

A CASE STUDY ON THE AYURVEDIC MANAGEMENT OF HASHIMOTO'S THYROIDITIS FOLLOWING COVID-19

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ABSTRACT

Introduction: Hashimoto's Thyroiditis is an emerging post-COVID complication, conventionally managed with T4 replacement. However, this approach focuses on symptoms rather than the root cause. This case study details a holistic Ayurvedic approach using *Hetu Parivarjana*, *Shodhana*, and *Rasayana* to manage the condition. **Methods:** A 24-year-old female with post-COVID Hashimoto's presented with tiredness and weight gain associated with occasional dizziness and mood swings. The *Agnimandya* and *Rasavaha Srotas Dushti* were addressed with *Deepana*, *Pachana*, *Snehapana*, *Vamana* and *Rasayana*. The therapeutic regimen aims to correct the *Kapha*, *Pitta Dosha* imbalance. **Results:** Post-Ayurvedic intervention, the patient's TSH levels decreased significantly, and her clinical symptoms, including fatigue and weight gain, improved markedly. The *Shodhana*, *Shamana* and *Rasayana* therapies restored her *Agni* and *Srotas*, leading to profound *Dhatu Pushti*. **Discussion & Conclusion:** The success of this case highlights

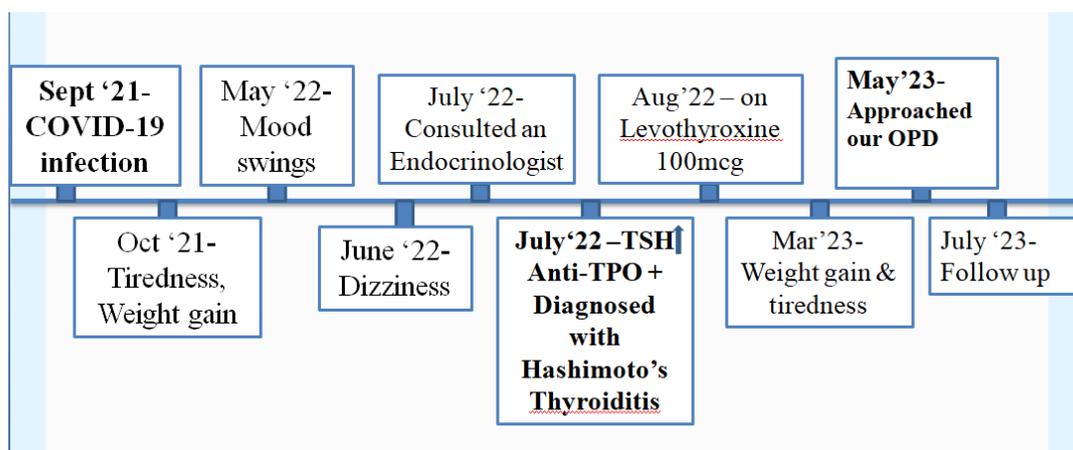
the efficacy of the Ayurvedic approach. *Deepana- Pachana* with *Chitrakadi Vati* helped in rekindling the *Agni*, *Aarohana Matra Snehapana* with *Varanadi Ghrita* facilitated the movement of vitiated *Dushya* from *Sakha* to *Koshta* which was eliminated out by *Vamana Karma* and helped clearing the *Srotas*. The *Shamana Aushadhi* such as *Varanadi Kashaya*, *Kanchanara Guggulu* were given along with *Rasayana Churna* for its *Balya* and *Amanashana Karma*, which served as an immunomodulator, addressing the autoimmune response at its source. This case demonstrates that Ayurveda offers a promising alternative to conventional, symptom-based treatments for post-COVID Hashimoto's.

