



Review Article

EVALUATION OF *DOSHA DUSHYA* INVOLVEMENT AND THEIR PATTERN IN THE PATIENTS OF HYPERTHYROIDISM AS PER PRINCIPLES OF AYURVEDA: A REVIEW

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ABSTRACT

Ayurveda is most scientific ancient science that has been evolved to provide treatment to chronic and non-communicable diseases in all over world. Holistic approach of Ayurveda provide cure not only to the physical but to mental and spiritual body as well. Over the years, the valuable experiences of many physicians (*Vaidyas*) have been adding to this traditional method.

As the anatomical and physiological knowledge of the human body was not so accurate and update in old days so the exact structure and function of any structural and functional unit of body is not available in any classical Ayurvedic texts. The endocrine system is a group of glands that prepare and secretes chemical substances, hormones that control various body functions. Due to lack of exact knowledge of endocrine glands, these glands and its pathological induced disorders are not so precisely described in Ayurvedic lexicon. But by the different name, various pathological conditions described in Ayurveda have some resemblance with endocrinal diseases.

Hyperthyroidism is a condition in which the gland thyroid makes too much T4, T3, or both. The signs and symptoms of thyroid diseases may be compared to Ayurvedic diseases like *Galganda, Atyagni, Bhasmaka* and *Atikarshya*. *Pitta vriddhi, Vata vriddhi* and *Kapha kshaya* collectively is a condition that may be supposed to be similar to the symptoms of Hyperthyroidism and it may be substantiated by more and more study. This review may provide beneficial description on Ayurvedic view on Hyperthyroidism that may be further useful.

INTRODUCTION

Pathology is the study of disease, its development and diagnosis and it has been evolved as a concomitant branch of medicine. It illustrates the study of disease processes in which the causes, mechanisms and extent of disease are involved. It also helps in exploring the exact and accurate state of disease on every aspect and underpins in developing useful medicine as well.

Pathology and its various aspects are described in Ayurveda in its own way and very scientific manner.

समदोषःसमाग्निश्चसमधातुमलक्रियः।

प्रसन्न आत्मा इन्द्रिय मनः स्वस्थइत्यभिधीयते॥

It depicts a situation of balance or normal equilibrium of structural and functional entities i.e. *Dosha, Dhatu* and *Mala* of the body that helps in growth. *Doshas; Vata, Pitta* and *Kapha* are the main cornerstone, responsible for state of equilibrium (health) and un-equilibrium (disease). These are susceptible to two types of causative factors (*Hetu*) i.e. *Aharajanya* (food related) or *Viharajanya* (activity related). *Dosha* imbalance due to either factor is the first and foremost event in the body that triggers other detrimental intermediate pathological processes in the development of diseases. Ayurveda states that diseases do not occur in *Samadosha* situations.

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Dosha aggravation for a period of time is the preliminary state in disease development that is responsible for commencement of vicious cycle of various pathological processes in the body which further disturb the normal biochemical milieu and produces the disease. This vicious cycle of all these processes are called *Dosha Dushya Sammurchana* (interactions between *Dosha* and *Dushya* and their results). In Ayurveda lots of various pathological states and their disease development processes have been explained in very scientific manner and a term *Samprapti* is used for all these. Some of these pathological states are described in the text by name while others exist as such and could not be named. *Acharyas* states that it is not possible to coin a name to every pathological state. *Doshas* vitiated by the particular *Nidana sevana* (use of causative factors) during the course of diseases produce specific phenomenon *Dosha Dushya Sammurchana* and it should be explored rather than making efforts for naming the conditions. So generally, every disease is explored on the concepts of Ayurvedic fundamentals and basic etiopathogenesis and then the treatment approaches are drawn on this basis.

The endocrine system is a framework of glands that prepare and secrete chemical substances, hormones that travels through the blood in the body and controls various body functions and involves in the growth and development of the body. Hyperthyroidism is condition when excessive thyroid hormones are present in the blood stream. *Pitta vriddhi*, *Vata vriddhi* and *Kapha kshaya* collectively is such condition that have great similarities with this hormonal disease which may be established after several evaluations.

