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CASE STUDY

Therapeutic Impact Of *Ayurveda* On Hypothyroidism

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ABSTRACT

Hypothyroidism, a common endocrine disorder marked by reduced thyroid hormone production, often presents with systemic effects and can lead to or exacerbate polycystic ovary syndrome (PCOS), particularly through metabolic and hormonal disturbances. This case study documents the *Ayurvedic* management of a 25-year-old female diagnosed with hypothyroidism-associated PCOS, who presented at Jeena Sikho Lifecare Limited Hospital, Gurugram, Haryana, India, on February 25, 2025. The patient initially reported symptoms of weight gain, neck swelling, increased appetite, and menstrual irregularity. Laboratory investigations revealed severely elevated TSH levels (>150.0 uIU/ml), abnormal T3 (90.6 ng/ml), and T4 (2.9 µg/dl) values. *Ayurvedic* treatment focused on correcting *dosha* imbalances, rekindling *Agni*, reducing *Kapha* and *Meda*, and restoring hormonal equilibrium using internal *Ayurvedic* medications and dietary/lifestyle modifications. Over a treatment span of approximately two months, the patient showed significant biochemical improvements: TSH reduced to 10.410 uIU/ml, with corresponding normalization of T3 and T4 levels. Symptomatically, she reported relief from menstrual irregularities and other systemic complaints. This case highlights the potential of *Ayurvedic* protocols in effectively managing hypothyroidism and its sequelae like PCOS. However, more comprehensive clinical studies are warranted to standardize treatment approaches and validate efficacy.

INTRODUCTION

Hypothyroidism is a prevalent endocrine disorder characterized by insufficient production of thyroid hormones, resulting in a range of systemic effects [1]. It can present as either overt or subclinical hypothyroidism, with overt hypothyroidism defined by elevated thyroid-stimulating hormone (TSH) and low free thyroxine (FT_4) levels [2]. The condition is most commonly caused by autoimmune diseases, particularly Hashimoto's thyroiditis, but may also result from iodine deficiency, certain medications, or surgical interventions [3,4,5]. Clinically, hypothyroidism presents with symptoms such as fatigue, weight gain, and cold intolerance, while more severe cases may progress to myxedema coma. However, the condition can also be asymptomatic, complicating timely diagnosis [6]. Diagnosis is primarily based on serum thyroid function tests, specifically measurements of TSH and FT_4 levels [7]. Levothyroxine remains the standard treatment, although some patients continue to experience symptoms despite achieving normal hormone levels [8]. Epidemiologically, hypothyroidism affects approximately 5% of the population, with a higher prevalence in women and older adults [9,10]. In developing countries,

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iodine deficiency continues to be a major contributing factor [11]. Despite the availability of effective treatments, persistent symptoms in some individuals have spurred debates regarding optimal management strategies and emphasized the need for individualized treatment approaches [4].

The relationship between hypothyroidism and polycystic ovary syndrome (PCOS) is increasingly recognized, as both conditions share overlapping symptoms and metabolic disturbances [12]. Research indicates that hypothyroidism is more prevalent among women with PCOS, and the two disorders can exacerbate each other's clinical manifestations, particularly in relation to insulin resistance and reproductive health [13]. Studies have shown a higher incidence of hypothyroidism in women diagnosed with PCOS compared to healthy controls, with some reports suggesting that nearly 50% of PCOS patients exhibit thyroid dysfunction [14,15]. Autoimmune thyroiditis and subclinical hypothyroidism are particularly common in this population, emphasizing the importance of routine thyroid screening [15,16].

Both hypothyroidism and PCOS are linked to metabolic issues such as insulin resistance, obesity, and dyslipidemia. For instance, PCOS patients with hypothyroidism often present with a higher body mass index (BMI) and elevated fasting glucose levels [17,18]. While hypothyroidism can increase levels of sex hormone-binding globulin (SHBG), it also contributes to anovulatory dysfunction, which mirrors many of the reproductive issues seen in PCOS [16]. From a reproductive health perspective, hypothyroidism can worsen fertility problems in women with PCOS, as both conditions are associated with subfertility due to hormonal imbalances [14,16]. The coexistence of these disorders can lead to altered reproductive hormone levels, further complicating the fertility status of affected individuals [15,17].

