurveda. So that such kind of entities are dealt with the principle of Anukta Vyadhi with Ayurvedic perspective. The thought in mind is in relation to consideration of the treatment of thyroid disorders in Ayurvedic perspective, which can be helpful for the further treatment and developing the scope of research in Ayurveda and other related fraternity. This study can be helpful for the generation of new hypothesis which in turn might be useful for the mankind.

RATIONALE: Treating thyroid disorders by only modern medication is not enough to control symptomatically but also need alternative approach. Ayurveda can give rays of hope in the management of thyroid disorders. Co relating Agni function with hormones, this article deals to emphasize the importance of Agni in thyroid hormones disorders management.

So that Agni, Dosha and its Chikitsa play a vital role while treating the thyroid disorders according to Ayurveda perspective. This review can be helpful in better understanding of thyroid hormonal disorders and its management in perspective of Ayurveda.

KEYWORDS

Agni, Thyroid disorders, Anukta Vyadhi, Ayurveda.

INTRODUCTION:

The occurrence of metabolic diseases is increasing day by day due to change in lifestyle, faulty dietary habits and stress. Due to this, people have to face so many problems like metabolic and hormonal imbalance such as thyroid disorder, diabetes mellitus and obesity etc. Thyroid disorder is one of them. Thyroid disorder occurring in 5% of the population and predominantly affects the female.¹ Thyroid disorders are the most common disorders of the endocrine glands and is estimated that about 42 million people suffer from thyroid disorders in India. Prevalence of hypothyroidism in India is 11 %, compared with only 2% in UK and 4.6% in the USA.²

Agni and its function:

Agni is the unique concept of Ayurveda related to stance or entity that brings about transformations in any form. The thirteen types of Agni bring about all the chemical reactions and conversions in the body.³ Agni is one of entity amongst *Dashvidha Pariksha Bhava*⁴, *Aharparinamkar Bhava*⁵ and *Dvadasha Prana*⁶. Agni helps in maintenance of *Ayu* (~life), *Varna* (~skin complexion), *Bala* (~body strength), *Swastha* (~healthy life), *Utsaha* (~energy) and *Upachaya* (~nourishment). Healthy Agni keeps person free from the disease for lifelong and absence of Agni causes death of the person.⁷ This all functions are carried out by Agni in its equilibrium state.

Jatharagni: Ayurveda has mentioned thirteen types of Agni.³ Out of them *Jatharagni* helps in digestion of complex food and turn into simple product so that they can be easily absorbed. *Jatharagni* has potency to maintain other all types of Agni's in the body.⁸

Dhatvagni: Seven Dhatu has their own Agni is known as *Dhatvagni*. After the action of *Jatharagni*, *Rasagni* works on the *Ahar Rasa* forming *Rasa Dhatu* and 'Sara' portion which nourishes the onward concern Dhatu and another portion known as 'Kitta'.⁹ This process continuously carried out in the body with respective Dhatus. Formation of *Rasadi Dhatu* in its good quality depends upon *Dhatvagni*.

Panchabhautik Agni: Ayurveda has mentioned the five types of *Panchabhautik Agni* which helps in the digestion of *Panchabhautik Ahar* into *Parthivadi* body elements and nourish the respective Dhatu.¹⁰

Abnormal functions of Agni:

Vitiation or balance of *Doshas* also depends on the Agni.¹¹ If there is

any imbalance in it such as *Agnimandya*, *Vishamagni* or *Tikshnagni* causes disease condition.¹² Agni is the key factor for digestion and metabolism process. *Agnimandya* (*Jatharagni* or *Dhatvagni* or *Panchabhautik Agni*) is one of the commonest disorders of Agni and the root cause for every disease.¹³ *Mandagni* causes formation of *Ama*¹⁴ and eventually it leads to *Rasdushti* and further *Dhatu Dusti*. *Durbal Agni* causes indigestion.¹⁵ *Agnimandya* causes *Ama* formation which presented as *Shrotorodh*, *Balbhrransh*, *Gaurav*, *Anilmudha*, *Alasya*, *Apakti*, *Malsanga* and *Klama*.¹⁴

