

AYURVEDIC MANAGEMENT OF HYPOTHYROIDISM- CASE SERIES

Yogita Bisht¹, Avneesh Kumar Dwivedi²

¹Assistant Professor, Department of Kayachikitsa; ²Associate Professor, Department of Kayachikitsa; Shri Dhanwantri Ayurvedic Medical College & Research Centre, Vil. Semri, Teh. Chatta, Dist. Mathura, Uttar Pradesh- 281001, India

Email: yogitabisht06@yahoo.co.in

ABSTRACT

Hypothyroidism is a common disorder in which the thyroid gland does not make enough thyroid hormones. It is also called underactive thyroid disease. Hypothyroidism is one of the leading endocrine disorders of present times. Every one of ten is affected with Hypothyroidism. Thyroxine is the only means for combating this problem in the patients of hypothyroidism. External thyroxin supplementation is not only a burden but it leaves the patients without actually treating the underlying cause. Management of Hypothyroidism with synthetic thyroid hormone derivatives are cost expensive and makes the patient drug dependent till the end of mortal life. So, a better, safer and long lasting therapy for hypothyroidism is the need of hour. As per Ayurveda it can be correlated with *medas dhatwagni mandya*, *kaphaj vridhhi* or *kapha avarana janya dhatwagni mandya*. In this case series, the primary aim was to manage Hypothyroidism with *ayurvedic* medicine and lifestyle modification. Five patients were given *Giloy satva* 1 gm, *Panchkol churna* 3 gm, *Kanchnar guggulu* 500 mg and *arogyavardhini vati* 500 mg twice a day orally after meals with luke warm water.

Keywords: Hypothyroidism, *Medas dhatwagni mandya*, Weight gain

INTRODUCTION

The thyroid gland is situated at the lower part of the neck, immediately below the larynx on each side anterior to the trachea. 93% of hormone secreted is thyroxine and the rest is tri-

iodothyronine. Release of these two hormones into blood is in the ratio 20:1 respectively. It is essential for neonatal growth, brain development and attainment of normal adult structure.

It controls metabolism at cellular level which in turn affects the body's temperature, the contraction of heart, the rate of respiration and the motility of gastrointestinal tract [1]. If a person is deficient in thyroid hormone, all these body processes slow down. As a result of which the metabolism becomes sluggish and the body generates less energy [2].

The symptoms of hypothyroidism include weakness, lethargy, weight gain with poor appetite, dry skin, cold intolerance, hair loss, poor concentration, constipation, shortness of breath, hoarse voice, menorrhagia, and impaired hearing. Cool extremities, puffy face, swelling over hands and feet (myxedema- non pitting edema), diffuse alopecia, delayed tendon reflexes; bradycardia, peripheral edema, carpal tunnel syndrome and serous cavity effusions are the various signs in hypothyroidism.

Ayurveda has not mentioned endocrine disorders, instead for treatment of unspecified syndromes, it emphasizes on careful observation of symptoms and patho physiology [3]. In Ayurveda it can be co-related with the actions of "AGNI." To be more precise, the signs and symptoms of hypothyroidism are similar to those of *Kapha Vriddhi* (increase in kapha), *medas dhatwagni mandya* (slow metabolism at adipose tissue level), *Rasa Dushti* (pathology of blood), *Medas dushti* (pathology of adipose tissue) and *kapha Avarana janya Dhatwagni Mandya* (slow metabolism due to blockage of *kapha*). The most common cause of hypothyroidism is Iodine deficiency. Areas where there is iodine sufficiency, Hashimoto's thyroiditis and iatrogenic causes like treatment

of hyperthyroidism are most common [4]. Less common causes include absence of a functioning thyroid at birth, previous treatment with radioactive iodine, injury to the hypothalamus or the anterior pituitary gland, certain medications, or previous surgery of the gland [5]. Females are more affected than males (6:1 ratio). Whites and Asians are more affected population. 80% of all Thyroid disease is diagnosed as Hypothyroidism.

