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## “Patho – Physiology Of Hyperthyroidism & Their Ayurvedic Management”

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### Abstract :

Ayurveda is the Science of life deals with the Preventive and curative aspect. According to Ayurveda any disorder **Tridosha's** are responsible. Hyperthyroidism is due to **Vata & Pitta dosha vaishamya**. The multidimensional process of biological transformations in the body are controlled and regulated by **AGNI**.

Hence Agni (Dhatwagni) are disturbed in Hyperthyroidism. BMR is regulated by this

### Agni.

The Hyper metabolic state is maintained by **Dhatwagni** and it is manifested as **Dhatukshya** in the body. So there will be Dhatukshya at different levels since thyroid hormones enhance all aspects of cellular metabolism. Dhatugata Atyagni is the hallmark feature of Hyperthyroidism.

So due to Agnidushti, Srotodusti and Vata-Pitta Vaishamya symptoms like Weight loss, hot intolerance, Hair loss, restlessness, muscle weakness, irregular menstrual cycle, fatigue, osteoporosis, diarrhea, anorexia, palpitation, ankle swelling, sweating, infertility all symptoms are seen.

To treat Hyperthyroidism line of treatment must be :-

**To control tikshna agni**

**To control dhatupaka**

**Dhatu sarvardhana**

**Vatpitta shaman**

**Ojovardhana**

**Exercise & relaxation**

**Diet Modification** :- is essential for the treatment of Hyperthyroidism. Treatment must be Shaman Aushadhi & Sanshodhan (Nasya, Virechana etc.) & Rasayan treatment must be given.

**Key words** :- Patho – physiology, Hyperthyroidism, Ayurvedic & Management.

**Aim** :- The aim of article is to discuss the pathogenesis and management of Hyperthyroidism.

**Objectives** :- To create awareness of treatment of Hyperthyroidism according to Ayurveda.

**Type of study** :- Descriptive and conceptual study.

**Literary review** :- According to ayurveda (Charaksamhita) our sharir is made up of dosha, dhatu and malas. All these responsible for maintaining body. Roga (disease) is the effect of disequilibrium of dhatus and health is the results of equilibrium of doshas & dhatus.

**(Dhatu samya kriyachokta tantrasya aasya prayojanam)**

**Introduction :-**

In the modern era day to day Hyperthyroidism is the commonest problem. More than 5 million cases per year are diagnosed in India.

Hyperthyroidism also called over active thyroid or high thyroid is a common disorder of the endocrine system in which the thyroid gland produce excess thyroid hormones. (Thyroxin)

Hyperthyroidism can accelerate your body's metabolism significantly causing sudden weight loss, a rapid or irregular heartbeat, sweating & nervousness and irritability. Grave's disease the most common cause of Hyperthyroidism is more prevalent in women than in man.

Hyperthyroidism occurs when the thyroid makes too much T4, T3 or both. Diagnosis of overactive thyroid and treatment of the underlying cause can relive symptoms and prevalent complications.

**Causes :-**

A verity of conditions can cause Hyperthyroidism.

- 1.Grave's disease an autoimmune disorder is the most common cause of Hyperthyroidism.
- 2.Excess iodine, a key ingredient in T4 & T3.
- 3.Thyroiditis or inflammation of the thyroid which causes T4 & T3 to leak out of the gland.
- 4.Tumors of the ovaries or testis.
- 5.Benign tumors of the thyroid or pituitary gland.
- 6.Large amount of tetraiodothyronine taken through dietary supplements or medication.

**Signs & Symptoms:-**

- In Hyper metabolic state you may experience a rapid **heart rate, elevated BP and hand tremors.**
- You may also sweat a lot and develop a low tolerance of heat. In Hyperthyroidism, more frequent bowel movements **weight loss** and in women irregular menstrual cycles.
- Visibly the thyroid gland itself can swell in to a **goiter**, which can be either symmetrical or one sided.
- Eyes may also appear quite prominent, which is a sign of **exophthalmos**, a condition that's related to grave's disease.

**Other symptoms :-**

Increased appetite

Nervousness

Restlessness

Inability to concentrate

Weakness

Irregular heartbeat

Difficulty in sleeping

Itching

Dyspnoea on exertion

Angina

Diarrhea

Digital clubbing

Amenorrhea



Hair loss	Loss of libido
Nausea and vomiting	Spontaneous abortion
Breast development in men.	Fatigue & Thirst

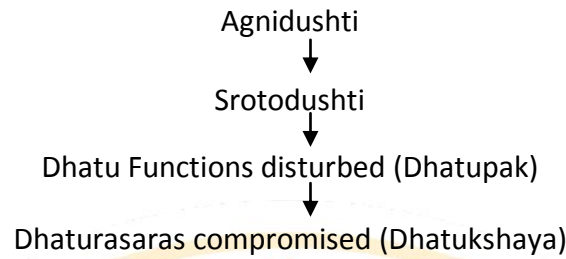
The following symptoms require immediate medical attention.

