



Review Article

HYPOTHYROIDISM – A MANIFESTATION OF AVARANA

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ABSTRACT

Introduction: The modern era is witnessing a dramatic increase in the incidence of endocrine disorders. The notorious and the non specific nature of the symptoms many a time leads to clinical misdiagnosis. One such condition is Hypothyroidism. An early accurate diagnosis of hypothyroidism is essential as late management may lead to complications as diabetes, IHD etc. For decades the standard treatment of hypothyroidism is levothyroxine. The side effects of levothyroxine as hair loss, headache, menstrual irregularities etc. are forcing the mankind to go for an alternative treatment. To evolve a good treatment a complete understanding of hypothyroidism on Ayurvedic basis is highly essential. **Aim:** To understand hypothyroidism according to Ayurveda. **Materials & Methods:** Ayurvedic Samhitas, modern medical text books and websites. **Result:** Hypothyroidism can be understood as ‘Amayukta Kaphavruta Udanavata’ according to Ayurveda. **Conclusion:** Depending on several factors as *Dosha, Nidana, Samprapti* and *Lakshanas* hypothyroidism can be understood as *Kaphavruta udanavata*.

KEYWORDS: Endometriosis, Hypothyroidism, Avarana, Kapha avruta Udana Vata.

INTRODUCTION

Hypothyroidism is one of the most common metabolic endocrinal disorders with a prevalence rate of almost 10.5% in India. Primary hypothyroidism can be either congenital or acquired. It may be either primary or secondary in nature. Primary hypothyroidism is mainly due to the disease of the thyroid and secondary hypothyroidism is due to the pathology in hypothalamic pituitary axis. Iodine deficiency is one of the most important causes for primary hypothyroidism. Thyroidectomy, radioiodine therapy, and drugs such as amiodarone, lithium, interferon may also cause hypothyroidism.^[1]

The diagnosis of hypothyroidism is based on the blood levels of thyroid hormones. Thyroxine is

the choice of treatment for hypothyroidism with good results.

Aim and Objectives: To understand the pathology of hypothyroidism in Ayurveda.

Materials & Methods

Ayurvedic Samhitas, modern medical text books and websites.

Discussion

The incidence of clinical hypothyroidism is 0.5-1.9% in women and <1% in men and of subclinical 3-13.6% in women and 0.7-5.7% in men. In clinical hypothyroidism the symptoms are more severe and in subclinical type the symptoms are less and sometimes may even be absent.

Signs and symptoms^[2]

Symptoms	Signs
Fatigue	Dry, coarse skin
Feeling cold	Cool extremities
Poor memory and concentration	Myxedema (mucopolysaccharide deposits in the skin)
Constipation, dyspepsia	Hair loss
Weight gain with poor appetite	Slow pulse rate
Shortness of breath	Swelling of the limbs
Hoarse voice	Delayed relaxation of tendon reflexes
In females, heavy menstrual periods (and later light periods)	Carpal tunnel syndrome
Abnormal sensation	Pleural effusion, ascites, pericardial effusion

Delayed relaxation after testing the ankle jerk reflex is a characteristic sign of hypothyroidism and is associated with the severity of the hormone deficit.

Pathophysiology

The thyroid gland predominantly secretes thyroxine (T₄), which is converted into triiodothyronine (T₃) by the enzyme iodothyronine deiodinase [3]

Triiodothyronine binds to the thyroid hormone receptor in the nucleus of cells, and stimulates production of specific proteins[4]

In blood, almost all thyroid hormone (99.97%) is bound to plasma proteins such as thyroxine-binding globulin; only the free unbound thyroid hormone is biologically active.[5]

The thyroid gland produces the thyroid hormone with the help of iodine and the amino acid tyrosine. Iodine in the bloodstream is taken up by the gland and incorporated into thyroglobulin molecules. This process is under the control of the thyroid-stimulating hormone (TSH, thyrotropin), which is secreted by the pituitary. If either the iodine or TSH is not in the required amount it leads to decreased production of thyroid hormones.[6]