Diagnosis

The most sensitive screening tool for primary hypothyroidism is the third generation thyroid-stimulating hormone assays. In primary hypothyroidism, serum T₄ is low and TSH elevated. Measurements of serum T₃ are considered unreliable. In severe and prolonged cases, the ECG classically demonstrates sinus bradycardia with low voltage complexes and ST segment and T wave abnormalities. Measurement of Thyroid peroxidases antibody (TPO) is also helpful in cases of autoimmune thyroiditis[6-9].

If the level of both TSH and T₄ are low, this is indicative of central hypothyroidism (insufficient TSH or TRH secretion). There may be other features such as menstrual cycle abnormalities and adrenal insufficiency. If any lump or mass is felt within the thyroid gland then thyroid imaging is required.

Material and Methods

Centre of study: Shri Dhanwantri Ayurvedic Medical College and Research Centre, Mathura

Study design: Case series

The patients presented with features suggestive of Hypothyroidism were examined; a clinical diagnosis was made and then confirmed with the help of level of TSH in the blood. After confirmation, patients who were newly diagnosed were considered for this case series. The demographic profile, associated symptoms such as weight gain, swelling all over body, facial puffiness, loss of appetite, pain in legs and menstrual irregularities were noted. Laboratory investiga-

tion like blood picture was also documented. The patients were prescribed [Table 1] *Giloy sattva* 1 gram, *Arogyavardhini vati* (each of 250 mg) [Table 2] two tablets, *Kanchnar guggulu* (each of 250 mg) [Table 3] two tablets and *Panchkol churna* 3 grams [Table 4] two times a day after meals with Luke warm water for 45 days. Purpose and effect of medication was explained to patients. Written consent from patients who were willing for medication was also taken. Patient outcomes were also analyzed.

Table 1: Drugs used

Sr. no	Drugs	Dose	Duration	Anupana
1.	Giloy sattva	500 mg	1 BD	Luke warm water
2.	Ayogyavardhini vati	500 mg	1 BD	Luke warm water
3.	Kanchnar guggulu	500 mg	1 BD	Luke warm water
4.	Panchkol churna	3 gm	1 BD	Luke warm water

Table 2: Contents of *Arogyavardhini vati*:

Drugs	Botanical name	Quantity
<i>Shuddha parad</i>		0.5%
<i>Shuddha gandhak</i>		0.5%
<i>Lauh bhasma</i>		0.5%
<i>Abhrak bhasma</i>		0.5%
<i>Tamra bhasma</i>		0.5%
<i>Haritaki</i>	<i>Terminalia chebula Retz.</i>	5%
<i>Amalaki</i>	<i>Emblica officinalis Gaertn.</i>	5%
<i>Bhibhitaki</i>	<i>Terminalia bellirica (Gaertn.) Roxb.</i>	5%
<i>Shuddha shilajit</i>	<i>Asphaltum punjabianum</i>	7.5%
<i>Chitrak</i>	<i>Plumbago zeylanica Linn.</i>	10%
<i>Shuddha guggulu</i>	<i>Commiphora mukul Hook.ex Stocks.</i>	10%
<i>Kutki</i>	<i>Picrorhiza kurroa Royle ex Benth.</i>	55%

Table 3: Contents of *Kanchnar guggulu*:

Drugs	Botanical name	Quantity
<i>Kanchnar</i>	<i>Bauhinia variegata L.</i>	24%
<i>Haritaki</i>	<i>Terminalia chebula Retz</i>	4.8%
<i>Bibhitaki</i>	<i>Terminalia bellirica (Gaertn.) Roxb.</i>	4.8%
<i>Amalaki</i>	<i>Emblica officinalis Gaertn.</i>	4.8%

Shunthi	<i>Zingiber officinale Roscoe</i>	2.4%
Maricha	<i>Piper nigrum Linn</i>	2.4%
Pippali	<i>Piper longum Linn</i>	2.4%
Varun	<i>Crataeva nurvala Buch.-Ham</i>	2.4%
Ela	<i>Elettaria cardamomum (L.) Maton</i>	0.6 %
Twak	<i>Cinnamomum Zeylanicum Blume.</i>	0.6%
Tejpatra	<i>Cinnamomum tamala(Buch.-Ham.) T.Nees & C.H.Eberm.</i>	0.6%
Guggulu	<i>Commiphora mukul Hook.ex Stocks.</i>	50%