INTRODUCTION

Hashimoto's Thyroiditis, an autoimmune condition where the body's immune system attacks the thyroid gland and it is destroyed by thyroid antibodies, such as anti-TPO and anti-Tg, has been increasingly recognized as a significant long-term complication of COVID-19. The SARS-CoV-2 virus, the causative agent of COVID-19, can trigger or worsen autoimmune conditions through a variety of mechanisms. The virus can directly infect thyroid follicular cells, as they express the ACE2 receptors that the virus uses to enter cells. This can lead to thyroid inflammation, or thyroiditis, which can cause a temporary release of stored hormones (hyperthyroidism) followed by a phase of hypothyroidism as the gland is damaged. Additionally, the systemic immune activation and "cytokine storm" associated with COVID-19 can interfere with the central regulation of the thyroid gland, disrupting the hypothalamic-pituitary-thyroid (HPT) axis. The inflammatory cytokines, such as interleukin-6 (IL-6), can suppress the production of Thyroid-Stimulating Hormone (TSH), leading to central hypothyroidism. The immunological dysfunction can also lead to an increase in anti-thyroid antibodies, which can directly cause or exacerbate autoimmune thyroid diseases like Hashimoto's. While conventional medicine primarily relies on lifelong T4 replacement therapy with Levothyroxine, this approach often addresses only the symptoms without tackling the root cause of the autoimmune response. This case study highlights a different perspective, demonstrating how the holistic principles of Ayurveda can offer an effective alternative. The Ayurvedic approach focuses on balancing the body's constitution, correcting the *Agnimandya*, administering *Shodhana* and *Rasayana* which will alleviate the vitiated *Kapha & Pitta* along with bring about *Vatanulomana*.

CASE HISTORY

A 24-year-old unmarried female IT worker from Whitefield, Bangalore, presented to the Outpatient Department (OPD) in May 2023 with chief complaints of tiredness and weight gain for two years. She also reported occasional dizziness for two years and mood swings for one year. The patient had a COVID-19 infection in September 2021. The chief complaints of tiredness and weight gain began in October 2021. Mood swings started in May 2022, and dizziness in June 2022. She was diagnosed with Hashimoto's Thyroiditis in July 2022 after a consultation with an endocrinologist, where her TSH and Anti-TPO levels were positive. She began taking Levothyroxine 100mcg in August 2022. Despite this, she continued to experience weight gain and tiredness, leading her to seek Ayurvedic treatment in May 2023.



Picture 1- Timeline of the case study.

FAMILIAL HISTORY

Both of the patient's parents had COVID-19 in 2021. Her mother has Rheumatoid Arthritis (RA) for four years.

PHYSICAL EXAMINATION

General and local physical examinations were conducted. The findings were as follows:

- **Respiratory Rate:** 16/min
- **Pulse Rate:** 62/min
- **Blood Pressure:** 132/84 mm/Hg
- **Temperature:** 99.0 F
- **Facial appearance:** Puffy Face
- **Edema:** Absent
- **Pallor:** Absent

- **Nail:** Brittle
- **Skin:** Dry
- **Voice:** Normal
- **Speech:** Normal
- **Hearing:** Normal
- **Tremors:** Absent
- **Thyroid gland (Inspection):** Not enlarged
- **Thyroid gland (Palpation):** Symmetrical, non-nodular
- **Surrounding lymph nodes (Palpation):** Non-palpable

INVESTIGATIONS

The patient's initial laboratory results from July 2022 showed elevated Anti-TPO and TSH levels. Her TSH was 23.03 mIU/ml (reference range: 0.35-4.94) and her Anti-TPO was 838.00 IU/ml (reference range: negative < 9). A Zuwelski's Clinical Score for Hypothyroidism was also performed, resulting in a score of 8 out of 12, indicating she was clinically hypothyroid.

THERAPEUTIC INTERVENTION

<i>Deepana – Pachana</i>	<i>Chitrakadi Vati</i>	1----1---1 with warm water-before food	7 days
<i>Snehapana</i>	<i>Varanadi Ghrita</i>	30ml, 60ml, 90ml, 120ml, 150ml	5 days
Shodhana (Vamana)	<i>Yashtimadhu Phanta, Madhanapala Yoga, Go-Ksheera</i>	2000ml	1 day
<i>Shamana Aushadha</i>	<i>Varanadi Kashaya</i>	15ml + 45ml warm water at morning and night- before food	2 months
	<i>Kanchanara Guggulu</i>	1----0----1 with warm water-after food	2 months
	<i>Rasayana Churna</i>	2g at morning and night with warm water- after food	2 months

SADYO VAMANA: OBSERVATION

INTAKE	TIME	QUANTITY	VEGA	TIME	UPAVEGA
Liquid milk	6:25 a.m	1000 mL	1	6:35 a.m	
Vamaka Yoga	6:15 a.m	15 g	2	6:39 a.m	
Vamanopaga Aushadha	6:37 a.m	800mL	3	6:41 a.m	2 Upavega were seen
Yashtimadhu Phanta	6:37 a.m	800 mL	4	6:45 a.m	
Lavanodaka	6:45 a.m	200 mL	5	6:49 a.m	
Plain water			6	7:02 a.m	
			7	7:10 a.m	

