A Systemic Review on Hypothyroidism – a Most Prevalent Disease in India

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Abstract

Ayurveda suggests that it can be related to Agni's activity. The Saman Vayu aids the *Jatharagni,* who is in charge of controlling food absorption and digestion. *Bhutagni* is in charge of transforming heterogeneous materials into homogeneous ones. *Aahar-rasa* is converted into *kitta* and *sara* by *Dhatwagni,* who also controls metabolism. These vitiated Agnis cause the doshas to become imbalanced, which results in a number of conditions, including hypo- and hyperthyroidism. Additionally, symptoms of hypothyroidism and a Dosha Dushya imbalance may coexist. Nidan Sevan and Ama aggravate the hypothyroidism symptoms. By looking at the physiology of thyroid hormone, the vitiation of the *dosha dushya ama agnimandya* in hypothyroidism, and a brief therapeutic strategy, the current study seeks to investigate hypothyroidism from an ayurvedic viewpoint. Thyroid gland issues are becoming more and more of a global health problem. Globally, the prevalence of hypothyroidism is increasing because the thyroid gland is vulnerable to factors that cause stress and worry. Iodine deficiency is thought to affect 2 billion people worldwide, according to the WHO. A little or severe iodine deficiency can result in goiter and hypothyroidism, respectively. Women are 2–10 times more likely to experience these problems. In Ayurveda, there is no correlation between the thyroid glands at all. But the Ayurvedic medical system is fairly modern and gives little importance to disease classification. It rather insists on understanding the constitutional status of a disease and selecting the appropriate therapeutic approach. The primary role of thyroid hormone is to act as a spark to start the body's cellular metabolism.

Keywords: Hypothyroidism, *Agnimandya, Ama* etc.

Introduction

Thyroid hormones are generated by the thyroid gland, an important endocrine gland located in the neck. The thyroid gland generates the related hormones T4 thyroxine and T3 triiodothyronine.[1] These hormones support adult body temperature regulation and

metabolic balance in addition to being essential for cell differentiation during development.[2] An endocrine feedback loop is well recognized for controlling the thyroid axis. Hypothyroidism is the medical term for any disorder that results in a shortage of thyroid hormone, such as hypothalamic or pituitary malfunction or broad tissue resistance to thyroid hormone.[3] Ayurveda assigns Agni control over the body's metabolism and thermogenesis.[4] The Agni and the thyroid gland both have healthy and unhealthy functions. Additionally, Ama's symptoms and hypothyroidism symptoms are similar. Vitiation of the dosha dhatu that causes the symptom to appear.[5]

Synthetic hormone derivatives may be used to treat hypothyroidism and bring the T3 T4 TSH value back into normal range, however owing to the higher dosage and ongoing therapy, the patient will remain drug dependent until they pass away.[6] Therefore, improved therapy that is safer and more effective is needed for today's culture. Along with *vata kapha vridhi, pitta kshya, ama, and agnimandya* are hypothyroidism symptoms that are similar. The present essay aims to associate hypothyroidism with *agnidushti, ama, doshadushti* and *dhatudushti*.[7]

A healthy *agni* keeps the body's regular metabolism running smoothly. There are three fundamental types of *agni,* each with a range of uses and locations where they act. The *agni,* which is housed in the *jathara* (digestive fire), digests and assimilates food. The *bhutagni is* in charge of turning inhomogeneous materials into ones that are.[8] The *agni* present in the body tissues, *dhatwagni* and *bhutagni,* regulate metabolism. The right amount of *agni,* often referred to as *kayagni* or *dehagni,* is what causes normalcy in the body. Additionally, *agni* imbalance is what leads to disease in the body.[9]

Methodology

The study is carried out using a critical evaluation of the data and a review of the relevant literature. To comprehend the pathophysiology of hypothyroidism, various Ayurvedic texts were critically analyzed.

Physiological Aspect of Thyroid

Protein metabolism raises the amount of protein that cells produce.

Carbohydrate metabolism encourages gluconeogenesis, glycogenolysis, and glucose absorption to produce free glucose, which gives the body energy.[10]

Lipid metabolism

This procedure aids in the metabolism of fat by accelerating the oxidation of lipids to create energy and releasing lipids from adipose reserves. By releasing stored fat from adipose tissue and fat depots, thyroxine reduces the production of new fat. Thyroxine increases the level of free fatty acid in the blood because the mobilized fat is transformed into free fatty acid and transported through the circulation.[11]

Increases BMR while speeding up various cellular metabolic processes to increase the body's capacity to create heat. As a result, body temperature is affected.