Table 4: Contents of *Panchkol churna*:

Drugs	Botanical name	Quantity
Pippali	<i>Piper longum Linn.</i>	20 %
Pippalimool	<i>Piper longum Linn.</i>	20%
Chavya	<i>Piper retrofractum Vahl</i>	20%
Chitrak	<i>Plumbago zeylanica Linn</i>	20%
Shunthi	<i>Zingiber officinale Roscoe</i>	20%

Case Reports

Case Report -1

A 25 years old female patient reported to the kayachikitsa OPD in Shri Dhanwantri Ayurvedic medical college and Research centre on 11-Oct-2016 with chief complaints of weight gain, menstrual irregularities, lethargy and constipation from the past 7- 8 months. She also complained of dry and brittle hair from the past 3-4 months.

According to the patient, she was asymptomatic eight months back when she started gaining weight. She then started having constipation and menstrual irregularities that gradually became more pronounced. She took some Ayurvedic medicine for constipation several times but did not get satisfactory results. She then developed pain in bilateral legs along with lethargy approximately 3 months back. She also noticed her hair becoming dry and brittle over these 7- 8 months.

Family history was negative for similar conditions. There was no significant past history. The appetite of the patient was decreased. The patient was found to be anxious with disturbed sleep, had Vishmagni (unstable digestive functions), and bowel constipated. Physical examination revealed mild pallor and moderately dry skin and average body built. There were no signs of peripheral edema and facial puffiness. The vital signs of the patient were normal. The laboratory investigations revealed slight increase in TSH i.e 9.2 mIU/l and hemoglobin was 8.3 gm%. T4 was within its normal limits. This patient was diagnosed with Medas dhatwagni mandya or Hypothyroidism and was treated on OPD basis. There was no abnormal coating on tongue. Patient had *Vatapitta prakriti* with *avar sara* (sub optimal body tissue), *Avara samhanana* (sub optimal body built), *Vishama pramana* (unequal body proportion), *Avara satmya* (sub optimal homologation), *Madhayam satva* (optimal

mental strength), *Madhyam vyayamshakti* (optimal capability to carry on physical activities), *Madhyam aharshakti* and *Jaran-shakti* (medium food intake and digestive power). Weight was 56 kg, height was 160 cm. Higher function, mental state and speech were normal. Neurological, skin, cardio respiratory and genitourinary system examination were normal. The patient was given *Giloy satva* 1gm, *Panchkol churna* 3 gm, *Arogyavardhini vati* 250 mg, *Kanchnar guggulu* 500 mg twice a day orally after meals with luke warm water on OPD basis. The patient was also given a *pathya* and *apathya* (Do's and Don'ts) chart.

In the present study, considerable improvement was seen in symptoms like constipation, menstrual irregularities and lethargy after initiating the treatment. The value of TSH which was 9.2 before the treatment declined to 5.5 after 45 days of the treatment. The patient lost 2 kgs weight in these 45 days.

Case report: 2

A 37 years old married female patient visited the Kayachikitsa OPD of Shri Dhanwantri Ayurvedic Medial College with chief complaints of weight gain from the past 1 year, loss of appetite and general weakness from the past 5-6 months respectively. She delivered a full term baby boy one and half years back. She was advised to have her thyroid profile done. The TSH of the patient came out to be 7.4 mIU/l. Rest of the blood investigations were within normal range. Mild facial puffiness was evident on physical examination. The patient had mandagni

(slowed digestive functions) and bowel occasionally constipated. Blood pressure came out to be 100/60 mm hg. She had *kapha-pitta prakriti* with *madhyam sara* (optimal body tissue), *madhyam samhanan* (optimal body built), *madhyam pramana* (optimal body proportions), *avar satmya* (suboptimal homologation) and *madhyam satva* (optimal mental strength). Weight was 60 kgs and height was 160 cm. Same combination was also prescribed to her. The patient was also given a *pathya* and *apathya* (Do's and Don'ts) chart. She got relief from loss of appetite within 15 days and lost 1 kg weight in 45 days. The TSH value which was 7.4 earlier decreased to 5.6 mIU/l.

