



AYURVEDIC PANCHAKARMA MANAGEMENT OF HASHIMOTO'S AUTOIMMUNE THYROIDITIS- A CASE STUDY

Bharadwaj Turlapati¹, Karunamayi A. S.^{2*} and Vinaykumar K. N.³

¹P.G. Scholar, Dr Bharadwaj Turlapati, Department of PG Studies in Panchakarma, Sri Kalabyraveswary Ayurvedic Medical College, Hospital and P.G Research Centre, Vijayanagar, Bengaluru- 560104.

²P.G. Scholar, Dr Karunamayi A S, Department of PG Studies in Panchakarma, Sri Kalabyraveswary Ayurvedic Medical College, Hospital and P.G Research Centre, Vijayanagar, Bengaluru- 560104.

³Professor, Head of the Department, Department of PG Studies in Panchakarma, Sri Kalabyraveswary Ayurvedic Medical College, Hospital and P. G Research Centre, Vijayanagar, Bengaluru- 560104.



*Corresponding Author: Karunamayi A. S.

P.G Scholar, Dr Karunamayi A S, Department of PG Studies in Panchakarma, Sri Kalabyraveswary Ayurvedic Medical College, Hospital and P.G Research Centre, Vijayanagar, Bengaluru- 560104.

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ABSTRACT

Thyroid gland is a vital hormone gland, which plays a major role in the metabolism, growth and development of the human body, thus helps in regulating many body functions by constantly releasing a steady amount of thyroid hormones into the bloodstream. Hypothyroidism results from low levels of thyroid hormone with varied aetiology and manifestations. Hashimoto thyroiditis is the most common among autoimmune disorders of thyroid gland that cause hypothyroidism. In contemporary science, the understanding of the exact aetiology of this condition is still rudimentary, where thyroid hormone replacement is the most common choice of management approach. Untreated hypothyroidism increases morbidity and mortality. In Ayurveda, based on the signs and symptoms, Hashimoto's autoimmune thyroiditis can be viewed under the spectrum of *Rasa Pradoshaja vikaras*, *Galaganda* and *Gandamala* wherein the primary treatment approach is *Shodhana roopi langana* followed by *Shamana Chikitsa*. Here is a case of 27-year-old male patient presented with complaints of neck swelling, general debility, lack of concentration, and reduced appetite who was evaluated and found to have elevated anti TPO levels, hence was diagnosed as Hashimoto's thyroiditis. He was treated under the lines of *Ayurvedic Panchakarma* therapy in the form of *Vamana Karma* and *Virechana Karma* followed by *Shamana aushadhi* which showed to have a significant effect both symptomatically and in terms of biochemical values.

KEYWORDS: Hypothyroidism, Hashimoto's Autoimmune thyroiditis, *Rasa Pradoshaja vikara*, *Gandamala*, *Galaganda*, *Shodhana*, *Langhana*, *Vamana Karma*, *Virechana Karma*, *Ayurveda*, *Panchakarma*.

INTRODUCTION

Thyroid is an endocrine gland. Hypothyroidism is an endocrine disorder with resultant under-production of thyroid hormone. Hashimoto's thyroiditis is an autoimmune condition that is characterized by destruction of thyroid cells by cell and antibody-mediated immune processes. It is the most common cause of hypothyroidism in developed countries. The aetiology of Hashimoto disease is very poorly understood. The pathophysiology of Hashimoto thyroiditis involves the formation of antithyroid antibodies that attack the thyroid tissue, causing progressive fibrosis, the most common of which is antithyroid peroxidase (anti-TPO). The current diagnosis is based on clinical symptoms correlating with laboratory results of increased antithyroid peroxidase (TPO) antibodies. Hashimoto thyroiditis usually appears in mid-adulthood, although it can occur earlier or later in life. Its

signs and symptoms tend to develop gradually over months or years. One of the first signs of Hashimoto thyroiditis is an enlargement of the thyroid called a Goitre. Other signs and symptoms resulting from an underactive thyroid can include excessive tiredness (fatigue), weight gain or difficulty losing weight, hair that is thin and dry, a slow heart rate, joint or muscle pain, and constipation. Difficulty concentrating and depression can also be signs of shortage of thyroid hormones.^[1] In contemporary system of medicine, Thyroid hormone replacement is the primary treatment approach rather than addressing the root cause.