			8	7:14 a.m	
	Total intake	2000 mL	Total output	1800 mL	

RESULTS

After the treatment, the patient's Zuwelski's Clinical Score was reassessed. The "after treatment" score was 4 out of 12, and a follow-up score was 2 out of 12. The initial Zuwelski's score was 8/12. The patient's follow-up report from July 2023 showed that her TSH had decreased significantly to 3.02 mIU/ml, which is within the normal range (0.3-5.5 mIU/ml) whereas her initial TSH level before the treatment was 23.03mIU/ml. Her platelet count, MCV, MCH, and MCHC values also showed improvement.

Mood swings were significantly reduced. Tiredness was improved and patient felt active throughout the day with no lethargy or laziness. She lost about 3kg in month of treatment, however it didn't reduce any further but sustained well in the same level. Patient also did not have any spell of dizziness after treatment.

Test	Result	Reference Value
E.S.R 60 minutes	12 mm	up to 15
Platelet Count	3.95 Lakhs cells/cumm	1.5 - 4.5 Lakhs cells/cumm
MCV	83 fl	88 - 101
MCH	29.1 pg	27 - 32 pg
MCHC	35.0 %	31 - 34
ENDOCRINOLOGY		
THYROID FUNCTION TEST		
TOTAL T3 METHOD: CLIA	140 ng/dl	58-159
TOTAL T4 METHOD: CLIA	6.78 microgram/dl	4.87-11.72
TSH METHOD: CLIA	23.03 mIU/ml	0.35-4.94

Kindly correlate clinically

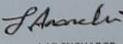
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(MR.N.Rajavelu, MSc., PG DMLT., Phd.,)

LAB INCHARGE
(MRS.ANANDHI.J., BSc. MLT.,)

Picture 2- TSH level (before treatment).

Test	Result	Reference Value
E.S.R 60 minutes	: 11 mm	up to 15
Platelet Count	: 3.33 Lakhs cells/cumm	1.5 - 4.5 Lakhs cells/cumm
MCV	: 89 fl	88 - 101
MCH	: 30.2 pg	27 - 32 pg
MCHC	: 34.0 %	31 - 34
ENDOCRINOLOGY		
TSH METHOD:CLIA	: 3.02 mlu/ml	0.3 - 5.5

*** End Of Report ***



 Authorized Signature (MR.N.Rajavelu, MSc., PG DMLT., Phd.,)
 LAB INCHARGE (MRS.ANANDHI.J., BSc. MLT.,)

Picture 3- TSH value (after treatment).

DISCUSSION

The treatment for Hashimoto's Thyroiditis in contemporary medicine primarily involves T4 replacement therapy (Levothyroxine), which only replaces the thyroid hormone rather than addressing the root cause. As a result, patients often become dependent on medication for life. The Ayurvedic approach in this case, using *Shodhana* followed by *Rasayana*, offers a different perspective. The *Vamana Karma*, as documented in an article by Roli Bansal (2016), also has a vital role in the management of hypothyroidism.

The treatment of Hashimoto's Thyroiditis in contemporary medicine primarily involves T4 replacement therapy with Levothyroxine. This approach, however, addresses only the *Lakshana* and does not rectify the underlying *Samprapti* of the disease, often leading to lifelong medication dependency. In contrast, the Ayurvedic management of this case, rooted in the principles of *Rasayana* and *Shodhana*, offers a holistic approach that focuses on correcting the *Hetu* of the disease. From an Ayurvedic perspective, Hashimoto's Thyroiditis can be correlated with *Agnimandya* and *Rasavaha Sroto Dushti*, primarily involving *Kapha* and *Pitta Dosha* with *Medo Dhatu* imbalance.

To correct the *Agni*, *Chitrakadi Vati* was given for 7 days as it *Deepana* and *Pachana* in nature. The *Tikshna*, *Ushna Guna* of this formulation can combat the *Manda* and *Guru Guna*

seen in this case and it has the ability to work on *Jatharagni* as well as *Dhatwagni*. At the end of 7th day, patient had increased appetite and was able to eat more in quantity.