MATERIAL AND METHODS

A comprehensive literary review has been made for collection of various reference of Hyperthyroidism available in modern text. References of similar disease condition were also searched in Ayurvedic text and compiled. A comprehensive brainstorm has been done on these references to explore the pathological state of Hyperthyroidism as per Ayurvedic fundamentals and laid down conclusion accordingly.

LITERARY REVIEW

Hyperthyroidism in Modern text

The thyroid gland is a part of endocrine gland system.^[1] This gland produce, store and release hormones into the bloodstream. Thyroid glands produce two hormones T3 and T4. Hyperthyroidism develops when the body encountered to excessive amounts of thyroid hormone.^[2] The most common reason of hyperthyroidism is Graves' disease.^[3]

Hyperthyroidism has many symptoms that can vary from person to person. Some common symptoms of hyperthyroidism are nervousness or irritability, fatigue or muscle weakness, heat intolerance, trouble sleeping, hand tremors, rapid and irregular heartbeat, frequent bowel movements or diarrhea, weight loss, mood swings, goiter, which is an enlarged thyroid that may cause the neck to look, swollen and can interfere with normal breathing and swallowing.

Similar conditions as per Ayurveda, an assumption

The signs and symptoms related to thyroid diseases are compared to Ayurvedic diseases like *Galganda*, *Atyagni*, *Bhasmaka* and *Ati Karshya*, etc. The signs and symptoms of hyperthyroidism may be compared to *Pitta vriddhi*, *Vata vriddhi* and *Kapha kshaya lakshana* (symptoms).^[4] *Kapha kshaya* causes *Kshaya* of *Rasa*, *Mamsa*, *Meda*, *Majja* and *Sukra Dhatus*. *Artava* which is *Updhatu* of *Rasa dhatu* also found to be decreased due to *Rasa kshaya* caused by *Kapha kshaya*.

Status of *Dosha*, *Dushya* and *Mala* during the development of disease as per Ayurvedic text (Pathological Phenomenon)

Even if Ayurveda is most ancient scientific science but some aspects of Ayurveda is not so accurate and update compared to modern science. The anatomy and physiology of endocrine glands is not described in any Ayurvedic classical texts. Endocrine disturbances induced disorders are also not described in any Ayurvedic texts due to similar reason. Even though any disease described in Ayurveda doesn't completely resemble with Hyperthyroidism, from the onset of the disease to its development, the condition between *Dosha-dushya* and their manifestation can be assessed in every patients of hyperthyroidism.

All diseases have a specific *Doshik* etiopathogenesis during their development. Our *Acharyas* have stated that *Doshas* are always distorted by the particular factors (*Nidana sevana*) and it produces specific disease in the body so no one disease can develop without the involvement of *Doshas*.

In *Charaka* and *Sushruta Samhita*, only the generalized symptoms of *Doshas* are described. In *Asthang Samgrah*, *Acharya Vagbhata* has described the symptoms produced by invasion of *Doshas* in the *Dhatus*, *Updhatu*s and *Malas* respectively. But the *Doshic vikriti* at the level of organ is not mentioned in any Ayurvedic lexicon. Unavailability of organ specific *Doshik vikriti* or disorders during those times may be due to inadequate anatomical knowledge. But with the development of scientific instruments and techniques, anatomical and physiological knowledge are being updated vastly. In Ayurveda, identification of *Doshic vikriti* up to the level of specific organ (organ specific disorders) is still to be explored whereas involvement

of organs in the pathology and its pattern and character has been established in modern science long ago. In patients of hyperthyroidism, an effort to evaluate the involvement of distorted *Dosha*, their pattern and symptoms in the body has been done. Outcomes are depicted below.