The analysis of the symptomatology of Hashimoto's autoimmune Hypothyroidism as per Ayurveda, shows that the condition can be viewed under the headings of *Rasa Pradoshaja vikara* due to *rasa dhatwagnijanya ama* with symptoms like *aruchi*, *gaurava*, *tandra*, etc

which later manifests as swelling of neck (goitre) which can be understood as the stage of *Galaganda* or *Gandamala*, having the predominance of *Kapha dosha* along with the vitiation of *Vata dosha* due to *Margavarana*. The concept of autoimmunity can be understood under the terms of *ama* in *Ayurveda* which can be tackled through *agnideepana* (*Jatharagni* and *dathwagni*) and *amapachana*. Also, as the disease involves *Santarpanotta nidanas*, *Apatarpana chikitsa* in the form of *Shodhana roopi Langhana* should be adopted as the first line of management to dismantle the pathogenesis and to regularize the optimum thyroid functioning. The objective of treatment should be to address the problem at its root by regulating the immune system and decreasing the inflammation. *Sroto shodhana*, *Agnideepana*, *Pachana* and *Vatanulomana* are the main principles of treatment. Here is a case managed under same *chikitsa* principles.

MATERIALS AND METHODS

Case history

Chief complaints

A 27-year-old male patient who is Civil Engineer by profession approached Outpatient department of SKAMCH and RC, Bengaluru, with the complaints of generalized body weakness, lethargy, reduced appetite and swelling of the neck since 2 months.

History of present illness

The patient was apparently healthy 2 months back since then the patient gradually started developing the above mentioned complaints, hence came here for further evaluation and management.

Personal history

- Diet - Mixed
- Appetite - Normal
- Sleep - 7 to 8 hours at night,
- Micturition - 3-4 times during day, 1-2 times during night.
- Bowel - Soft, Regular, once/ twice in a day.
- Habits - Coffee 2-3 times/day

Table 1: Assessment Gradings for Subjective criteria.

[0- Nil, 1-Mild, 2-Moderate, 3-Severe, 4-Very Severe]

Sl. No	Parameter	Gradation				
		0	1	2	3	4
1	Neck Swelling	0	1	2	3	4
2	Changes in Colour	0	1	2	3	4
3	Pain the site of swelling at	0	1	2	3	4
4	Throat discomfort	0	1	2	3	4
5	Generalized body weakness	0	1	2	3	4
6	Reduced Appetite	0	1	2	3	4

Investigations

After history taking and clinical examination of the patient, he was subjected for relevant laboratory investigations for further evaluation. Blood Investigations revealed abnormally increase in the levels of Anti- TPO.

Family history

Nothing contributory.

Examination of patient

General examination

- Built - Moderate
- Nourishment - Poor
- Pallor - Absent
- Icterus - Absent
- Cyanosis - Absent
- Clubbing - Absent
- Lymphadenopathy - Absent
- Edema – Present at Neck region
- Tongue - Non coated
- Temperature - 98.6F (afebrile)
- Pulse - 74 bpm
- B.P - 130/80 mm of Hg
- RR - 18 cycles / min
- Height – 170 cm
- Weight – 67kg
- BMI – 23.2 kg/m²

Systemic examination

- **Respiratory system:** Bilateral equal air entry, Normal vesicular breath sounds present.
- **Per abdomen:** Soft, non-tender, no organomegaly.
- **Cardio-vascular system:** S1-S2 sound heard, No murmurs.
- **Central nervous system:** Oriented to time, place and person.

Local examination

Neck examination

Inspection

Swelling- Present
Discolouration- Absent

Palpation

Tenderness- Absent
Rise of temperature- Absent
Consistency and Mobility- Partly solid and mobile
Cervical lymph nodes- Not palpable

Diagnosis

Hashimoto's thyroiditis.

Treatment given

Table 2: Treatment given to the patient.