Case Rreport - 3

A 45 years old married female, mother of two children with chief complaints of swelling all over body and tiredness from past one and half years visited the Kayachikitsa OPD on 14th march 2017. She also complained of pain in legs from past 20-25 days. Upon investigating to rule out Hypothyroidism, her TSH level was 10.5 mIU/l. The blood pressure was 90/ 66 mm hg. On physical examination, mild facial puffiness and peripheral edema was observed. This patient also had mandagni (slowed digestive functions) and constipated bowel. Her appetite was low and was having good sleep. She had *Kapha-vata prakriti* with *madhyam sara* (optimal body tissue), *madhyam samhanan* (optimal body built), *madhyam satmya* (optimal homologation) and *madhyam satva* (optimal mental strength). Her weight was 65 kgs and height was 156 cms. After start-

ing the treatment, there was considerable improvement in pain in legs and severity of constipation within initial 7 days. There was mild decrease in swelling over body. After 45 days of treatment apart from pain in legs and constipation, there was decrease in facial puffiness and swelling over extremities. At the end of 45 days, the TSH level came down to 6.5 mIU/l. The reduction in weight was 1.5 kgs.

Case Report – 4

A 32 years old married Muslim female patient with chief complaints of weight gain, constipation and menstrual irregularities visited the Kayachikitsa OPD on 6th March 2017. According to the patient, she was asymptomatic 2 years back when she started having constipation. She used to take some home remedies and powder from local chemist but could only get relief for a few months. Later on she started gaining weight from the past 1 year followed by scanty menstruation from past 5 months. The TSH of the patient was 10 mIU/l at that time. Her blood pressure was 110/60 mm Hg. Minimal facial puffiness was observed. She had Vishamagni (unstable digestive functions), appetite was low, bowel was constipated, and sleep was disturbed. She also had Kapha-vata prakriti, avar sara (sub optimal body tissue), madhyam samhanan (optimal body built), madhyam satmya (optimal homologation), and avar satva (sub optimal mental health). Her weight was measured as 68 kgs at that time and height 156 cms. The above mentioned treatment with do's and don'ts chart was advised to her. At the end of 45

days her weight got reduced to 67 kgs while TSH level was 6.5 mIU/l.

Case Report -5

A 19 years old unmarried female patient visited the Kayachikitsa OPD on 4th November 2016 with chief complaints of weight gain, pain in legs of variable intensity and hairfall. As per the patient she was asymptomatic 1 year back when she started gaining weight gradually with persistent pain in legs. Due to pressure of studies, she used to have a stressful life. She took some medicine for pain in legs from a private practitioner but got no relief. She also complained of hairfall from past few months. Upon investigating her TSH was 12.4 mIU/l. Her blood pressure measured to be 96/66 mm Hg. The agni of the patient was manda (low digestive functions), appetite normal, bowel was occasionally constipated, sleep was normal. The prakriti was kapha-pittaj, sara was avar (sub optimal body tissues), samhanan was madhyam (optimal body built), satmya was madhyam (optimal homologation), and satva avar (sub optimal mental health). Her weight was 55 kgs and height 165 cms. With the same treatment and do's and don'ts chart, the TSH level declined to 7.4 mIU/l with symptomatic relief in pain in legs although the weight of the patient remained same.