Accelerating development, particularly in young children.

An increase in heart rate brought on by increased cardiac contractions brought on by CVS

Hypothyroidism

The abnormally low thyroid gland activity that characterizes hypothyroidism hinders the growth and mental development of both children and adults. Iodine deficiency is still one of the main causes of hypothyroidism worldwide.[12]

Iatrogenic causes (treatment for hyperthyroidism) and Hashimoto's thyroiditis are the most common autoimmune illnesses.

There are more causes as well, including the use of medications, an excess of iodine, contrast media that include iodine, and amiodarone. lithium, a metal. thyroiditis, congenital hypothyroidism, and antithyroid drugs.

Trauma, pituitary surgery, tumors, and isolated TSH deficiency are secondary causes of hypopituitarism.

Analysis Of Hypothyroidism

The thyroid gland is referred to in Sanskrit as *avatu,* whereas *ojas* is our inherent strength and immunity. Ojas is depleted and *kapha* is forced out of equilibrium with *vata* by a chronic *vata- pitta* imbalance. The major etiological factors that lead to hypothyroidism are vitiated *tridosha, kapha* predominance, *vata vrudhi,* and *pitta kshaya,* both of which aggravate *vata*.[13] This *tridosha* vitiation leads to the derangement of *jatharagni,* which in turn triggers the derangement of *dhatwagni* and the manifestation of ama. The symptoms of this ama are similar to those of hypothyroidism because it obstructs the body's channels *(srotorodha*), which alters the contents of the channels and vitiates *strotasa* and dhatu.[14]

TABLE NO. 1 INVOLVEMENT OF DOSHA

Symptoms	Dosha involvement
Puffiness of body	*kapha vrudhi*
Loss of appetite	*kapha vrudhi pitta kshay*
Dry and coarse skin	*vata vrudhi pitta kshaya*
Minimal or absent sweating	*Pitta khaya*
Constipation	*vata vrudh*
Hoarseness of voice	*kapha vata vrudhi*

TABLE NO. 2 INVOLVEMENT OF DHATU

Rasa	weight gain, loss of appetite, heaviness of body, lethargy, premature aging symptoms – menstrual disorders infertility
Rakta	dry skin, slow pulse rate, lethargy
Mamsa	heaviness in body, muscle ache, *granthi, galganda*
Meda	tiredness, sleepiness, sluggishness
Asthi	osteoporosis OA
Majja	Osteoporosis
Shukra	loss of libido, infertility.

TABLE NO. 3 INVOLVEMENT OF AMA

Ama lakshan10	Symptoms
Bal bhrinsha	delayed development milestones, cold intolerance, mental impairment
Gaurava	Swollen puffy oedematous face, weight gain
Anil mudhata	Slow HR, jointpaint, inability to concentrate
Aalasya	Lethargy sleepiness
Aruchi Apakti	Decrease appetite and BMR
Malasanga	Constipation
Klama	loss of energy, apathy, fatigue

INVOLVEMENT OF AGNI

Almost all body cells are affected by the metabolism of thyroid hormone. Each and every biological cell is affected by *agni.* Similar to how thyroid hormones help with the metabolism of proteins, lipids, and carbs, *jatharagni* works with *saman vayu* to help with the digestion of these substances into the intestine. *Bhutagni* converts these heterogeneous molecules into homogeneous compounds at the cellular level.[15]

It is believed that a vitiated *agni* is the root of all physical ailments. Agni cannot even partially digest the food that has been taken because Agni is in a vitiated state termed *agnimandya. Agnimandya* produces an abnormal rasa dhatu as a result of inadequate digestion. Ama. The signs and symptoms of this ama are similar to those of hypo- or hyperthyroidism.[16]

DHATU VRIDDHI

The Dhatus also contain a portion of Kayagni, which is already extant in its own place. The Dhatus increase and decrease (respectively) as a result of their decline and increase (respectively) in number, quality, or functions. The subsequent Dhatu will also rise or decrease if the prior Dhatu does.[17]

For instance, Agni alone, which is represented by Pitta in the body, is responsible for digestion or indigestion, vision or loss of vision, normalcy or otherwise of bodily heat, normalcy or otherwise of complexion, value and fear, anger and joy, bewilderment and happiness, and such other pairs of opposite qualities.[18]

