Review Article

www.ijrap.net

(ISSN Online:2229–3566, ISSN Print:2277–4343)

AYURVEDIC PERSPECTIVE ON THYROID DISORDER: A CRITICAL REVIEW

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Received on: 15/07/23 Accepted on: 02/09/23

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DOI: 10.7897/2277-4343.1405142

ABSTRACT

Endocrine disorders are most common in India, of which thyroid disorders represent a major subset. Thyroid dysfunction is rising at an alarming rate in the Indian population. Hypothyroidism & hyperthyroidism constitute the maximum percentage of thyroid disease in India. The thyroid gland fails to produce enough thyroid hormone due to structural or functional impairment. The incidence of thyroid disorders is increasing daily, so there is a need to increase demand to treat thyroid disease by the Ayurvedic method, as they are entirely safe and natural. In this article, effort is made to review some Ayurvedic diets, such as medicines, yoga, and pranayama, towards the correction of tridosha and the function of the thyroid gland.

Keywords: Kapha dosha vruddhi, Vata dosha vruddhi, Apachi, Galaganda, Hyperthyroidism, Hypothyroidism.

INTRODUCTION

Thyroid disorders are the most common disorders we see in today's world. The function of the thyroid gland under normal conditions is to maintain body metabolism. This action is carried out by the hormones produced by the thyroid gland. The failure of these hormones to maintain a regular metabolic rate in the body has two most common conditions either: hypothyroidism and hyperthyroidism. As far as the name of the disease is concerned, no specific term is found for Hypothyroidism and Hyperthyroidism in Ayurvedic classics. Though many diseases of the current era are not mentioned in Ayurvedic texts, which is termed as 'Anukta'.

Thyroid disorders are the most common disorders we see in today's world. Under normal conditions, the function of the thyroid gland is to maintain body metabolism. This action is carried out by the hormones produced by the thyroid gland. The failure of these hormones to maintain a normal metabolic rate in the body produces the two most common conditions: hypothyroidism and hyperthyroidism. As far as the name of the disease is concerned, no specific term is found for hypothyroidism or hyperthyroidism in Ayurvedic classics. However, many diseases of the current era are not mentioned in Ayurvedic texts, termed Anukta' vyadhi.[1]

We can understand these disorders through the concept of Trividha Bodhya Sangraha, i.e., Vikara Prakruti-Adhisthana-Samuthana. Yet, they can be successfully treated due to the profound insight provided by Ayurvedic principles. In the present era, several people are suffering from thyroid problems, and the reasons are unhealthy food, a stressful lifestyle, unwanted medicines like contraceptive pills, long-term use of higher medicines, antibiotics, hereditary factors, etc. And it causes malfunctioning of the thyroid gland. Due to malfunctioning, the thyroid gland doesn't work correctly. It causes an overall imbalance in the form of fatigue, a sudden increase in weight, a sudden decrease in weight, hair fall, bulging eyes, mood swings, depression, menstrual disorders, infertility, etc.

Literary Review

There is no direct mention of functional thyroid problems in any Ayurvedic Classics. Even though Galaganda is well described in the classics, the signs and symptoms of functional thyroid problems were not even mentioned as a systemic effect of Galaganda in Charaka Samhita, which is regarded as the oldest of Brihtrayi or even Sharangdhara Samhita, which is the latest in the classics. However, symptomatologic reviews reveal that thyroid problems represent many disorders like Pandu, Atishtaulya, Shopha, Grahani, etc.

The earliest description of neck swelling is found in the Atharvaveda under the name Apachi. Charaka first described the disease under the 20 varieties of Shalesma vikaras.[2] Sushruta has described that out of seven layers of the skin, the sixth layer, Rohini, is the Galagandaroga adhistana.[3]

A Brief Review of Anatomy of Thyroid Gland and Physiology of Thyroid Gland

The thyroid gland is an endocrine gland situated in the lower part of the front and sides of the neck. It lies anterior to the trachea between the cricoid cartilage and suprasternal notch. It consists of two lobes connected by an isthmus and weighs 12–20 grams (5cm x 2.5 cm x 2.5cm). It is a highly vascular deep neck structure that is soft in consistency.