In *Ayurveda*, hypothyroidism is not described as a distinct disease but is closely correlated with conditions such as *Agnimandya* (Improper metabolism) and *Dhatvagnimandya* (impaired tissue metabolism), particularly involving *Rasa* and *Medo Dhatus* (plasma and fat tissues) [19]. It is primarily considered a result of *Kapha-Vata* imbalance and the accumulation of *Ama* (toxins), which obstruct the proper functioning of metabolic pathways (*Srotas*) [20]. This leads to symptoms like weight gain, lethargy, cold intolerance, constipation, and menstrual irregularities—paralleling the classical manifestations of hypothyroidism [21]. *Ayurvedic* management focuses on rekindling *Agni* through *Deepan* and *Pachan*, reducing excess *Kapha* and *Meda* with *Lekhana* and *Medohara* herbs like *Trikatu*, *Chitrak*, and *Guggulu*, and supporting endocrine balance with *Rasayana* herbs such as *Ashwagandha* and *Guduchi*. In chronic cases, purification therapies (*Shodhana*) like *Vamana* (emesis) and *Basti* (medicated enemas) may be employed. A *Kapha*-reducing diet and lifestyle are also emphasized to restore metabolic and hormonal balance holistically [22].

In *Ayurveda*, the progression from hypothyroidism to polycystic ovary syndrome (PCOS) can be understood through the lens of *dosha* imbalance, *Agnimandya* (weakened metabolic fire), and *Srotorodha* (obstruction in bodily channels) [23]. Hypothyroidism, primarily caused by *Kapha-Vata* dominance and impaired *Agni*, leads to the accumulation of *Ama* (toxins) and improper transformation of *Rasa* and *Medo Dhatus*, resulting in metabolic disturbances such as weight gain, insulin resistance, and hormonal imbalances [24]. Over time, this impaired metabolism and *Medo Dushti* (vitiation of fat tissue) can extend to affect the *Artavavaha Srotas* (reproductive channels), disrupting ovarian function and menstrual regularity [25]. This chronic imbalance contributes to the development of PCOS, which in *Ayurveda* is often classified under *Aarthava Kshaya*, *Pushpaghni Jatharagni*, or *Stree Vandhyatva* (female infertility) [26]. Both conditions share a common pathological root in *Kapha* aggravation, *Ama* accumulation, and *Agnimandya*, explaining their frequent coexistence and the importance of addressing these underlying causes in treatment.

Table 1. The *Samprapti Ghataka* of the case [27,28,29,30]

Ghataka (Components)	Details
Dosha **(Affected Bioenergies)**	*Kapha* ↑ (increased), *Vata* ↑ (especially *Apana Vata*), *Pitta* ↓ (decreased digestive/metabolic fire)
Dushya **(Affected Tissues)**	*Rasa* (plasma), *Rakta* (blood), *Meda* (adipose), *Artava* (reproductive tissue)
Agni **(Digestive/Metabolic Fire)**	*Jatharagni Mandya* (low central digestive fire), *Dhatvagni Mandya* (weak tissue metabolism, especially of *Rasa, Meda,* and *Artava*)
Ama (Toxins due to improper digestion)	Present
Srotas (Body Channels Affected)	*Rasavah* (plasma channels), *Medovah* (fat channels), *Artavavah* (reproductive channels), *Manovah* (mind channels)
Srotodushti **(Type of Channel Vitiation)**	*Sanga* (obstruction due to accumulation of *Ama* and fat)
Udbhava Sthan **(Origin Site)**	*Amashaya* (GI tract)
Sanchara Sthan **(Site of Spread)**	*Rasavah* and *Medovah Srotas* (channels of plasma and fat)
Adhisthan **(Main Site of Disease)**	*Artavavah Srotas* (reproductive system, especially ovaries)
Vyaktasthan **(Site of Manifestation)**	Ovaries (PCOS features), body tissues (hypothyroid symptoms)
Rog marg **(Pathway of Disease)**	*Abhyantar* (internal pathway)
Swabhav **(Nature of the Disease)**	*Chirakari* (chronic, slow-progressing)