Pathological conditions found in Ayurvedic literature which simulate with symptoms found in Hyperthyroidism

Symptoms of *Vata vriddhi*^[5,6,7,8,9,10]

1. *Karshya* (Emaciation)
2. *Karchnya* (Blackish discoloration)
3. *Kampa* (Tremor)
4. *Nidranasha* (Insomnia)
5. *Balopghata* (Decrease of Strength)
6. *Spandana* (Palpitation)
7. *Rajonash* (Amenorrhoea)

Symptoms of *Pitta vriddhi*^[11,12,13,14]

1. *Glani* (Fatigue)
2. *Sheeta kamitvam* (Intolerance of heat)
3. *AlpaNidra* (Reduced sleep)
4. *Krodha* (Anger)
5. *Balahani* (Diminution of strength)
6. *Kshut* (Excessive appetite)
7. *Daha, santapa* (Sensation of heat)
8. *Swedadhikya* (Excessive perspiration)
9. *Ushma* (Increase body temperature)
10. *Kandu* (Itching)
11. *Srava* (Discharge)

Symptoms of *Kapha Kshaya*^[15,16,17]

1. *Antardaha* (Sensation of heat)
2. *Prajagaran* or *Anidra* (Insomnia)
3. *Hridrava* (Palpitation)
4. *Udveshtana* (Cramps)
5. *Shosh* (Weight loss)
6. *Vepana* (Tremor)

Vatananatmaja Vikara^[18,19]

1. *Nakhabheda* (Cracking of the nails)
2. *Hridrava* (Palpitation)
3. *Shrama* (Fatigue)
4. *Aswapa* (Insomnia)
5. *Vepathu* (Tremor)
6. *Anvashitachitata* (Instability of mind)
7. *Glani* (Fatigue)
8. *Bahusosha* (Wasting of the extremities)

Pittananatmaja Vikara^[20,21]

1. *Daha* (Sensation of heat in all over body)
2. *Osha* (Sensation of heating accompanied with sweating and restlessness)

3. *Amalaka* (Hyperacidity)
4. *Ushmadhikya* (Increase of body temperature)
5. *Swedadhikya* (Excessive perspiration)
6. *Atrupty* (Excessive appetite)

Symptoms of *Dhatu kshaya*^[22,23,24,25]

❖ Symptoms of *Rasa kshaya*

1. *Hritpeeda* (Angina pectoris)
2. *Hridrava* (Palpitation)
3. *Kampa* (Tremor)
4. *Shosh* (Emaciation)
5. *Alpayapicheshtaya Shrama* (Exhaustion even by slight activity)
6. *Shrama* (Fatigue)

❖ Symptoms of *Mamsa kshaya*

1. *Sphikgrevodar Sushkata* (Emaciation of cheeks, buttocks etc.)

❖ Symptoms of *Meda kshaya*

1. *Krishata* (Emaciation)
2. *Shrama* (Fatigue)

❖ Symptoms of *Asthi kshaya*

1. *Kesh Nakhaprapatanam* (Falling of the nails and hair)

❖ Symptoms of *Majja kshaya*

1. *Dourbalya* (Weakness)
2. *Asthi saushirya* (Osteoporosis)

❖ Symptoms of *Sukra kshaya*

1. *Dourbalya* (Weakness)
2. *Shrama* (Fatigue)
3. *Ashakti Maithune* (Loss of libido)

❖ Symptoms of *Artava kshaya*^[26]

1. *Yathochit kala adarshanam* (Amenorrhoea)
2. *Alpata* (oligomenorrhoea)

Symptoms of *Mala- SwedaVriddhi*^[27,28,29]

1. *Ati Sweda* (Excessive perspiration)
2. *Kandu* (Itching)

Symptoms of *Vikrit Pitta in Dhatu, Updhatu and Mala*^[30]

Pitta in Rakta- *Daha* (Sensation of heat)

Pitta in Meda- *Dahayukta grandhi, Swedsa* (Excessive perspiration)

Pitta in Asthi- *Daha* (Severe sensation of heat)

Pitta in Shira- *Krodhata* (Angry mind)

-*Pralap* (Delirium)

-*Santap* (Sensation of heat)

Pitta in Koshtha- *Daha* (Burning sensation)

Symptoms of *Vikrit Vata in Dhatu, Updhatu and Mala*^[31,32,33]

Vata in Rakta- *Krishta* (Emaciation)

Vata in Twak- *Santap* (Sensation of heat)

Vata in Majja and Asthi- Asthi Soushirya (osteoporosis), **Mamsakshaya** (wasting), **Aswapna** (Insomnia).
Vata in Shira- Sushyati (Emaciation), **Spandan** (Tremor)