The hypothalamic-pituitary-thyroid axis plays a key role in maintaining thyroid hormone levels within normal limits. Hypothalamus secretes the thyrotropin-releasing hormone which stimulates the anterior pituitary to produce thyroid stimulating hormone. Production of TSH and TRH is decreased by thyroxine by a negative feedback process. Any deficiency in TRH can lead to deficient TSH. This may result in the decreased production of the thyroid hormones. [7]

Diagnosis

Depending on the thyroid hormone levels of the blood hypothyroidism can be classified into 3 varieties. They include overt hypothyroidism, central hypothyroidism and subclinical hypothyroidism.

TSH	T ₄	Interpretation
Normal	Normal	Normal thyroid function
Elevated	Low	Overt hypothyroidism
Normal/low	low	Central hypothyroidism
Elevated	Normal	Subclinical hypothyroidism

Central

If the TSH level is normal or low and serum free T₄ levels are low, this is suggestive of central hypothyroidism (not enough TSH or TRH secretion by the pituitary gland or hypothalamus)[8]

Overt

In overt primary hypothyroidism, TSH levels are high and T₄ and T₃ levels are low. Overt hypothyroidism may also be diagnosed in those who have a TSH on multiple occasions of greater than 5mIU/L, appropriate symptoms, and only a borderline low T₄. It may also be diagnosed in those with a TSH of greater than 10mIU/L. [9]

Subclinical

Subclinical hypothyroidism is a milder form of hypothyroidism characterized by an elevated serum TSH level, but with a normal serum free thyroxine level.[10]

This milder form of hypothyroidism is most commonly caused by Hashimoto's thyroiditis. In adults it is diagnosed when TSH levels are greater than 5 mIU/L and less than 10mIU/L.[11]

Management

Most people with hypothyroidism symptoms and confirmed thyroxine deficiency are treated with a synthetic long-acting form of thyroxine, known as levothyroxine (L-thyroxine) [12].

In the elderly and people with heart disease a lower starting dose is recommended to prevent over supplementation and risk of complications. Lower doses may be sufficient in those with subclinical hypothyroidism, while people with central hypothyroidism may require a higher than average dose. [13]

Ayurveda

Ayurveda is the natural system of medicine with a holistic approach towards the patient. This is the system which aims at not only treating the diseased but also gives same importance in maintaining the health of the healthy individual. It does not treat the patient basing on the symptoms but tries to correct the whole system in a more natural way. This is the main reason why Ayurveda gives much importance to the understanding of any disease basing on its own principles before proceeding to the management of the disease. Hypothyroidism is an endocrinal metabolic disorder which many a times is diagnosed basing on T₃, T₄ and TSH values. An exact disease which can be compared to hypothyroidism is not available in Ayurvedic literature. The Ayurvedic literature clearly states that if an Ayurvedic physician is well aware of the *Nidana*, *Doshas*, *Dushyas* and *Samprapti* of the diseased condition in any patient, then even though that disease cannot be named perfectly it can be managed successfully. Hence in the present day, hypothyroidism with almost 11% prevalence in India, need to be understood clearly in an Ayurvedic way to manage it clinically.

Ayurvedic view of hypothyroidism

According to Ayurveda, *Ama* is the root cause for most of the diseases. Mainly *Kapha vardhaka ahara viharas* lead to the formation of *Ama*. This *ama* vitiates the first *Dhatu*. i.e., the *Rasa dhatu*. The vitiation of the *rasa Dhatu* leads to the vitiation of its *Upadhatus* which include *Artava*. Thereby *Artava vikaras* as *Anartava* (Amenorrhoea) and *Kastartava* results. After *Rasa dhatu* the next *Dhatu* to be vitiated immediately is the *Medo dhatu*. This is because there is a resemblance in the features of *Ama*, *Rasa dhatu* and *Medo dhatu*. Due to affliction of *Medodhatu*, *Medodhatu vikaras* as *Galaganda* (Goitre), *Medo roga* (Obesity), *Granthi* (polycysts) are seen. Hence symptoms as amenorrhoea, infertility, obesity, goiter contributes to the symptomatology of hypothyroidism.