Dizziness  
Shortness of breath  
Loss of consciousness  
Fast and irregular heartbeat

#### Pathophysiology :-

- Thyroid Hormone is required for the normal functioning of numerous tissues in the body.
- In health the thyroid gland predominantly secretes thyroxine (T4) which is converted in to triiodothyronine (T3) in other organs by the selenium dependant enzyme iodothyronine deiodinase.
- T3 binds to the thyroid hormone receptor in the nucleus of the cell.
- The thyroid gland is the only source of thyroid hormone in the body, the process requires iodine and the amino acid tyrosine. Iodine in the bloodstream is taken by the gland and incorporated in to thyroglobulin molecules. The process is controlled by the TSH which is secreted by the pituitary gland.
- Not enough iodine or not enough TSH can result in decreased production of thyroid hormones.
- The **Hypothalamic – Pituitary – Thyroid axis** plays a key role in maintaining thyroid hormone levels within normal limits.
- The production of TSH by the anterior pituitary gland is stimulated in turn by thyrotropin releasing hormone (TRH) released from hypothalamus.
- Fundamental effect is deficient production of thyroid hormones due to various factors, but most common for is dietary lack of iodine. Which gets result in lack of thyroxin. Thyroxin is made up of by iodine and tyrosine (Aminoacid).
- Deficient thyroid hormone production causes excessive TSH Stimulation which lead to hyperplasia of follicular epithelium as well as formation of new thyroid follicles.
- Rapid and prolonged changes of hyperplasia result in continued growth of thyroid tissue while involved areas undergo fibrosis **nodular goiter**.
- **Thyrotoxicosis** is a toxic condition of tissues exposed to the excessive thyroid hormones.
- Thyroid hormones metabolism runs in hypothalmo – pituitary – thyroid axis, but target tissues of thyroid dysfunction are multiple.

**Pathophysiology of Hypothyroidism by Ayurveda :-**



**Dosha – Vata Pitta**

**Doosha – Rasa – Rakta – Mamsa**

**Agni -Teekshnagni– at kosta & Dhatu level**

**Type of Srotodushti – Atipravrutti**

**Rogmarga – all three.**

**Diagnosis :-**

By complaints medical history and physical examination.

Wight loss

Rapid pulse

Elevated BP

Protruding Eyes

Enlarged thyroid gland

**Other Test:-**

Lab testing of TSH levels in blood is considered the best initial test of Hyperthyroidism.

A second TSH level is often obtained several weeks later for confirmation.

T4, Free T3, T4

TSH – low TSH sign of Hyperthyroidism

Cholesterol test – low cholesterol sign of - elevated MBR

Triglycerides – low triglyceride - elevated MBR

Thyroid scan and uptake

USG – Size of entire thyroid and mass of gland.

C.T. or MRI Scan – for pituitary tumors.

**Management of Hyperthyroidism :-**

1. **Medication :-** Anti thyroid medication such as methimazole (Tapazole). Carbimazole 5 to 20 mg dally for 18 to 24 months.
2. **Radioactive Iodine :-** It effectively destroys the cells that produce hormones.
3. **Surgery :-** A section or all of thyroid gland me be surgically removed.(Subtotal thyroidectomy)

You will then have to take thyroid Harmon supplements to prevent Hypothyroidism.

To improve symptoms :-

1. Eating proper diet – with a focus on calcium and sodium is important.
2. Stress or infection can cause thyroid storm- so manage your stress and infection very well.

**2. Management by Ayurveda :- Line of treatment -**

Treatment of Teekshnagni.

Treatment of Dhatupaka

Treatment of Dhatusara Vardhana

Treatment of Vata, Pitta Shaman

Treatment of Ojovardhan

Active exercise

Yogasan and relaxation &

Diet modification

Nidan Parivarjan

**1) Shodhan Chikitsa :- (Panchkarma) in Hyperthyroidism -**

1. Virechan :- It corrects Pitta related pathologies. Virechan in good for bringing Vatanuloman in Srotuses. Virechan with trivruth leha 25gm after 8 a.m.  
Virechan with Kalyanak Gula 25gm after 8 a.m.
2. Nasya :- Bramhana nasya with ksheerbala oil.
3. Dhara :- ksheerdhara for stress release.

**2) Shaman Chikitsa :-**

1. Shatavariyadi kwatha – 2 times in day
2. Shatavari ksheerpaka
3. Dadimadi Ghritum – 20 gm BD
4. Kumaryasav – 20 ml with water

**3) Rasayan Chikitsa :- for dhatuagnimandhya**

1. Shatavari Rasayan – 2gm with water
2. Aswagandha Rasayan – 2gm with water
3. Amlaki Rasayan
4. Guduchi Rasayan
5. Vidarikanda Rasayan
6. Jalkumbhi Bhasma – 500 mg with milk.

**4) Yoga & Meditation :-**

1. Bhujangasan
2. Sarvangasan
3. Matsyasan
4. Relaxation with Deep breathing
5. Massage therapy
6. Anulom-Vilom Pranayam
7. Meditation

**5) Active Exercise:-**

Around half hour in each day can help improve energy level and reducing fatigue.  
It can improve your bone density.



**6) Diet :-**

Rich protein diet is essential with Vitamins, Minerals, Calcium, Iodine & Selenium contain diet is necessary.

**Eat** – Eggs, cereals, lean meat, fish, pulses, yellow fruits which include Papaya & mango.

Milk and other dairy products.

Banana, cauliflower and broccoli & Carot.

**Avoid** – Artificial sweeteners or product that contain aspartame like diet sodas. Foods that are high in iodine Processed meats like sausage and hamburgers.

**Discussion & Conclusion :-**

- Hyperthyroidism can be treated by Ayurvedic Management. Massage, Virechan, Nasya, Dhara, Rasayan Aushadhi & Diet Modification are beneficial in Hyperthyroidism.
- Hyperthyroidism is due to Vata – Pitta- Prakop, hence Vata-Pitta Chikitsa Upakram according to pathophysiology is beneficial.

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