1 st phase of treatment Vamana Karma	Purvakarma- Trikatu churna 6gms BD for three days. Snehapana- With Varunadi Ghrita Vishrama kala – Sarvanga Abhyanga with Moorchita taila followed by Bashpa Sweda. Pradhana karma -Vamana with Madanaphala pippali Kashaya yoga. Samsarjana Krama was given for 5 days
2 nd phase of treatment Virechana Karma	After pariharakala, patient was posted for Virechana Karma. Purvakarma- Trikatu churna 6gms BD for three days. Snehapana- With Varunadi Ghrita Vishrama kala – Sarvanga Abhyanga with Moorchita taila followed by Bashpa Sweda. Pradhana karma - Virechana Karma with Trivrut avalehya 70gms.
3 rd phase of treatment Shamana Chikitsa	Varunadi Kwatha 30ml TID Tab. Arogyavardhini Rasa 500mg TID Tab. Kanchanara Guggulu TID Kumariasava 30ml TID Katuki churna + Dashanga churna lepa for external application (over the neck swelling). x 1month

Assessment of effect of therapy

Clinical improvement in signs and symptoms of the patient and anti-TPO levels were assessed –Before Treatment and After Treatment.

RESULTS

[0- Nil, 1-Mild, 2-Moderate, 3-Severe, 4-Very Severe]

Table 3: Results obtained in parameters.

Parameter	Before treatment	After Shodhana Chikitsa	After Shamana Chikitsa (1 month)
Neck swelling	3	1	0
Changes in colour	0	0	0
Pain at the site of swelling	0	0	0
Throat discomfort	2	1	0
Generalized body weakness	3	1	0
Reduced appetite	2	1	0
Anti-TPO	1300.0 U/mL	(not done)	230.80 U/mL



Image no. 1: Showing the Anti TPO Report Before and After treatment.



Image no. 2: Showing the Neck swelling Before and After treatment.

DISCUSSION

Hashimoto's autoimmune thyroiditis in ayurveda

According to Ayurvedic understanding of the pathogenesis of hypothyroidism, it is basically due to dysfunctioning of the Agni. Hypo functioning of Jatharagni, which in turn, affects Dhathwagni especially the rasa dhathwagni which eventually brings out pathological sequence & ultimately, the condition is developed. Auto-immune pathology of Hashimoto's Thyroiditis further implies the involvement of amadosha in the pathogenesis. Langhana is advocated as the primary treatment principle for Rasa Pradoshaja vikaras.^[2] As hypothyroidism is a condition characterised with Santarpanajanya hetu with bahudoshavastha, Shodhanaroppi langhana in the form of Chaturvidha samshuddi – Vamana, Virechana, Shirovirechana and Niruha basti can be adopted to tackle this condition. The case discussed in the current study, was presented with the complaints of lethargy, lack of concentration, swelling of neck, generalised body weakness, loss of appetite with elevated levels of anti-TPO, which suggests sama avastha with Jataragnijanaya and Rasa dhathwagnijanya agnimandya along with Kapha and Vata dosh apradhana causing Rasa Pradoshaja vikara. The swelling of neck which is a feature of Hashimoto's Thyroiditis can be viewed under the headings of Galaganda and Gandamala.

Vamana karma

Trikatu churna 6gms twice a day was given before food with luke warm water for 3 days, for Pachana and Deepana as a poorvakarma for Vamana Karma. Shodhananga Snehapana was given till Samyak snigdha lakshanas were observed in the dose of 30ml, 70ml, 130ml, 160ml in arohana krama based on his agni and koshta with Varanadi ghritha. Sarvanga Abhyanga was performed with Moorchita taila followed by bashpa swedana on the day of during the Vishrama kala and was advised Kaphotkleshakara ahara like curd rice and curd vada. On the next day, patient was posted for Vamana Karma using Madanaphala pippali Kashaya yoga (Madanaphala pippali churna 8gms, Yastimadhu Kashaya 160ml mixed well and kept overnight and added

with saindhava lavana 10gms and honey 70ml before giving to the patient). Patient had completed the Vamana Karma with 6vegas with Madhyamamanikishuddi, Pitta anthiki shuddi and Samyak laingiki shuddi. Peyadi Samsarjana Krama was advised for 5 days based on the shuddi attained.