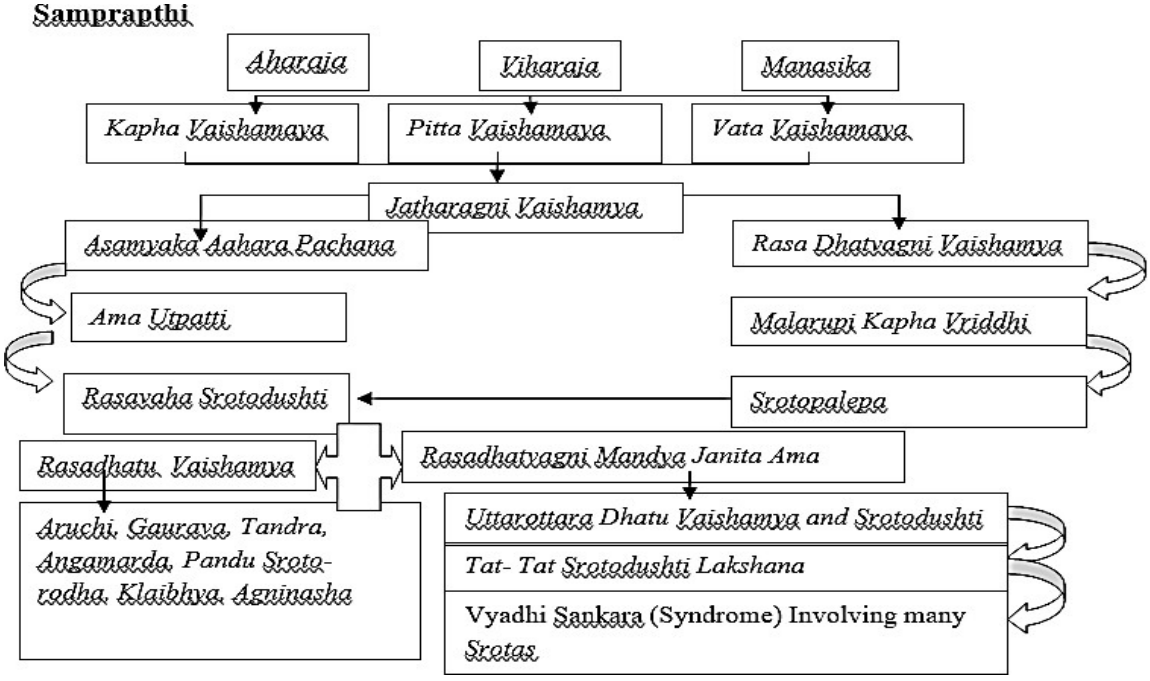
Involvement of Ama

The *Samadosha lakshanas* include a blocked channel, weakness, a feeling of weight in the body, *vata* inactivity, lassitude, loss of digestive capacity, increased expectoration, a buildup of wastes, anorexia, and exhaustion. Lethargy, weariness, a sensation of weightiness in the body, sleepiness, and loss of appetite are some of the clinical signs of hypothyroidism.

SAMPRAPTI GHATAKA

Dosha- Kapha vruddhi,pitta dushti, vata vruddhi Dushya- all dhatus predominantly rasa, medha Agni- Jatharagni, Dhatvagni
Ama- Jatharagni, mandya janita, Dhatvagnimandya janita
Srotas- all srotas
Srotodushti- sanga, vimarga gamana Adhishtana- gala pradesha
Udhbava sthana- Amashaya
Rogamarga- Bahya Vyakta sthana- Sharira

SAMPRAPTI



TREATMENT OF HYPOTHYROIDSM SHAMAN CHIKITSA

DEEPAN PACHAN

It is essential to manage *agni* with the metabolism-boosting digestive herbs known as *dipanas* before purifying ama with *pachnas*. The *deepan pachan* therapy improves

Jatharagni in ama dosha instances, which in turn normalizes *Bhootagni* and *Dhatwagni.* As a consequence, the Ayurvedic therapy modulates metabolism at the cellular level in addition to relieving symptoms.

LEKHANIYA DRAVYA CHIKITSA

Chitrak and *guggulu*, are beneficial for losing extra weight.

RASAYAN CHIKITSA

All of the aforementioned medications are effective, but because they have a warming effect, which might aggravate pitta and deplate ojas, it is important to alter the dosage of these herbs accordingly. If pitta is vitiated, Rasayanas should be used instead.