The thyroid gland consists of numerous spherical follicles composed of thyroid follicular cells. The follicular cells secrete triodothyronine (T3) and Tetraiodothyronine (Thyroxine) T4. In between follicular cells, the parafollicular cells, which secrete

calcitonin, T3 and T4, are iodine-containing derivatives of the amino acid tyrosine. T3 and T4 are two primary hormones produced by the thyroid gland. T4 is secreted by almost 90%; T3 is the active one; hence, T4 is called a prohormone.[4]

Classification of Thyroid Disorder

For ease of understanding, thyroid problems can be broadly classified into two, viz. structural and functional.

Structural	Functional
Goitre	Hyperthyroidism
Thyroiditis	Hypothyroidism
Thyroid Nodules	Euthyroid sick syndrome
Thyroid Cancers	-
Ectopic Thyroid	-

The following table enumerates the system-wise symptoms of hyper and hypothyroidism in general

	Hyperthyroidism	Hypothyroidism
General	Increased appetite, weight loss, heat intolerance	Normal appetite, weight gain, cold intolerance
Nervous System	Increased nervousness, sleeplessness, normal mental competence, hand tremors, anxiety.	Calmness/Indifference, drowsy or sleepy, dull/confused, no tremor, depression
Circulatory System	Palpitation, tachycardia, no oedema/puffiness, increased pulse pressure	Non-unless thyroiditis, bradycardia, oedema/puffiness, decreased pulse pressure
Digestive System	Fast transit of food, frequent bowel movements.	Indigestion, constipation
Skin	Warm and smooth skin, increased nail growth, increased perspiration	Cold and dry skin, brittle nails, decreased perspiration
Muscle	Weakness	Cramps and aches
Blood	Low cholesterol	High cholesterol level, Anaemia [5]

DISCUSSION

According to Acharya Charaka, not every disease manifestation needs to have a specific name, but it is more important to understand the possible pathogenesis of the disease in terms of involved factors like dosha, dushya, etc. After knowing that, it can be successfully treated.

Ayurvedic Approach to Hypothyroidism

Usually, hypothyroid patients have symptoms like vitiated Kapha, Vata and Medo dhatu vruddhi. Vitiated Kapha has symptoms like cold, fatigue, weight gain, low metabolism, lower heart rate, joint problems, etc., and symptoms like cold intolerance, insomnia, depression, low self-esteem, joint pain, constipation, etc. can be attributed to the Vata vitiation.

Samprapti of hypothyroidism

Step 1: -Vitiation of Vata and Kapha by their causative factors
Step 2: - Vitiating the Medo dhatu, thereby vitiating the Medovaha srotas: here, it is the thyroid gland, hence reducing its functional activities.
Step 3: -Causing decreased secretion of hormones with or without the gland enlargement.

Hypothyroidism with Atisthaulya and Pramehapurvarupa

In atisthaulya, the Kapha dosha and meda dhatu, which are vitiated, produce a coating (avarana) on the srotas of other dhatus. Due to this avarana, the other dhatu will not be nourished, but the Medo dhatu alone will increase. So, in hypothyroidism, even though there is a tendency for increased body weight, the patient will show anaemia and generalized weakness.[6]

The symptoms of Medo dhatu vruddhi include the symptoms of atisthaulya and Prameha purvarupa (the prodromal symptoms of Prameha, which include sandhisaithilyam, atisveda, coating of tongue, ears, and eyes, burning sensation of hands and feet, etc.[7]

Hypothyroidism and Pandu Roga and Ojoksinatva

In general, the hypothyroid patient shows symptoms almost similar to Pandu roga. There is generalized weakness, cold intolerance, hair fall, reduced metabolism, exertional dyspnoea, depression, and a feeling of worthlessness with low self-esteem.

