



ISSN 2456-3110

Vol 7 · Issue 2

March 2022

Journal of  
**Ayurveda and Integrated  
Medical Sciences**

*www.jaims.in*

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences



**Maharshi Charaka**  
Ayurveda

Indexed

# Efficacy of *Shodhana Karma* in the management of hypothyroidism in children - A Case Report

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## ABSTRACT

Disorders of thyroid glands are the most common endocrinal problems of childhood. Thyroid hormone helps to ensure that growth and development occurs normally. Autoimmune thyroiditis is the most common cause of acquired hypothyroidism in children and adolescents and usually develops after the first few years of life. In Ayurveda, autoimmune disease can be compared with *Dhatugata Ama* with vitiation of *Tridosha*. This study aimed to assess the efficacy of Ayurvedic management including *Shodhana Karma* in hypothyroidism in pediatric age. It is a single case study. A 15-year female child has already been diagnosed with hypothyroidism since 6 years proceed to the Ayurvedic hospital. And she was treated with *Virechana Karma* followed by *Basti* with internal medications. Laboratory investigations were carried out after treatment with satisfactory outcome.

**Key words:** Hypothyroidism, Ayurveda, *Shodhana Karma*, *Virechana Karma*, *Basti Karma*, *Shamana Chikitsa*.

## INTRODUCTION

Thyroid gland disorders are the most common endocrine problems in childhood.<sup>[1]</sup> In children, thyroid hormone helps to ensure that growth and development occurs normally. Hypothyroidism can be present at birth (congenital hypothyroidism) or it can develop later in childhood as acquired. Autoimmune thyroiditis is the most common cause of acquired hypothyroidism in children, and adolescents and usually develops after the first few years of life. In autoimmune thyroiditis, the immune system mistakes thyroid gland cells for invaders and attacks them, leading to inflammation of the thyroid. Gradually, the

inflammation damages the thyroid gland, leading to decline in thyroid hormone levels. Once the levels drop below the normal level, the pituitary gland notices the hypothyroidism and responds by making more TSH increase thyroid hormone levels.<sup>[2]</sup>

Clinical features include weight gain, slow growth, cold intolerance, constipation and deteriorating school performance. Children with hypothyroidism (elevated TSH and low T4 levels) are treated by replacing the amount of hormone that the child's own thyroid can no longer make. The goal is to bring the T4 and TSH back to the normal range and restore the body's normal functions (replacement therapy).

In Ayurveda, autoimmune disease can be compared with *Dhatugata Ama* with vitiation of *Tridosha*. *Shodhana Karma* is required for *Samprapti Vighatana*. In this case study, *Virechana Karma* with *Basti Chikitsa* has been applied.

## CASE REPORT

This female child age 15-year came to Kaumarabhritya OPD, P.D.Patel Ayurveda hospital, Nadiad with complaints of continuous gaining of weight, laziness, poor school performance and confirmed diagnosis of

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Submission Date: 12/01/2022

Accepted Date: 24/02/2022

### Access this article online

Quick Response Code



Website: [www.jaims.in](http://www.jaims.in)

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hypothyroidism from 6 years. There was no significant past history of any other chronic illness. In family history her father was suffering from hypothyroidism and is on treatment since long time. Thyronorm tablet was started in the dose of 25 mcg per day at that time. Mild improvement was observed in TSH level. She was moderately responding to thyronorm for a period of next 2 years. After 2 years, thyroid stimulating hormone level persistently remained elevated even after thyronorm (25 mcg) per day was continued. TSH level increased to 57.06 microU/ml (normal: 0.35 to 5.55 microU/ml), when she visited this hospital. And the dose of thyronorm was increased up to 75 mcg per day. Despite increased dose of thyronorm the patient's TSH did not respond. The parents brought her here for Ayurvedic treatment.

**Management:** *Virechana Karma* and *Niruha Basti* were planned, as the patient's age was not suitable for the *Vamana Karma*.

#### A. *Virechana Karma*

1. *Snehapana* with *Panchatikta Ghrita* was started in dose of 40 ml twice a day on 1<sup>st</sup> day, in increasing order with addition of 15 ml each day till *Sneha Siddhi Lakshana* were obtained. *Sneha Siddhi Lakshana* was found at 85 ml twice a day on the 4<sup>th</sup> day.
2. After *Samyaka Snehapana*, *Sarvanda Abhyanga* with *Narayana Taila* and *Bashpa Swedana* were performed for 3 days.
3. *Virechana Karma* was planned with *Dindayal Churna*<sup>[3]</sup> - 4 gm. mixed with *Eranda Sneha* - 40 ml. The patient got 25 *Virechana Vega*.
4. *Sansarjana Krama* was followed for 2 days.

**B.** After the completion of *Virechana Karma*, the following treatment was given for 3 weeks.

1. *Varunadi Kwatha* (*Sharangadhar Samhita*)<sup>[4]</sup> - 40 ml, twice a day on empty stomach.
2. *Triphala Guggulu*<sup>[5]</sup> - 2 tablets, thrice a day, after meal.
3. *Navayasa Lauha*<sup>[6]</sup> - 1 gm., twice a day with *Madhu*.

4. *Niruha Basti* with *Triphala Kwath* (250 ml) was administered for two weeks.
5. Patient was continued on light diet and Mung Dal, rice and boiled vegetables during the whole therapy. She also continued thyronorm tablet (75 mcg) per day during whole therapy.

#### RESULTS

	Initial (26-05-18)	After 1 month (05-06-18)	Normal Values
Weight	86.2 kg	78 kg	-
T <sub>3</sub>	0.43 ng/ml	1.13 ng/ml	0.6 - 1.80 ng/ml
T <sub>4</sub>	3.2 mcg/dl	10.8 mcg/dl	4.5 - 10.9 mcg/dl
TSH	57.06 microU/ml	7.76 microU/ml	0.35 - 5.55 microU/ml

Her body weight was 74 kg at the time of follow up (23-07-18).

#### DISCUSSION

Hypothyroidism is mostly caused by chronic autoimmune thyroiditis, and was observed more commonly in girls. Autoimmune process can consider under the broad heading of *Dhatugata Ama* with vitiation of *Tridosha*. *Shodhana Karma* is required for *Samprapti Vighatana*. *Virechana Karma* leads to *Srotasa Shuddhi*, removal of *Sanga* from *Srotasa* and is responsible for *Dhatvagni Deepana*. *Niruha Basti* leads to *Kapha Shodhana* and *Vatanulomanam*. *Srotoshuddhi* helps in removing *Aavarana* from receptors which helps in proper functioning of them and improve metabolism.

*Varunadi Kwath*, *Triphala Guggulu* and *Navayasa Lauha* were used as *Shamana Chikitsa*. All these three *Aushadhi Yoga* are *Kaphavata Shamaka*.

#### CONCLUSION

This case study showed that *Panchkarma* therapy is necessary for the management of Hypothyroidism. It has provided not only in the symptomatic relief but

also restore the normal level of hormone. Dose of levothyroxine will be reduced slowly along with Ayurvedic treatment.

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**How to cite this article:** Rutu Patel. Efficacy of Shodhana Karma in the management of hypothyroidism in children - A Case Report. J Ayurveda Integr Med Sci 2022;2:125-127.

**Source of Support:** Nil, **Conflict of Interest:** None declared.

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