Tikshnagni causes digestion of *Raktadi Dhatu* which leads to vitiation of *Vayu* and *Pitta* along with *Kshin Kapha*.¹⁶ *Tikshnagni* causes *Trishna* (polydipsia), *Shvasa* (breathlessness), *Daha* (burning), *Murchha* (syncope), *Tama* (dizziness), craving for food and increase appetite.¹⁶

Thyroid Function:

Thyroid gland plays a vital role in the endocrine system. Thyroid gland secretes the tri-iodothyronine and tetra-iodothyronine under the influence of thyroid stimulating hormone and thyroid releasing hormone by negative feedback mechanism. Iodine and tyrosine are essential for the formation of thyroid hormone. Thyroxine increases the metabolic activities and BMR by increasing the oxygen consumption of the tissue. It also increases the synthesis of protein in the cell. It increases the absorption of glucose from GI tract and enhance the glucose uptake, decreases the fat storage, cholesterol, triglycerides and phospholipids. Also responsible for formation of many enzymes and regulation of body temperature. It also promotes the physical as well as mental growth. It is necessary for the normal activity of skeletal muscle, sexual function and to maintain normal sleep pattern. It increases the appetite, food intake, GI secretion and its movement. Thyroxine accelerates the erythropoietic activity. Thyroid hormone increases the cellular metabolic activities by increasing the sodium potassium ATPase and increasing the size, shape, number of mitochondria. Principle function of thyroid hormone is to act as a 'Catalyst' for the maintenance of oxidative metabolism.¹⁷

Hypothyroidism:

In hypothyroidism, the thyroid hormone insufficiency so that the basal metabolic rate comes down. Thyroid hormones insufficiency is presented as feeling of weakness, tiredness, weight gain, reduced appetite, constipation, decreased sweating, fatigue, apathy, loss of energy, hoarseness of voice, lowered resistance, cold intolerance,

puffy and oedematous face, pot belly, feeling of heaviness, decrease hearing, irregular menses, inability to concentrate, slowdown thought process, slow respiration rate and heart rate. In children, stunted growth and delayed developmental milestone are seen.¹⁸

Hyperthyroidism:

Hyperthyroidism describes a constellation of clinical feature arising from elevated circulating level of thyroid hormone. Most common symptoms are weight loss with normal or increased appetite, heat intolerance, sweating, fatigue, palpitation, tremor, irritability, dyspnoea and emotional lability. Anxiety, psychosis, diarrhoea, Muscle weakness, pruritus, loss of libido and impotence are fewer common symptoms.¹⁹

Comparison of function of Agni and thyroid hormones:

There is no direct reference of thyroid disorder in Ayurveda classics. But the concept of *Agni* and basal metabolic rate in thyroid disorder may be correlated with each other. The normal as well as abnormal functions of thyroid gland may be correlated to healthy and altered status of *Agni* as given below.

Table-1 Table Showing the Possible Correlation of Functions of Agni^{17,20} with Physiological Functions of Thyroid Hormone.¹⁷

Sr no	Function of Agni	Physiological function of thyroid hormone.
1	<i>Paka</i>	Calorigenic action regulates metabolism of carbohydrate, protein and fat.
2	<i>Bala</i>	Essential for normal activity of skeletal muscle.
3	<i>Utsaha</i>	Essential for normal sexual function and to maintain normal sleep pattern.
4	<i>Matratwa Ushma</i>	Induced thermogenesis
5	<i>Kshudha</i>	Increase secretion and movement of GI tract.
6	<i>Medha</i>	Stimulating factor for development and maintenance of normal functioning of nervous system. Increases blood flow to brain.
7	<i>Varna</i>	Necessary factor for Erythropoiesis.