In Pandu roga, the Kapha vitiation is there, which vitiates the Rakta dhatu; hence, the quality of Rakta is reduced and there is jatharagni and dhatvagnimandya. The dhatvagnimandya of all dhatu here is responsible for ojoksinatvalaksana, which is usually seen in Pandu roga.[8]

The ojus is the pristine essence of all the dhatu in its naturally nourished state. The reasons for ojokshinatva are overeating, fasting for a long time, skipping sleep, too much exercise, emotional disturbances, etc. Even though there is weight gain in hypothyroidism, these patients usually suffer from anaemia and other symptoms of Pandu roga. Hence, it can be assumed that in hypothyroidism, there is overall mandya to the jatharagni and even to all dhatvagni.

Hypothyroidism and Agni

Agni is one of the most important concepts described in Ayurveda. As the word denotes, Agni denotes the fire, which implies the whole process of digestion, assimilation, and metabolism. The process by which energy is transformed from one form to another inside the body is called paka, and this paka is done by agni. It is defined as "nayateparinamyati". There are three agni types: dhatvagni, bhutagni, and jaṭharagni. Jatharagni refers to the whole digestion process in GIT, while bhutagni refers to the final digestion in the liver and dhatvagni to tissue metabolism. Accordingly, there are five bhutagni and seven dhatvagni.

Agni does the proper maintenance of the body. Agni is responsible for the complexion, strength, health, enthusiasm, lustre, digestion, and even the whole life.[9]

Accordingly, the vitiated agni behaves in three ways via: mandagni, visamagni, and tikshnagni. The mandagni is produced by Kapha, and the viṣamagni is due to Vata. When the three doṣha act in their state of equilibrium, it leads to the normal functioning of the agni; hence, it is called samagni. The mandagni and visamagni lead to faulty digestion.[10] The mandagni produces ama (undigested), which is considered to be the main causative factor for many diseases. Hence, mandagni is considered to be involved in the etiopathogenesis of many diseases. The ama produced by mandagni exhibits certain symptoms, like:

- Srotorodha- Obstruction to body channels.
- Balabhramsa-Loss of body strength.
- Gaurava - Heaviness.
- Anilamudhata - Abnormal movement of Vata dosa.
- Aalasya-Laziness.
- Apakti - Indigestion.
- Nisthiva-Excess drooling.
- Malasanga - Obstruction to mala (constipation).
- Aruchi- Loss of taste and
- Klama - Lethargy, etc.[11]

A critical review of the symptoms produced by ama and the symptoms of hypothyroidism shows that they are the same. So, it can be rightly inferred that there is amyloid formation in hypothyroidism. So, there is vitiation of agni by the vitiated Kapha. Hence, the samprapti of hypothyroidism is that Vata and Kapha vitiation led to Medodhatuvruddhi and agnimandya. This will produce the symptoms of ama and atisthaulya (Medodhatu-vṛuddhi).

Line of treatment

Hence, the treatment should be directed at increasing both jatharagni and Medodhatvagni and pacifying Vata and Kapha. So, the drugs should be pachan, dipana, and Medo-Kapha-Vatahara.

Ayurvedic Approach to Hyperthyroidism

Hyperthyroidism is the condition when the thyroid gland produces thyroid hormones at a normal or higher level. Significantly, the serum iodine levels increase or the iodine uptake increases. The frank blood picture shows increased serum T4 and T3 levels with reduced TSH levels. Most symptoms of hyperthyroidism are due to the increased metabolic rates due to thyroid hormone (esp. T3) actions.

Here also, the doshavyaddhilaksana is seen. But unlike in hypothyroidism, the dhatukshayalaksana is seen instead. The dosas involved in hyperthyroidism are Vata and Pitta.