The *Ayurvedic* line of treatment for hypothyroidism progressing to PCOS focuses on correcting the underlying *dosha* imbalances, enhancing *Agni* (digestive and metabolic fire), eliminating *Ama*, and restoring hormonal and reproductive health [29]. The treatment begins with *Deepan* and *Pachan* herbs such as *Trikatu*, *Chitrak*, and *Shunthi* to kindle *Agni* and digest accumulated *Ama* [31]. To address *Medo Dushti* and *Kapha* aggravation, *Lekhana* (fat-scraping) and *Medohara* (fat-reducing) therapies are administered using herbs like *Guggulu, Mustaka*, and *Punarnava*. In chronic cases, *Shodhana* therapies such as *Vamana* (therapeutic

emesis) and *Basti* (medicated enema), especially *Tikta-Ksheera Basti* or *Triphala Basti*, are employed to eliminate deep-seated toxins and regulate hormonal pathways [31,32,33]. *Rasayana* (rejuvenative) herbs like *Ashwagandha, Shatavari*, and *Guduchi* are used to support the endocrine system, improve ovarian function, and enhance fertility [34]. Dietary and lifestyle modifications that pacify *Kapha* and *Vata*, along with regular exercise and stress management practices like *Yoga* and *Pranayama*, are integral to holistic and sustained healing [35].

OBJECTIVE

To assess the impact of *Ayurvedic* interventions for hypothyroidism in a 25-year-old female patient.

MATERIALS AND METHODS

Case Report

On February 25, 2025, a 25-year-old female visited the Jeena Sikho Lifecare Limited Hospital in Gurugram, India. A detailed clinical assessment was carried out, which included a review of her medical and family history, a physical examination, and relevant diagnostic tests. The patient had no notable family history or any addiction. She presented with complaints of weight gain, swelling over neck and irregular menstruation. An increased appetite was noticed. Her last menstruation was on October 27, 2024. Upon evaluation, she was diagnosed with hypothyroidism. The *Ashta vidha pariksha* (Eight-fold examination) during the visits is noted in **Table 2.** The basic assessment is presented in **Table 3.** The thyroid profile test during the treatment period is provided in **Table 4.**

Table 2 The *Ashta vidha pariksha* during the visit on February 25, 2025

Parameter	25-02-2025
***Nadi* (Pulse)**	*Vataj pittaj*
***Mala* (Stool)**	*Niram* (Normal)
***Mutra* (Urine)**	*Safena* (Frothy)
***Jiwha* (Tongue)**	*Saam* (Coated)
***Sparsha* (Touch)**	*Anushna sheet* (Normal)
***Shabda* (Voice)**	*Spashta* (Clear)
***Drik* (Eye)**	*Avikrit* (Normal)
***Akriti* (Physique)**	*Madhyam*

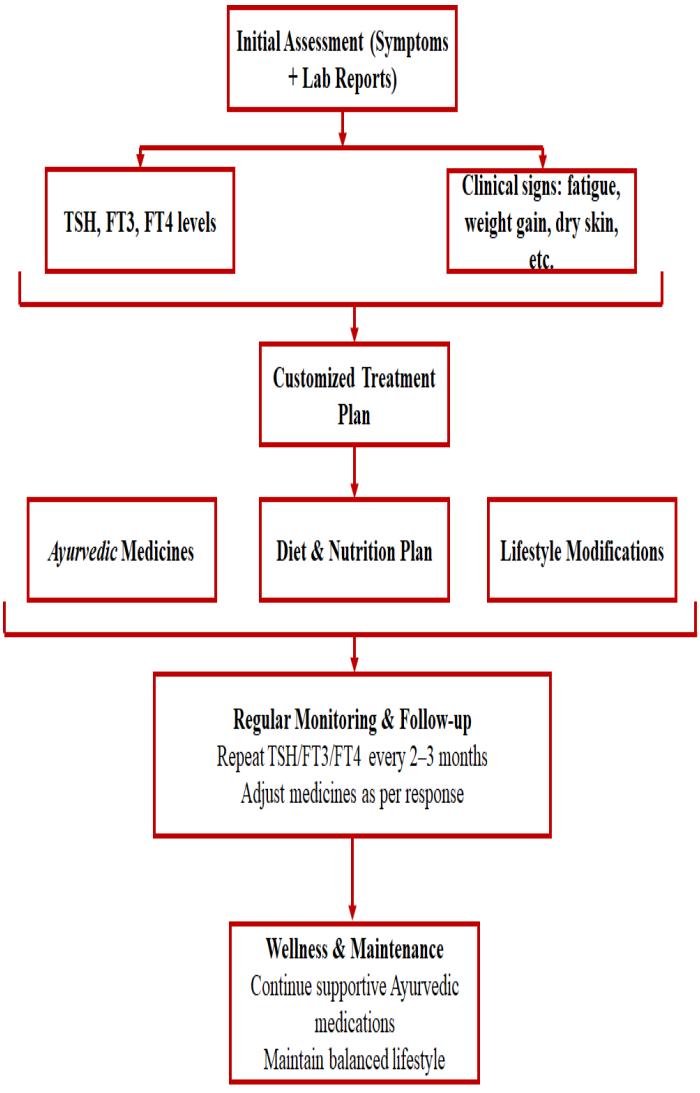
Table 3 The daily assessment during the treatment