Snehapana with *Varanadi Ghrita* was administered from 8th day in *Aarohana Matra*. The initial dose was 30ml which gradually increased to 150ml by adding 30ml extra each day. At the end of 5th day, *Samyak Snehana Lakshana* such as *Vatanulomana*, *Agni Deepana*, *Snigdha Varchas*, *Sneha Dvesha* and *Klama* were seen. *Varanadi Ghrita* was chosen as it has the property to alleviating *Kapha* and *Meda* and also does *Pitta Shamana*.

The *Vamana Karma* with *Yashtimadhu Phanta*, *Madhanaphala Yoga* and *Go Ksheera* performed in this case is a significant *Panchakarma* procedure whose mode of action is to eliminate excess *Kapha* and *Pitta Dosha* being housed in *Kaphasthana* (Throat) from the body. By expelling these *Dosha*, it effectively clears the *Srotas*, restores the *Agni*, and reduces the *Ama* that are believed to be the primary cause of autoimmune conditions. In a condition like Hashimoto's, which is dominated by *Kapha*, *Vamana* directly addresses the *Dosha* by removing the vitiated *Dosha* and purifying the system.

The following *Shamana Aushadhi* were advised after *Shodhana*.

Varanadi Kashaya containing ingredients like *Varuna* and *Chitraka*, possesses *Vatakaphahara* and *Lekhana* properties. Its *Ruksha Guna*, *Katu Vipaka*, and *Ushna Veerya* effectively pacify *Kapha Dosha* and address excess *Medas*. By improving digestive fire, it is indicated for *Mandagni* and enhances overall metabolism and *Agni*.

Kanchanara Guggulu, consisting *Kanchanara*, *Shunthi*, *Pippali*, *Maricha*, *Haritaki*, *Vibhitaki*, *Amalaki*, *Varuna*, and *Guggulu*, is highly effective in several ways. It aids in reducing excessively accumulated fat (*Medas*), clears obstructions in *Srotas*, and stimulates and corrects poor digestion (*Agnivardhaka*).

The *Rasayana Churna*, featuring *Amalaki*, *Guduchi*, and *Gokshura*, plays a crucial role in managing autoimmune damage and COVID-related complications. *Amalaki* is a *Rasayana* and potent antioxidant that balances *Tridosha*, preventing *Pitta* provocation and *Kleda* (accumulation) in the thyroid. *Guduchi* acts as a *Rasayana* and strengthens immunity (*Vyadhikshamatva*), effectively modulating the *Ama* (toxin) formation typical of autoimmune disorders. *Gokshura* balances *Tridosha*, aids *Vatanulomana*, and reduces swelling (*Shotha*). The active compounds (Quercetin, Gallic acid) in the *Churna* inhibit SARS-CoV-2 binding.

The extracts from *Guduchi* and *Gokshura* regulate cytokine infiltration, while *Amalaki* prevents oxidative stress. These combined anti-inflammatory, antioxidant, and immunomodulatory actions are the key to its therapeutic efficacy.

CONCLUSION

This case study demonstrates the effectiveness of Ayurvedic management for Hashimoto's Thyroiditis, a condition that is increasingly seen as a post-COVID-19 complication. The treatment focused on addressing the underlying cause and not just the symptoms. The significant reduction in the patient's TSH level and the improvement in her clinical score indicate a positive outcome. The lack of published articles or case studies on post-COVID thyroid dysfunction in India highlights the need for more research in Ayurveda in this area. Globally, thyroid dysfunction affects 15% of COVID-19 patients, which further emphasizes the need for more research and awareness.

Strength and limitations of this case report: The strength of case report is that this demonstrates a unique, comprehensive Ayurvedic approach to the novel post-COVID Hashimoto's condition, integrating *Shodhana*, *Shamana* and *Rasayana*. This personalized therapy shows potential for stabilizing symptoms and reducing drug reliance.

However, the limitations of this case study are that it is a single case, resulting in lack of generalizability and requires controlled studies.

Intervention adherence and tolerability: Patient adhered to the instructions of the consultant and had the medicines in prescribed dose and timing. She had co-operated well with no complaints regarding the external therapies.

Adverse and unanticipated events: No adverse events occurred during the treatment period.

Take away lesson: This case suggests that an integrated Ayurvedic approach of *Snehapana Purvaka Vamana* followed by long-term *Rasayana* therapy holds promise for managing post-infectious autoimmune thyroiditis. It encourages further research into Panchakarma's role in addressing the emerging long-term sequelae of viral infections like COVID-19.

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