SHODHANA CHIKITSA

Chargedi virechanam Siravyadha Agnikarma Ksharyoga Nasyam Swedo Dhooma Bhaijaya Ratnavali Chikitsa Galganda, Pralepo Langhanani Cha

The therapies mentioned in *Bhaishjya Ratnavli,* including *vaman virechan Nasya Swedan Dhoompaan Siravyadha Agni karma Kshar yog Pralepa Langhana.*

Vaman is equipped with a *madanphala pippali, Mrudu Virechan* has a *gandharv Hasyadi tail* and a *trivrutt,* and *Snehapana* has an *amrutadya tail*, a *tumbi tail,* and a *goghrita.*

CHURNA KALPANA

Guggulu panchapalam Churna
Abhaya Churna Churna
Vyoshadi hurna
Shaddharana ChurnaVATI KALPANA

Triphala Guggulu
Kanchanar Guggulu

ARISHTA KALPANA

Abhayarishtam
Ayaskriti

PATHYA AHARA VIHAR AHARA

Aahar - kaphahara Aahar (lukewarm water) is a term used to describe ragi vegetables such as radish sarshap gandeera and spices such as shunthi jeerak trikatu ushna jala.

VIHARA

regular exercise such as yoga asana pranayama and *surya bhedan kapalbhati.*

APATHYA

food that is refined and substantial. anything that has been fried. potatoes, peas, black gram, and white floor are examples of refined foods. Items made of dairy, bread, and fermented foods.

Discussion

The underlying pathophysiology of hyperthyroidism is not being sufficiently addressed by the current hyperthyroidism treatment regimen. It is possible for us to conclude from the conceptual pathology that the disease is largely *ras medo dushti* with *Kapha pradhan tridosha vyadhi. Nidan Parivarjan* and *Deepan Pachan Chikitsa* aid in reducing *Agnimandya* and *Ama*, which have at last eased hypothyroidism symptoms and provided comfort. Yogas such as *Varunadi* Kashay and *Kanchnar Guggulu* help to lessen *srotolepa* and to resolve *agnimandya.* Synthetic hormone derivatives may be used to treat hypothyroidism and bring the T3 T4 TSH value back into normal range, however owing to the higher dosage and ongoing therapy, the patient will remain drug dependent until they pass away. Ayurveda can consequently provide longer-lasting, safer, and better treatment.[19]

Hypothyroidism can be categorized as a *Kapha Pradhana. Tridosha Vyadhi* with predominant *Rasa* and *Medo Dushti* due to a conceptualization of its symptoms. The course of therapy might be planned using *Dosha Pratyaneeka Chikitsa* rather than *Vyadhi Pratyaneeka Chikitsa. Varunadi Kashaya* and *Kanchanara Guggulu* are two of the 20 *yogas* that help with *Srotolepa* elimination and *Agnimandhya* resolution.[20] The *Sodhana Chikitsa* strengthens *Agni,* whereas the *Sthanika Lepas* weakens *Sthanika Dosha Vruddhi.* If the patient is currently on levothyroxine, weaning them off the medicine will require greater brain stimulation. If the patient has diabetes or high blood pressure, the treatment strategy should be more careful.[21]

Conclusion

Hypothyroidism might be considered a condition that causes *Dosha dushti. Agnimandya* is the result of *pitta kshya* and *kapha vata dosha vrudhi*. This vitiation of Agni results in the creation of the *Mandya Dhatwagni Ama Nirmiti. Dosha Pratyanik Chikitsa* will make it simpler to handle this illness. *Rasayan* will help with condition control since it promotes *strotomukh vishodhan.* We utilize Ayurveda to treat the underlying imbalance of hypothyroidism, not simply its symptoms.