Vata in Snayu- Kampa (Tremor)
Vata in Meda- Granthi (Growth)
Vata in Sarva sarira- Kampa (Tremor)

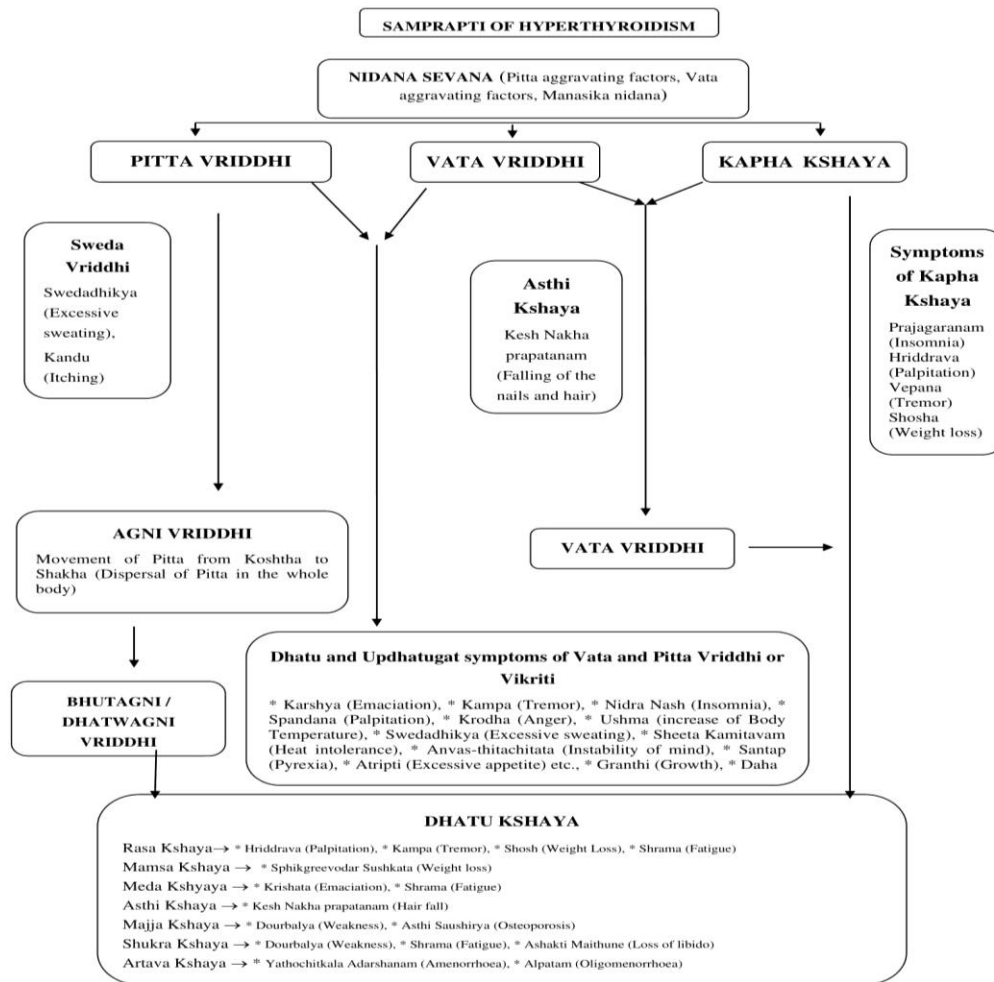


Figure:1 Possible Pathogenesis and Symptoms of Hyperthyroidism as Per Principles of Ayurveda DISCUSSION

On the basis of resemblance in sign and symptoms of Hyperthyroidism described in modern science and similar conditions in Ayurvedic literature, a hypothesis on *Dosha- Dushya Sammurchana* may be explored and an Ayurvedic pathogenesis may be laid down accordingly.