Date	Blood Pressure (mmHg)	Weight
25-02-2025	100/70 mmHg	56 Kg
07-03-2025	110/80 mmHg	55.9 Kg
15-05-2025	120/80 mmHg	55.1 Kg

Table 4 The thyroid profile during the treatment period (Fig 1)

Parameter	05-03-2025	06-04-2025	09-05-2025
T3 (Triiodothyronine -Free T3)	**90.6 ng/ml**	**4.52 pg/ml**	4.13 pg/ml
T4 (Thyroxine Free)	**2.9 µg/dl**	0.82 ng/dl	1.31 ng/dl
TSH (Thyroid-stimulating hormone)-Ultra	**>150.0 uIU/ml**	**36.350 uIU/ml**	**10.410 uIU/ml**

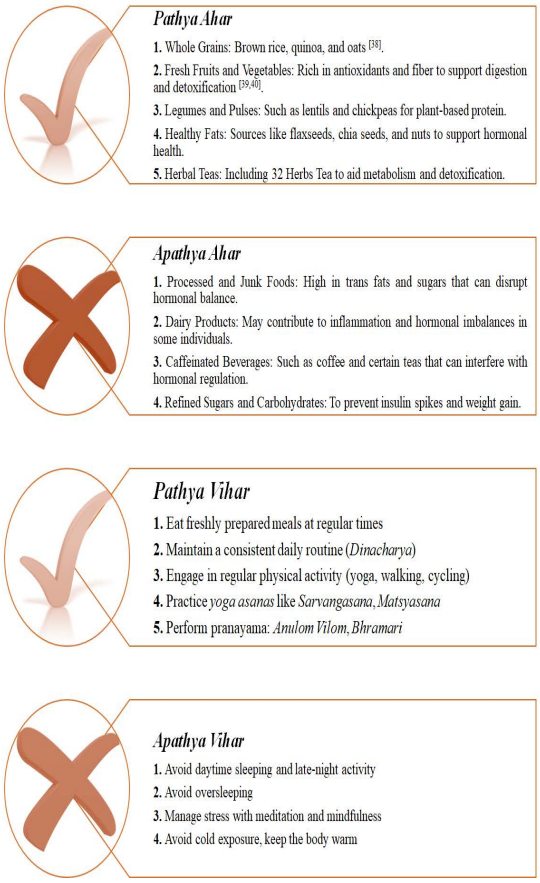
Treatment Plan (Fig 2)



A customized Disciplined and Intelligent Person's (DIP) Diet and *Ayurvedic* diet was provided to the patient to complement the *Ayurvedic* treatments administered for Hypothyroidism leading to PCOS [36,37]:

Diet Plan:

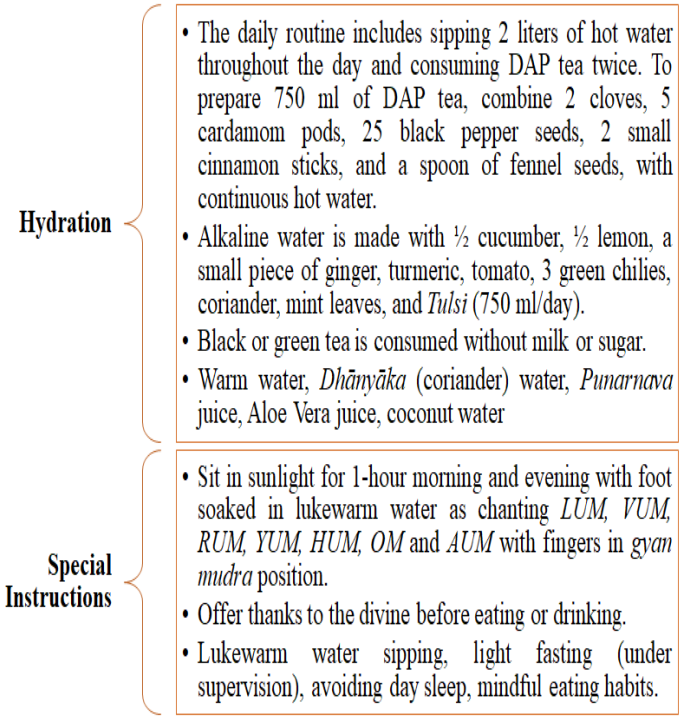
Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital (Fig 3):



Meal Timing and Structure (Table 5)

Time	Meal	Recommended Items
5:30 – 6:30 AM	Wake-up + Warm Water	Lukewarm water with Amla Juice
7:30 – 8:30 AM	Breakfast	Steamed seasonal fruits (equal to the patient's weight × 10 grams) and steamed sprouts
10:30 – 11:00 AM	Mid-morning Snack	1 fruit (apple/pomegranate) Herbal Tea
12:00 – 1:00 PM	Lunch (Main Meal)	*Roti* (multi-grain), *lauki/tori sabzi, Mugda yusha* , salad
4:00 – 5:00 PM	Evening Snack	Roasted *chana,* 32 Herbs Tea
6:30 – 7:30 PM	Dinner (Light Meal)	Vegetable khichdi, bottle gourd soup
9:30 – 10:00 PM	Sleep	—

II. Hydration and Lifestyle Recommendations (Fig 4)



Medicinal Interventions

Ayurvedic intervention

The *Ayurvedic* treatment employed in this case included Dr. Shuddhi Powder, Dr. Immune tablet, 32 Herbs Tea, Dr. Nabhi oil, Dr. Tooth Oil, Thyri Capsule, Granthi Har Vati, Aartav Shodhak Vati, Telome + Syrup, Ladies tonic, Arogyavardhini Vati, G- Cordial Syrup and She Capsule. The dosage with *anupana* is mentioned in **Table 6** and details of the medicines are in **Table 7.** The patient was not taking any allopathic medicines.

RESULT

After three months of *Ayurvedic* treatment, the patient exhibited notable improvement in clinical symptoms, highlighting the effectiveness of the interventions in managing hypothyroidism leading to PCOS. The patient reported relief from weight gain, swelling over neck and irregular menstruation, further validating the therapeutic potential of *Ayurvedic* management in addressing her condition. A comparison of the patient's condition before and after treatment is presented in **Table 8.** Ultrasonography (USG) of the abdomen and pelvis was performed on 05 March 2025. The liver was normal in size (12.5 cm) with diffuse increase in echogenicity, suggestive of Grade I fatty change, without focal lesions or intrahepatic biliary radical dilatation. Both ovaries were polycystic, showing multiple small

peripherally arranged follicles with echogenic stroma. The right ovary measured 3.1 × 2.9 × 1.8 cm (volume 9.07 cc) and the left ovary 3.0 × 2.6 × 1.9 cm (volume 8.06 cc), attached as **Fig 5**.

Table 6 The medicine advised during the treatment

Date	Medicines	Dosage with *Anupana*
07-03-2025	VPK Kit	20 days
	Thyri Capsules	1 CAP BD (*Adhobhakta* with *koshna jala*- After meal with lukewarm water)
	Granthi Har Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Artav Shoodhak Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Telome + Syrup	10 ml BD (*Adhobhakta* with *sama matra koshna jala*- After meal with equal amount of lukewarm water)
	Ladies Tonic	10 ml BD (*Adhobhakta* with *sama matra koshna jala*)
08-04-2025	Thyri Capsules	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Granthi Har Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Artav Shoodhak Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Aarogyavardhini Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	G-CORDIAL Syrup	10 ml BD (*Adhobhakta* with *sama matra koshna jala*)
	Telome + Syrup	10 ml BD (*Adhobhakta* with *sama matra koshna jala*)
15-05-2025	Thyri Capsules	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Granthi Har Vati	1 TAB BD (*Adhobhakta* with *koshna jala*)
	She Capsule	1 CAP BD (*Adhobhakta* with *koshna jala*)
	G-CORDIAL Syrup	10 ml BD (*Adhobhakta* with *sama matra koshna jala*)