Virechana karma

The patient was given a pariharakala of 15 days until he attained prakrutigata lakshanas (as mentioned in Charaka Samhitha^[3]) and regained his shareera bala for Virechana Karma.

After the pariharakala, Trikatu churna 6gms twice a day was given before food with luke warm water for 3 days, for Pachana and Deepana as a poorvakarma. Shodhananga snehapana was started with Varanadi ghritha for 3 days [30ml, 60ml, 100ml] followed by Sarvanga Abhyanga was done with Moorchita taila followed by bashpa swedana during the Vishrama kala for 3 days and was advised Kaphavruddikara ahara like Pongal and Rice rasam. On the 3rd day of Vishrama kala, patient was advised phalamamla rasa (plain Pomegranate juice) in the evening. On the day of Virechana Karma, Sarvanga Abhyanga was performed with Moorchita taila followed by bashpa swedana. Trivrut lehya in the dosage of 70gms was given to the patient as per his koshta and agni. Patient had completed the Virechana Karma with 14 vegas with Madhyama maniki shuddi, Kaphaanthiki shuddi and Samyak laingiki shuddi. Peyadi Samsarjana Kramawas advised for 5 days.

Probable mode of action of vamana karma and virechana karma

Due to the Rasa dhathwagnimandyatha, mala roopi Kapha accumulation takes place in the body. Hence, Vamana Karma was adopted as the primary Shodhana Chikitsa in this study as it is the most appropriate therapy for the eliminating of Kapha Dosha and related morbid factors.^[4] Thyroid Gland is situated in neck region which is the Sthana of Kapha Dosha.^[5] Vamana Karma is also known to have its beneficial effects over improving the

status of *agni*.^[6] Further, *Acharya* Sushruta and *Acharya* Vagbhata, both have included *Vamana Karma* in the treatment of *Kaphaja Galganda*.^[7,8] *Virechana Karma* has been adopted in the second phase of the treatment. Hashimoto's thyroiditis causing the condition of Hypothyroidism being an autoimmune metabolic disorders with *jatharagni* and *dhathwagnimandyatha*, *Virechana Karma* helps in improving the status of *agni* with its effect in correcting the *pachakagni*^[9] thereby improving the body's metabolism helping in eliminating the morbid *doshas*. Both the *shodhana karmas* helps in flushing out the toxic metabolites and free radicals from the body thereby revitalising body's immune system. *Dhatu upachaya lakshanas* can be achieved by the *dhatu sthiratvam* attribute of *Virechanaphala*^[10] which is integral in maintaining the homeostasis of the body which is otherwise disturbed in this case.

Varanadi ghritha, was chosen as *shodananga snehapana dravya* as it is a medicated ghee prepared with *Varanadigana* drugs^[11] indicated in *Kapha* and *medo dushti rogas* and in *agnimandya* conditions which helps in controlling chronic inflammation and related disorders^[12] like Hashimoto's thyroiditis.

Shamana chikitsa

After *Samsarjana krama post-Virechana Karma*, the following *Shamana aushadis* were advised for 1 month.

- *Varunadi Kwatha*
 - *Kumariasava*
 - *Arogyavardhini Rasa*
 - *Kanchanara Guggulu*
 - *Katuki churna* + *Dashanga churna* for external application over the neck swelling.
- ✚ *Varanadi kwatha* contains drugs like *varana*, *sairyaka*, *shatavari*, *dahana*, *Morata*, *bilwa*, *vishanika*, *brihati*, *Bhadra*, *karanja*, *pootikaranja*, *jaya*, *harithaki*, *Shigru*, *darbha*, *Rujakarawhich* are *tiktha katu kashaya rasas* with *katu vipaka* and *ushna veerya pradhana* possessing *agnideepana*, *chedhana* and *lekhana* properties which exert anti-inflammatory action^[13] and anti-oxidant along with anti-lipase activity^[14] that are beneficial in breaking the pathophysiology of Hashimoto's disease.
- ✚ *Kumaryasava* contains *kumari*, *haritaki*, and *jatamansi*^[15] as main ingredients with many other herbal drugs which exhibit hepato-protective activity. The formulation has *vatakapha shamaka* property. *Tikshna Gunas* of drugs favours the *strotoshodhana*. These drugs also have *deepana*, *pachana* actions which regulate *jatharagni*, *dhatvagni* and *bhutagni*, correcting metabolism at the cellular level.
- ✚ *Kanchanara Guggulu* contains *Kanchanara*, *Shunti*, *Maricha*, *Pippali*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Varuna*, *Ela*, *Twak*, *Patra*, *Guggulu*. It has been described as *Granthihara* and *Gandmalanashaka*.^[16]