When symptoms of hyperthyroidism are observed, it is found that the symptoms of *Pitta vriddhi*, *Vata vriddhi* and *Kapha kshaya* are found to be predominant. *Acharya Sushruta* has described that in the human beings *Agni* is present in the form of *Pitta* and there is no other form of heat in body other than *Pitta*. So *Pitta vriddhi* is the only reason for *Agni vriddhi* (i.e., *Jatharagni vriddhi*).^[34] The *Amsas* (fractions) of *Jatharagni* are found in whole body in the form of *Bhutagni* and *Dhatwagni*. So increase of *Jatharagni* causes the increase of *Bhutagni* and *Dhatwagni*.^[35] *Acharya Vagbhata* has mentioned that the increase of

Dhatwagni cause *Dhatu kshaya* and vice versa.^[36] Increased *Dhatwagni* leads to respective *Dhatu kshaya*. The description about the relation among *Doshas*, *Dhatus* and *Malas* given by *Acharya Vagbhata*, is quite scientific. He has described *Asraya-Asrayi Bhava Sambhanda* (interdependence relation) between *Doshas*, *Dhatus* and *Malas*. According to this relation *Kapha Dosha* is related to *Rasa*, *Mamsa*, *Meda*, *Majja* and *Sukra Dhatus*. *Pitta Dosha* is related to *Sweda* and *Vata Dosha* is related to *Asthi Dhatus*. The respective *Dhatus*, *Updhatu*s and *Malas* of *Kapha* and *Pitta Dosha* follow the behavior of its *Doshas* i.e., it increases when *Kapha* and *Pitta Dosha* increase and vice versa. Whereas in case of *Vata Dosha*, its escalation decreases their respective *Dhatu* (*Asthi Dhatus*) and attenuation causes its increase.^[37]

We may comprise *Pitta vriddhi*, *Vata vriddhi* and *Kapha kshaya* in Hyperthyroidism. Here *Pitta*

vridhhi leads to *Swedadhikya*, *Vata vridhhi* leads to *Asthi kshaya* (osteoporosis) and *Kapha kshaya* causes *kshaya* of *Rasa*, *Mamsa*, *Meda*, *Majja* and *Sukra Dhatu*. *Aartava*, *Updhatu* of *Rasa Dhatu* also found to be decreased due to *Rasa kshaya* caused by *Kapha kshaya*. Hence all the *Dhatu*s become emaciated and person appears debilitated and suffers from *Hritpeeda*, *Hridrava*, *Kampa*, *Shosha*, *Alpayapicheshtaya* Sharma, *Sphikgrevodar sushkata*, *Krishata*, *Shrama*, *Kesha Nakha prapatanam*, *Dourbalya*, *Asthi saushirya*, *Ashaktimaithune*, *Yathochitkaladarshanam* and *Alpa Artavata*. One more condition also happened in the body in the context of *Pitta*. The increased *Pitta* in the *Kostha* is driven to *Shakha* (i.e., Seven *Dhatu*s and *Twak*) by *Vata* due to *Mithyaahara vihara* (uses of irregular diet and daily activities)^[38]. Thus not only Gastro intestinal manifestation of increased *Pitta* i.e., increased appetite is found but also generalized symptoms like *Glani*, *Sheeta kamita*, *Alpanidra*, *Krodha*, *Balhani*, *Daha*, *Santap*, *Swedadhikya*, *Ushmadhikya* are found in Hyperthyroidism. A flow chart of disease development process and appearance of symptoms is conceptualized that is given in Figure 1.

CONCLUSION

On the basis of *Dosha- Dushya Sammurchana*, thousands of pathological conditions and their pathogenesis can be observed in Ayurvedic system of medicine. Hyperthyroidism is an endocrinal disorder with great importance and the present review mainly focus on Ayurvedic aspects of etiopathogenesis of this disease. The status of *Dosha*, *Dushya* and *Mala* in the patients of hyperthyroidism has been conceptualized on the basis of sign and symptoms observed in the patients during disease development. On observing the symptoms of Hyperthyroidism, it is found that *Pitta vridhhi*, *Vata vridhhi* and *Kapha kshaya* is dominant in the body in this disease.

Even though these symptoms are observed in various other conditions, more observational studies should be conducted to support its relevance in the context of pathogenesis of hyperthyroidism. This review would help in further studies on exploring the potential of Ayurvedic medicine in prevention and treatment of the diseases hyperthyroidism.

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