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CRITICAL REVIEW ON STATUS OF AGNI IN THYROID HORMONES DISORDERS

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ABSTRACT

Agni is the unique concept of Ayurveda related to *Paachana* i.e. digestion and metabolism. It is defined as substance 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. Thyroid gland plays a vital role in the endocrine system. Thyroid disorders are the most common disorders of the endocrine glands and it is estimated that about 42 million people suffer from thyroid disorders in India. Principle function of thyroid gland is to act as a 'Catalyst' for the maintenance of oxidative metabolism. The normal as well as abnormal functions of thyroid gland can be correlated to healthy and altered status of Agni. *Samagni* is one of the most important criteria of *Swastha Purusha*. *Agnimandya* is one of the commonest disorders of Agni and the root cause for every disease. So this conceptual study helps in evaluation of role of Agni in relation to Thyroid hormone functions and its disorders.

Keyword: (*Agni*, Thyroid Hormones)

INTRODUCTION

Agni helps in maintenance of life, skin complexion, body strength, healthy life. This all functions are carried out by *Sama Agni* but if there is any deformity in it such as *Agni Mandya, Vishamata* or *Tikshnata* it causes disease condition [1] *Agni* is one of entity amongst *Dashvidha Parikshna Bhava*[2] *Mandaagni* is a root cause of every disease [3] 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* [5]. Relating *Agni function* with Thyroid hormones this articles deals to emphasize the importance of *Agni* in Thyroid hormones disorders.

Aim: To evaluate the status of Agni in Thyroid Hormones Disorders.

Objectives

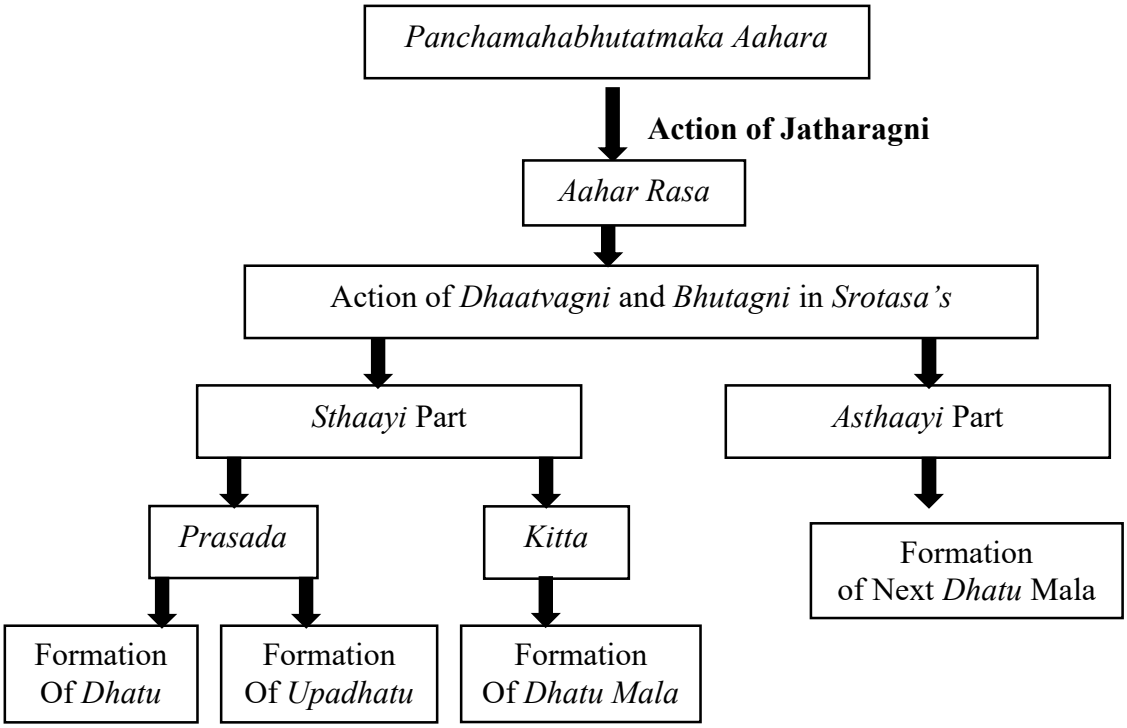
1. To study the role of different types of *Agni* in maintaining physiology of healthy life.
2. To study Thyroid hormone in detail w.s.r. to its function and disorders.
3. To establish the status of *Agni* in Thyroid Hormone Disorders.