Conflict of interest -nil

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References

1. Kasper Fauci Hauser Longo Jameson Loscalzo- Harrisons principles of Internal Medicine – McGraw Hill publication 19 th edition chap-405 disorder of Thyroid Gland page 2289.
2. Salerno M, Capalbo D, Cerbone M, De Luca F. Subclinical hypothyroidism in childhood—current knowledge and open issues. Nat Rev Endocrinol 2016; 12: 734–46.
3. Kasper Fauci Hauser Longo Jameson Loscalzo- Harrisons principles of Internal Medicine – McGraw Hill publication 19 th edition chap-405 disorder of Thyroid Gland page 2283.
4. Åsvold BO, Vatten LJ, Bjøro T. Changes in the prevalence of hypothyroidism: the HUNT Study in Norway. Eur J Endocrinol 2013; 169:613–20.
5. Garmendia Madariaga A, Santos Palacios S, Guillén-Grima F, Galofré JC. The incidence and prevalence of thyroid dysfunction in Europe: a meta-analysis. J Clin Endocrinol Metab 2014; 99: 923–31.
6. Kavita Indapurkar, Dr.Umesh Ghate, Dr.Ashish Thakur, Dr. Madhavi Mahajan, Dr.Kirti Bhati, Dr.Ravindra Patwardhan, Prof. Rahul H Gujarathi, Quantitative Assessment Of Visual Reaction TimeAnd Its Association With Sharir Prakruti, Journal of Pharmaceutical Negative Results ¦ Volume 14 ¦ Regular Issue 03 ¦ 2023.
7. Sharayu P. Phule, Umesh S. Ghate, Ganesh B. Patil, Application Of Upamana Pramana (Analogy) To Interpret Concept Of Prakriti Anddhatu Sarata: A Review, Sharayu P. Phule et al/ Int. J. Res. Ayurveda Pharm. 11(5), 2020, ISSN - 2229–3566).
8. Aoki Y, Belin RM, Clickner R, Jeffries R, Phillips L, Mahaffey KR. Serum TSH and total

T4 in the United States population and their association with participant characteristics: National Health and Nutrition Examination Survey (NHANES 1999– 2002). Thyroid 2007; 17: 1211–23.

9. Canaris GJ, Manowitz NR, Mayor G, Ridgway EC. The Colorado thyroid disease prevalence study. Arch Intern Med 2000; 160: 526–34.
10. Hargreaves M. The metabolic systems; carbohydrate metabolism. In: Farrell PA, Joyner MJ, Caizozzo VJ, editors. Advanced Exercise Physiology. Philadelphia, PA: Lippincott Williams and Wilkins; 2012. pp. 3–391.
11. Genest JJ, Martin-Munley SS, McNamara JR, Ordovas JM, Jenner J, Myers RH, Silberman SR, Wilson PW, Salem DN, Schaefer EJ. Familial lipoprotein disorders in patients with premature coronary artery disease. Circulation. 1992 Jun;85(6):2025-33..
12. An Observational Study to Find Correlation Between Dhatu Sarata (Tissue Excellence) And Alpha-Fit Fitness Test Battery, International Journal of Life science and Pharma Research, Int J Life Sci Pharma Res., Volume13., No 1 (January) 2023, pp L193-201.
13. Sharayu P. Phule, Umesh S. Ghate, Ganesh B. Patil, Application Of Upamana Pramana (Analogy) To Interpret Concept Of Prakriti Anddhatu Sarata: A Review, Sharayu P. Phule et al /Int. J. Res. Ayurveda Pharm. 11(5), 2020, ISSN- 2229–3566)
14. Shri Nagindas Chaganlal Shah Ras vaidyen sangruhit Bharat bhaishjya Ratnakar B. Jain publishers chaturth bhag page 847 848.
15. Dr. Sharayu P. Phule, Dr. Umesh S. Ghate, Dr. Ganesh B. Patil, Dr. Sudeep Menon, Dr. Ravindra R Patwardhan, Dr. Sanjay Dhurve, Ayurvedic Anthropometry And Its Association With Health Relatedphysical Fitness – An Observational Study, He Journal Of Oriental Research Madras Issn : 0022-3301 |January 2023.
16. Charaka Samhita – By Dr. Bramhan and Tripathi, sharirsthan, 7/17, chaukhamba prakashana1988.
17. Sushruta Samhita - Dr. Anantarama Sharma ed. Sushruta Samhita of sharirsthan, 4/25-30, reprint ed. 2008, Chaukhambha Surabharati Prakashana, Varanasi, pp 185.
18. Astangahrudaya – Sarvangsundartika, 1998. By Vd. P.V. Sharma, sutrasthan 12/8, edition 1998, chaukhmbaprakashan, Varanasi.
19. Charaka Samhita – By Dr. Bramhan and Tripathi, sharirsthan, 7/17, chaukhamba prakashana1988.
20. Sushruta Samhita - Dr. Anantarama Sharma ed. Sushruta Samhita of sharirsthan, 4/25-30, reprint ed. 2008, Chaukhambha Surabharati Prakashana, Varanasi, pp 185.
21. Teng W, Shan Z, Teng X, et al. Effect of iodine intake on thyroid diseases in China. N Engl J Med 2006; 354: 2783–93.