Among the *Tridoshas*, *Vata* is mainly responsible for the manifestation of diseases. *Vata vyadhis* manifest due to two reasons. 1) *Dhatukshaya janya vata vyadhi* 2) *Marga avarodha janya vata vyadhi*. In hypothyroidism, *Avarana* plays a major role. *Mithya ahara viharas* lead to the vitiation of *Tridoshas*, mainly *Kapha* and *Vata dosha*. Due to excess vitiation of *Kapha dosha*, *Kapha* obstructs the movement of *Vata*. Hence this leads to a state of *Kapha avruta vata*. There by the symptoms of *Kapha Avruta vata*^[14] as *Saityam*, *Sotha* and *Gurutvam* results. Hence cold intolerance, myxoedema and heaviness of the body are seen in hypothyroidism.

Among *Pancha vidha vatas*, *Udana vata* is involved in the manifestation of hypothyroidism. The *Sthana* and functions of *Udana vata* are as follows^[15]. *Udana* situates in the *Uras* region and moves in the regions of *Kanta*, *Uras*, *Nasika* and *Nabhi*. When *Udana vata* is vitiated, the organs residing in the *Uras* region are also afflicted. This is the main reason why in the later stages of hypothyroidism, patients are afflicted with the symptoms pertaining to the heart and lungs like pleural effusion, pericardial effusion and ascites.

Udana vata when obstructed by *Kapha* leads to the symptoms of *Kapha avruta udana vata*^[16]. They include *Vaivarnyam*, *Vakswara graham*, *Dourbalyam* and *Aruchi*. Hence symptoms like pallor, hoarse voice, increased fatigue, laziness are seen in hypothyroidism.

Samprapti ghatakas

- *Doshas - Kapha, Vata (Udana vata)*
- *Dushyaas - Rasa dhatu-Medo dhatu*
- *Srotas - Rasavaha Srotas-Medovaha Srotas*
- *Sroto Dusti – Sangam*
- *Vyadhi Udbhava Sthana - Gala*
- *Adhistanam – Sarvasareera*

Ayurvedic diagnosis:

“*Ama Yukta Kapha Avruta Udana Vata*”

Comparison Between Hypothyroidism and *Kapha Avruta Udana Vata*

Hypothyroidism	<i>Ama Yukta Kapha Avruta Udana Vata</i>
Pallor	<i>Vaivarnyam</i>
Hoarse Voice	<i>Vak-Swara Graha</i>
Increased Fatigue	<i>Daurbalya</i>
Lazyness	<i>Gurugatrata</i>
Myxoedema	<i>Sodha</i>
Goitre	<i>Galaganda</i>
Weight Gain	<i>Atisthoulya</i>
Cold Intolerance	<i>Saityam</i>
Poor Memory	<i>Asradda</i>
Nausea	<i>Hrillasa</i>
Body Pains	<i>Angamarda</i>
Absence of Sweat	<i>Srotorodha</i>
Infertility	<i>Klaibyam</i>

Endocrinal disorders are becoming a major concern to the medical fraternity in the present day scenario. The modern lifestyle and food habits are bringing about a lot of variations in the hormonal levels and functions of the body. This in turn is affecting the health of the people in a drastic manner. Ayurveda concentrates much on the diet and the life style of the people to maintain a healthy life. When the diet and the life style are not in accordance with the Ayurvedic principles, the metabolic functions of the body are disturbed to the vitiated *Agni*. This leads to the vitiation of *Doshas* and formation of vitiated *Dhatu*s. Moreover the vitiated *Doshas* causes *Sroto avorodha* and results in *Avarana janya vyadhis*. Hypothyroidism is one such disease which is due to *Kapha avruta udana vata*. Hence a clear understanding of the disease basing on Ayurvedic principles helps us to treat the disease to the patient satisfaction.

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