Literature Review

Role of *Agni* in *Ahaar Pachana* [6]

Jatharagni helps in digestion of complex food and turns it into simpler products so that they can be absorbed. This *Agni* has potency to maintain other all types of *Agni's* present in body. *Bhutaagni* makes

Panchabhautika components of food to release their qualities. Seven *Dhatu's* contain their own *Agni* in them known as *Dhatwaagni.* After the action of *Jatharaagni,* these *Agni's* works on the digested food products forming *'Sara'* portion which nourishes concerned *Dhatu* and other portion known as *'Kitta'*



Methodology

Role of different types of *Agni* w. s. r. to Thyroid Hormone Function and its Disorders

According to *Ayurveda, Dravya* (substance) is known by its *Guna* (properties) and *Karma* (Action) Therefore, to study the importance of *Agni* its essential to know its function in comparison with Thyroid Hormone action, as both are the key factors of digestion and metabolism process, their function is utmost similar. Both are dependent on each other which can be shown by the table below.

Table 1: *Kaarya of Agni w.s.r to* Thyroid Hormone Function and its Disorders

Functions of *Agni*[1]	Thyroid Hormones Functions[7]	Thyroid Disorders[8]	
		Hypothyroidism	Hyperthyroidism
Paaka	1.Calorigenic action 2.Regulates metabolism of carbohydrates, proteins, fats	BMR falls by 20-40%	BMR increases by 60-100%
Bala	Essential for normal activity of skeletal muscles	Weakness of muscles	Muscular Tremor (frequency 10-15 times per second)
Utsaaha	Essential for normal sexual function	Loss of libido, lethargy	Leads to impotence
Maatratva Ushma	Induced Thermogenesis	Cold intolerance	Excess sweating
Kshudha	Increases Secretion and movements of GI tract	Decreased appetite	Craving
Medha	Stimulating factor for nervous system increases blood flow to brain	Impaired memory, inability to concen-	Paranoid Thoughts

		trate	
Varna	Necessary factor for Erythropoiesis	Pallor	Increased skin pigmentation

Table 2: *Kaarya* of *Dhaatvagni* w.s.r to Thyroid Hormone Function and its Disorders

Dhaatwagni	Functions of *Dhatu*[9]	Thyroid Hormones Functions[7]	Thyroid Disorders[8]	
			Hypothyroidism	Hyperthyroidism
Rasaagni	*Preenana*	Metabolites cause vasodilation so blood flow increases.	Heart rate decreases	Systolic Hypertension
Raktaagni	*Jeevana*	Necessary factor for Erythropoiesis	Anemia	Polycythemia
Mamsaagni	*Lepa*	Essential for normal activity of skeletal muscles	Weakness of muscles	Muscular Tremor (frequency 10-15 times per second)
Medaagni	*Snehana*	1. Maintaining the weight of body. 2. Decreases cholesterol, triglycerides levels in plasma	1. Increase in body weight. 2. Cholesterol level in plasma increases leading to Atherosclerosis.	1.Weight loss
Asthyagni	*Dharana*	Closure of epiphysis under the influence of thyroxine	Stunted growth, hair fall	Deformed bones and teeth
Majjaagni	*Purana*	Stimulating factor for central nervous system	Paresthesia	Hyper excitability
Shukraagni	*Garbhotpadana*	Essential for normal sexual function	Loss of libido, Menorrhagia and Polymenorrhea	Leads to impotence, Oligomenorrhea

DISCUSSION

Function of *Agni* and Thyroid Hormones

Paaka: This action of Agni can be correlated with Calorigenic action of Thyroid hormone which helps in regulation of metabolism of Carbohydrates, proteins and Fats. As Agni gets hampered in Thyroid hormone disorders it function also gets deranged. In hypothyroidism, Body Metabolism Rate (BMR) falls by 20-40% leading to improper metabolism i.e. *Agnimandya.* While in hyperthyroidism, BMR increases by 60-40% leading which resembles *Atyaagni* like condition.

Bala: This action of *Agni* is also performed by Thyroid hormone as it essential for normal activity of skeletal muscles. This function of *Agni* gets hampered in Thyroid hormone disorders as in hypothyroidism weakness of muscles is seen while in hyperthyroidism, tremors are noted.