Kanchanara has *laghu* and *ruksha* properties and *Kashaya rasa*. *Haritaki*, *Vibhitaki*, *Amalaki* have *vatanulomana* properties, *Guggulu* is *Vata-medohara*.^[17] With the help of its *laghu*, *ruksha*, and *lekhana* properties, it breaks down and eliminates hardened *Kapha*. This detoxifying blend of *kanchanara* and *guggulu* support the proper functioning of lymphatic drainage and digestive systems, aiding in the prevention of further *Kapha* accumulation, effective in reducing the swelling in the neck and is very useful in this condition.

- ✚ *Arogyavardini rasa*^[18] containing *Shuddha Parada*, *Shuddha Gandhaka*, *Loha Bhasma*, *AbhrakaBhasma*, *Tamra Bhasma*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Shilajatu*, *Guggulu*, *Eranda*, *Katuki* drugs which have the property of enhancing *dhathwagni*, improving metabolism by *amapachana* and *srotoshodhana* properties and clearing the *avarana* in the channels, and acts as *rasayana* as *Rasayana* after *Panchakarma* procedures is necessary for rejuvenation of health.
- ✚ *Lepa chikitsa* with *katuki* has been mentioned in the treatment principles of *Kaphaja Galaganda* by our acharyas.^[19] *Katuki churna* along with *Dashanga churna* for *lepa* (External application) over the neck swelling was advised as a part of *sthanika chikitsa*. *Dashanga Lepa* containing *dravyas* such as *Shirisha*, *Yashtimadhu*, *Nata*, *Chandana*, *Ela*, *Jatamansi*, *Haridra*, *Daruharidra*, *Kushta*, *Hrivera*, reduces all cardinal features of inflammation as pain, edema, erythema and temperature.^[20] *Dashanga Lepa* possess strong analgesic effect. *Katuki* is *tikta rasa pradhana* and *sheetha veerya* with *pitta shamaka karma*^[21] which can exert analgesic and anti-inflammatory action. When added with *dashanga churna* might have provided an add-on effect in reducing the pain and swelling over the applied area. The reduction in inflammation is probably due to *dhatu Shoshana* effect of *Kashaya* and *Tikta Rasa* of the drugs of the *lepa*.

CONCLUSION

Whole gamut of autoimmune diseases can be viewed under the umbrella of *Amavisha* with reference to *Amavata* due to which a special protocol was postulated which has been adopted in this study. Hashimoto's autoimmune thyroiditis can be understood as a *Sama Avastha* and *Rasavaha strotovarodha pradhana vyadhi*, So here *Deepana* and *Pachana* followed by *Vamana Karma* and *Virechana Karma*, might have helped in *Amapachana*, *StrotoVishodhana*, improving *agni* and also in promoting *anulomana* of *Vayu*. *Shamana aushadis* in the form of *Varunadi Kwatha*, *Kumariasava*, *Arogyavardhini Rasa*, *Kanchanara Guggulu*, *Katuki churna* & *Dashanga churna* for *lepa* were given to regularize the functioning of *doshas* and maintain the optimum levels of *agni*.

The study showed a significant effect in reducing the signs and symptoms as well as the levels of anti-TPO which encourages the scope of Ayurvedic interventions to be conducted on larger sample size and gives a ray of hope in developing an approach in such kind of incurable diseases such as Hashimoto's autoimmune thyroiditis. The study suggests that Ayurvedic Panchakarma interventions could pose as a potent alternative with no scope of untoward complications when treatment principles are judiciously applied in managing similar autoimmune presentations, where the understanding of the cause and management aspects in conventional medicine may still be in a rudimentary stage.

Declaration of patient consent

Authors certify that they have obtained patient consent form, where the patient has given his consent for reporting the case along with the images and other clinical information in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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