Table -2 Table showing the possible comparison of Dhatvagni responsible for Dhatu Karma²¹ with thyroid hormone function.¹⁷

SN	Dhatvagni	Function of Dhatu	Normal thyroid hormone function.
1.	<i>Rasagni</i>	<i>Prinan</i>	Metabolites cause vasodilation so blood flow increases.
2.	<i>Raktagni</i>	<i>Jivan</i>	Necessary factor for erythropoiesis.
3.	<i>Mamsagni</i>	<i>Lepo</i>	Essential for normal activity of skeletal muscle.
4.	<i>Medagni</i>	<i>Snehana</i>	Maintaining the weight of the body. Decreases the triglyceride and cholesterol level in plasma.
5.	<i>Asthagni</i>	<i>Dharan</i>	Closure of epiphysis under the influence of thyroxine
6.	<i>Majjagni</i>	<i>Puran</i>	Stimulating factor for central nervous system
7.	<i>Shukragni</i>	<i>Garbhotpadan</i>	Essential for normal sexual function.

Table - 3 Table showing the possible comparison of Ama Lakshana¹⁴ with symptoms of hypothyroidism.¹⁸

Sr no	Ama Lakshanas	Symptoms of hypothyroidism
1	<i>Shrotorodh</i>	Stunted growth, delayed developmental milestone, hoarseness of voice
2	<i>Balbhransh</i>	Feeling of weakness, tiredness, lowered resistance, cold intolerance,
3	<i>Gaurav</i>	Weight gain, Swollen, puffy and oedematous face, Pot belly, Feeling of heaviness.
4	<i>Anilmudha</i>	Slow, reduced respiration rate and heart rate, Irregular menses, Inability to concentrate, decrease hearing
5	<i>Alasya</i>	Lethargy, excessive sleep.
6	<i>Apakti</i>	Reduced appetite
7	<i>Malsanga</i>	Constipation, decreased sweating.
8	<i>Klama</i>	Fatigue, apathy, loss of energy, inability to concentrate, slowdown thought process.

The analysis of the symptomatology of hypothyroidism in the light of

Ayurveda may be correlated with *Mandagni* and *Lakshnas* of *Ama*. *Mandagni* causes formation of *Ama*¹⁴ and eventually it leads to *Rasdushti* and further *Dhatu Dusti*.

The analysis of the symptomatology of hypothyroidism in the sight of Ayurveda showed that the dominance of *Kapha* and *Pitta* with vitiation of *Vayu* due to *Margavarana* and predominantly *Annavaha*, *Rasavaha* and *Medovaha Strotodushti* with the *Dushti* of *Rasa*, *Rakta* and *Medo Dhatu* may be considered as the responsible factor for disease. In *Samprapti Vishesha*, hypothyroidism is nothing but hypo functioning of *Jatharagni* and *Dhatvagni* in the perspective of Ayurveda. By considering *Dosha* and *Dhatu Dusti*, *Dhatvagni Dipan*, *Strotoshodhan*, *Kapha-Vata Shamak* and *Medohar* management might be planned for hypothyroidism. Due to predominance of *Kapha* and *Rasa Dusti*, *Langhana* is a line of treatment for *Rasaj Vikara*.²² *Vaman* and *Virechana* is a type of *Langhana*²³ therefore both are pacifying the symptoms related to *Rasa Dhatudushti*. Moreover, the first outcome of *Shodhana* is *Kayagnidipti*.²⁴ Also, *Virechana* is the best therapy for regulation of *Pitta Dosha*, *Pitta* associated with *Kapha* or *Vata* and for *Dosha* situated in *Pitta Sthana*.²⁵ Considering all the facts in above data, *Vaman Karma*, *Virechana Karma* and *Agnidipan Chikitsa* can be given in the management of hypothyroidism.