Utsaaha: This action of Agni is seen in Thyroid hormone as it is essential for normal sexual function which gets hampered in Thyroid hormone disorders due to alterations in normal Agni status. Therefore, in hypothyroidism, loss of Libido and lethargy is seen while hyperthyroidism, leads to impotence.

Ushma: This action of Agni is also performed by Thyroid hormones as they induce thermogenesis. As Agni gets hampered in Thyroid hormone disorders its function are also affected. Therefore, in hypothyroidism, cold intolerance is seen while in hyperthyroidism, excess sweating is noted.

Kshudha: This action of Agni is seen in Thyroid hormone as it increases the secretions and movements of Gastro-Intestinal tract. This function of Agni gets hampered in Thyroid hormone disorders which lead to decreased appetite in hypothyroidism while craving in hyperthyroidism.

Medha: This action of *Agni* resembles with Thyroid hormone function as it stimulates the nervous system by increasing the blood flow to brain. This function of *Agni* gets hampered in Thyroid hormone disorders due to alteration of its normal status. Therefore, in hypothyroidism impaired memory and inability to concentrate is seen while in hyperthyroidism, paranoid thoughts are noted.

Varna: This action of *Agni* is seen in Thyroid hormone as it is necessary factor for erythropoiesis. This function of *Agni* gets hampered in Thyroid hormone disorders which leads pallor in hypothyroidism while increased skin pigmentation in hyperthyroidism.

2. Functions of *Dhatwagni* and Thyroid Hormones

1. ***Rasaagni:*** The *Preenana* action of *Rasaagni* resembles with Thyroid hormone function as its metabolites causes vasodilation which increases blood flow. This function of *Rasaagni* gets hampered in Thyroid hormone disorders leading to decrease in heart rate in hypothyroidism while systolic hypertension is seen in hyperthyroidism.
2. ***Raktaagni:*** The *Jeevana* action of *Raktaagni* resembles with Thyroid hormone function as it is necessary factor for erythropoiesis. This function of *Raktaagni* gets hampered in Thyroid hormone disorders leading to anemia in hypothyroidism while polycythemia is seen in hyperthyroidism.
3. ***Mamsaagni:*** The *Lepana* action of *Mamsaagni* resembles with Thyroid hormone function as it essential for normal activity of skeletal muscles. This function of *Mamsaagni* gets hampered in Thyroid hormone disorders leading to weakness of muscles in hypothyroidism muscular tremors are seen in hyperthyroidism.
4. ***Medaagni:*** The *Snehana* action of *Medaagni* resembles with Thyroid hormone function as it helps in maintaining weight by decreasing cholesterol and triglycerides level in plasma. This function of *Medaagni* gets hampered in Thyroid hormone disorders leading to increase in body weight and atherosclerosis due to increase in the level of cholesterol in hypothyroidism while weight loss is seen in hyperthyroidism.
5. ***Asthyagni:*** The *Dharana* action of *Asthyagni* resembles with Thyroid hormone function as it influences the closure of epiphysis of bones. This function of *Asthyagni* gets hampered in Thyroid hormone disorders leading to stunted growth in hypothyroidism while deformed bones are seen in hyperthyroidism.
6. ***Majjaagni:*** The *Purana* action of *Majjaagni* resembles with Thyroid hormone function as it is stimulating factor for central nervous system. This function of *Majjaagni* gets hampered in Thyroid hormone disorders leading to Paresthesia in hypothyroidism while hyper excitability is seen in hyperthyroidism.
7. ***Shukraagni:*** The *Garbhotpadana* action of *Shukraagni* resembles with Thyroid hormone function as it is essential for normal sexual activity. This function of *Shukraagni* gets hampered in Thyroid hormone disorders leading to loss of libido, menorrhagia, polymenorrhea in hypothyroidism while impotency and oligomenorrhea is seen in hyperthyroidism.

CONCLUSION

The normal and abnormal functions of Thyroid gland hormones and *Agni* are similar. *Agni* is entity that brings about all kind of transformations in the body and Thyroid gland is essential for metabolism in the body. From the above study we can conclude that *Agnimandya* like scenario is present in Hypothyroidism while *Atyaagni* is seen in Hyperthyroidism. So for all Thyroid hormone function disorders the examination of *Agni* status and its *Chikitsa* plays a vital role.

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