The symptoms like karsya (leanness), karsṇya (dark complexion), gatrakampa (tremor), spurana (fasciculation), pralapa (uttering meaningless words), etc. are seen in hyperthyroidism, which is seen in Vata dosa vriddhi.[12]

Glani (malaise), indriyadaurbalya, daha (hot flushes and burning sensation), trt (thirst), and pitatvak (yellowish discolouration of the skin) are usually seen in Pitta vriddhi in hyperthyroidism.[13]

So, it can be undoubtedly ascertained that the dosa involved in hyperthyroidism is the Vata and Pitta. Since we have seen earlier that the thyroid is a Medo dhatu pradhana granthi, the duṣya which is in dusti in this condition is also Medo dhatu itself.

Samprapti of Hyperthyroidism

Step 1: Vata and Pitta on vitiation vitiates Medo dhatu.
Step 2: Medo dhatvagnivṛuddhi is there along with the vitiation of medas; Medodhatukṣaya is obtained in hyperthyroidism.
The symptoms of meda ksaya, according to Ashtanga Hridaya, include plihovruddhi (splenomegaly), katisvapam (numbness of the pelvic region), sandhisunyata (reduced synovial fluid in the joints), angaruksata (dryness), karsya (leanness), srama (weakness on exertion), sosa (cachexia), meduramamsaabhilasa (craving for red meat) and also the symptoms of mamsaksaya are seen along with medakṣayalaksana.[14]

Hyperthyroidism and Atyagni

Here also, the jatharagni is important. Unlike in the case of hyperthyroidism, the agni is vitiated by Pitta and Vata. Agni has the same nature as Pitta, or it can be said that Agni itself. So when it is vitiated by Pitta and Vata, its functional properties increase significantly. Such an agni is able to digest even the dhatu and ojus, apart from the food. This agni is called Atyagni. Trt (thirst), Kasa (cough), daha (hot flushes and burning sensation), and murccha (unconscious) are the main symptoms of atyagni. The patient feels malaise and weak. Feels better just after taking food but becomes weak when it is digested.[15]

Line of treatment

Treatment of hyperthyroidism can be formulated to pacify the vitiated Vata and Pitta, to pacify increased jatharagni and dhatvagni, and to relieve the symptoms of Medomamsaksaya.

Dietary and Lifestyle Modifications

Hyperthyroidism	Hypothyroidism
Pathya: Pittavatahara diet; Protein-rich food, dairy products, cabbage, broccoli etc., Divasvapna. **Apathya:** Iodine-rich food, Caffeine. Ratrijagarana.	**Pathya**: Kaphavatahara diet: Brown rice, Oats, drumstick, Banana. Exercise and sleep. **Apathya:** Goitrogenic food- Broccoli, Cauliflower, Cabbage, soy, Sweet potato, Pearl millet, water containing fluorine, chlorine, smoking. Divasvapna

Yoga And Pranayama

Yoga: Sarvangasana is the most suitable and effective asana for thyroid gland disorders.

Matsyasana, Halasana, Suryanamaskara, and Suptavajrasana are also helpful in hypothyroidism. In these yogic exercises, enormous pressure is placed on the gland, which may lead to beneficial effects by improving circulation to the gland.

Pranayama: The most effective Pranayama for thyroid problems is "Ujjayi". It acts on the throat area with a relaxing and stimulating effect

Anuloma-Viloma and Kapalbhati.

Pranayama helps increase the metabolic rate of the body. [16]

CONCLUSION

It is observed that the agni (body fire) and its various functions at different levels are very important in maintaining the internal environment and overall activities of the body. Protection and proper maintenance of the agnisamuccaya of the body is a crucial factor for healthy living, and it helps for optimal enjoyment of the various aspects of one's life.

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Cite this article as:

Tabassum Parveen, Naresh Itani, Divya Pathak, Reetu Sharma. Ayurvedic perspective on Thyroid disorder: A Critical Review. Int. J. Res. Ayurveda Pharm. 2023;14(5):41-44
DOI: http://dx.doi.org/10.7897/2277-4343.1405142

Source of support: Nil, Conflict of interest: None Declared