Hyperthyroidism:

The analysis of the symptomatology of hyperthyroidism in the light of Ayurveda may be correlated with *Tikshnagni* and *Lakshnas* of *Bhasmak Vyadhi*. *Tikshnagni* causes digestion of *Rasadi Dhatu* which leads to vitiation of *Vayu* and *Pitta* along with *Kshin Kapha*.¹⁶

Table - 4 Table showing the comparison of Tikshnagni and Bhasmak Lakshanas¹⁶ with signs and symptoms of hyperthyroidism.¹⁹

Sr No	Tikshnagni and Bhasmak Lakshanas	sign and symptoms of hyperthyroidism
1	<i>Tikshnagni</i> , <i>Bhasmak</i> ¹⁶ and vitiated <i>Pitta Lakshanas</i> ²⁶	Increased appetite, Heat intolerance, Excessive sweating, Irritability, Dyspnoea, less sleep, alopecia, increase BMR
2	vitiated <i>Vata Dosha Lakshnas</i> ²⁷ - <i>Karshya</i> , <i>Kampa</i> , <i>Balbhransh</i> , <i>Nidrabhransh</i> , <i>Indriyabhransh</i> , <i>Pralap</i> , <i>Bhram</i> , <i>Dinata</i> .	Weight loss, tremor, fatigue, tiredness, insomnia, mentally high alert, anxiety, irritability, paranoia, palpitations, muscle weakness, loss of libido, impotence, oligomenorrhoea, amenorrhoea, infertility etc
3	<i>Kshina Kapha</i> ²⁸	palpitation, muscle weakness,

Considering all the facts in above description, *Atyaagni Shamak Chikitsa*, *Bhasmak Vyadhi Chikitsa* and *Bhruhan Chikitsa* can be given in the management of hyperthyroidism.

DISCUSSION:

Thyroid hormones are very much essential for the metabolism in the body. *Agni* is essential entity for all kind of transformations in the body as per Ayurveda. The normal and abnormal functions of thyroid hormones observed as like as *Agni* in Ayurveda. From above description of *Agni* and thyroid functions, abnormalities of *Agni* like *Agnimandya* is concerned with hypothyroidism and *Tikshnagni* is concerned with hyperthyroidism. *Agnimandya* is precursor factor of all the disease resulting in *Ama* formation. Table no 1 and 2 showing that the normal functions of *Agni* and concern *Dhatvagni* are almost similar to the physiological function of thyroid hormone. Table no 3 is showing that the symptoms of *Ama* and hypothyroidism are almost similar. *Ama* formation is occur due to *Mandagni*. So, treatment of *Mandagni* and *Ama* can give significant results in hypothyroidism. Table no 4 showing that symptoms of *Tikshnagni*, *Bhasmak Vyadhi* are as like as the signs and symptoms of hyperthyroidism.

The analysis of the symptomatology of hyperthyroidism in the light of Ayurveda may be correlated with *Tikshnagni* and *Lakshnas* of *Bhasmak Vyadhi*. *Tikshnagni* causes digestion of *Rasadi Dhatu* which leads to vitiation of *Vayu* and *Pitta* along with *Kshin Kapha*. *Atyaagni* is seen in hyperthyroidism, so that *Atyaagni Shamak Chikitsa*, *Bhasmak Vyadhi Chikitsa* and *Bhruhan Chikitsa* can be given in the management of hyperthyroidism. So, for all thyroid hormone function disorders *Agni* plays important. Variation of *Dosha* is also depend on the state of *Agni* and vice-versa. So that *Agni*, *Dosha* and its *Chikitsa* plays a vital role while treating the thyroid disorders according to *Ayurveda* perspective.

CONCLUSION:

State of *Agni* and thyroid hormones has some relation in physiological

as well as pathologically. This relation plays as an important role in treatment of the thyroid disorders. So, when we study any *Anukta Vyadhi* such as thyroid function disorders, consideration of status of *Agni* is of prime importance. While formulating *Chikitsa* on vitiated *Dosha*, to maintain their balance, we always have to keep an eye on status of *Agni*. Such kind of hypothesis can give some rays of light to the researcher and medical society in the management. So, this conceptual study helps in evaluation of role of *Agni* in relation to thyroid hormone functions, its disorders and its management.

Correlating *Agni* function with hormones, this article deals to emphasize the importance of *Agni* in thyroid hormones disorders management.

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