DISCUSSION

Hypothyroidism is a clinical syndrome which is caused due to deficiency of thyroid hormones. This deficiency may be due to hypothalamic or pituitary disease, genera-

lized tissue resistance to thyroid hormone and disorders that affect the gland directly. It is the most common endocrine disorder after Diabetes. The prevalence of hypothyroidism in India is about 10% [10]. In today's hi-tech and competitive world, people are leading a stressful life and as the thyroid gland is very sensitive to stimuli like stress and anxiety, the global incidence of hypothyroidism is increasing. Recent statistical analysis reveals that deficiency of iodine in the diet is the most common cause of this condition. According to World Health Organization, 2 billion people are iodine deficient worldwide. The relative iodine deficiency causes Goiter and severe deficiency causes Hypothyroidism (in adults) & Cretinism (in children). On the other hand oversupply of iodine results in autoimmune thyroid disease. The allopathic treatment is accompanied with many side effects like Infertility, Weight Loss, osteoporosis, Impaired Diastolic function and exercise capacity, High Blood Pressure, Increased thickness of intima media and increased risk of coronary heart disease. The conceptual study of symptomatology of hypothyroidism helps us to identify it as *Kapha Pradhana Tridosha Vyadhi* (*Kapha* predominant) with *Medas Dushti* (imbalance of lipids) predominantly. The treatment can be planned based on *Dosha Pratyaneeka Chikitsa* (against the doshas) than *Vyadhi Pratyaneeka Chikitsa* (against the symptoms).

Kanchnar Guggulu helps to balance the excess *Pitta* and *Kapha doshas* in body. It also helps to reduce the swelling in neck and in goiter. It helps to reduce or break down

the deep seated *Kapha* and supports the digestive fire. It also supports proper circulation of blood & promotes elimination of toxins from body [11]. *Guggulu* (*Commiphora mukul Hook.ex Stocks*) is said to be the best *vata* and *medohara* (hypolipidaemic) as per *A anga Samgraha*. It possesses *laghu* (light), *ruk ha* (dry), *suk hma* (minute) *gu a, u a virya* (hot potency), *ka u vipaka* (pungent in post digestive taste) and *lekhana* (scrapping) property, so it is effective in the management of *Kapha-medas* predominant disorders like hypothyroidism [12].

Panchkol churna serves the purpose of *deepan* (appetizer) and *pachana* (digestive), thus eliminating the root cause of the disease. In hypothyroidism, correcting the *agni* (digestive fire) only at the thyroid level is not sufficient but removing the peripheral resistance is also important i.e removing the *avarana* (blocking or covering) at the *dhatwagni* (metabolism at tissue level) level. Also, *Pippali* (*Piper longum Linn*) increases the absorption of selenium which is required for the chemical reaction that converts the less active T₄ to more active T₃ [13- 15]

Arogyavardhini vati works basically on the *medas dhatu* and the *dhatwagni* thus digesting and removing the *ama janit medas dhatu vruddhi* (increase in *medas dhatu* that is undigested) [16]. *Guduchi* (*Tinospora cordifolia Miers*) is rich in *Tikta Rasa* due to which it supports the digestive fire and digests the *Ama* (Indigested food particles) produced during the pathogenesis. The digestive fire when gets stimulated leads to stimulation of all *Dhatvagnis* that leads to digestion of *Ahara Ansha* (food particles) in their own

Srotas (channels), finally causing digestion of *Ama* [17]. Similarly *Medas agni* also gets stimulated and digest the *Apakva Medas*. *Tikta rasa* due to its *Lekhan* and *Srotoshodhak Karma* (channel cleansing) causes *Lekhan of Medas* (scrapping of fat) accumulated in *Medovaha srotas*. In addition to this the *Ruskha* and *Khara guna* of *Tikta rasa* also supports the digestion of *Kapha*[18][19][20].

CONCLUSION

Hypothyroidism can be considered as condition which results due to Kapha Vata Dosha Vriddhi (increase) and Pitta Kshaya (decrease) which results due to Agnimandya (indigestion). Dhatwagnimandya (slow metabolism at tissue level) especially *Medas Dhatwagni Mandya* contributes to this condition. Drugs used for normalizing kapha vata vriddhi janya dhatwagni mandya prove to be helpful in this condition. It is important to validate these findings using a larger sample and rigorous research design.

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