Table 7 The details of the *Ayurvedic* medications

Medicine	Ingredients	Therapeutic Effects
Dr. Shuddhi Powder	***Trikatu***, ***Triphala***, ***Nagarmotha*** (*Cyperus rotundus*), ***Vayavidang*** (*Embelia ribes*), ***Chhoti Elaichi*** (*Elettaria cardamomum*), ***Tej Patta*** (*Cinnamomum tamala*), ***Laung*** (*Syzygium aromaticum*), ***Nisoth*** (*Operculina turpethum*), ***Sendha Namak***, ***Dhaniya*** (*Coriandrum sativum*), ***Pipla Mool*** (*Piper longum root*), ***Jeera*** (*Cuminum cyminum*), ***Nagkesar*** (*Mesua ferrea*), ***Amarvati*** (*Achyranthes aspera*), ***Anardana*** (*Punica granatum*), ***Badi Elaichi*** (*Amomum subulatum*), ***Hing*** (*Ferula assafoetida*), ***Kachnar*** (*Bauhinia variegata*), ***Ajmod*** (*Trachyspermum ammi*), ***Sajjikshar***, ***Pushkarmool*** (*Inula racemosa*), ***Mishri*** (*Saccharum officinarum*)	Used for *Raktadushti* (Impurity of blood), *Meda Vriddhi* (Increase in fat), *Agnimandya* (Weak digestive fire), *Mridu Virechan* (Gentle purgation), *Shodhana* (Detoxification), *Deepan* (Digestive stimulant), *Ama Pachan* (Digestion of undigested toxins)
Dr. Immune tablet	***Kesar*** (*Crocus sativus*), ***Shudh Kuchla*** (*Strychnos nux-vomica*), ***Ashwagandha Ext.*** (*Withania somnifera*), ***Shatawari Ext.*** (*Asparagus racemosus*), ***Pipali*** (*Piper longum*), ***Tulsi*** (*Ocimum sanctum*), ***Laung*** (*Syzygium aromaticum*), ***Chhoti Elaichi*** (*Elettaria cardamomum*), ***Sonth*** (*Zingiber officinale*), ***Haldi*** (*Curcuma longa*), ***Loh Bhasma*** (*Ferrum*), ***Swaran Makshik Bhasma*** (*Chalcopyrite*), ***Mukta Shukti Bhasma*** (*Pinctada margaritifera*)	*Ojas vardhaka* (Enhances vitality and immunity), *Rasayana* (Rejuvenative), *Vyadhi kshamatva* (Disease resistance), *Shoth har* (Anti-inflammatory), *Raktashodhaka* (Blood purifier), *Deepan* (Digestive stimulant), *Balya* (Strengthening or promotes physical strength)
Ladies tonic	***Dashmoolarishta, Lodharasava, Patrangasava, Kumariasava, Ashokarishta and Lohasava***	*Strī rogahara* (Women's disease reliever), *Garbhaśaya balya* (Uterine strengthener), *Rasa–Rakta–Dhatu vardhaka* (Enhancer of plasma, blood, and tissue), *Rasayana* (Rejuvenator)
Arogyavardhini Vati	***Abhrak, Amla*** (*Phyllanthus emblica*)***, Haritaki*** (*Terminalia chebula*)***, Baheda*** (*Terminalia bellirica*)***, Shilajit and Kutaki*** (*Picorhizia kurroa*)	*Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Agnideepan* (Enhances digestive fire), *Vata-Pitta Shamaka* (Pacifies *Vata* and *Pitta*)
G- CORDIAL SYRUP	***Ashok*** (*Saraca asoca*), ***Pathani Lodh*** (*Symplocos racemosa*), ***Majuphal*** (*Diospyros lotus*), ***Semal Chal*** (*Bombax ceiba*), ***Bala*** (*Sida cordifolia*), ***Nag Kesar*** (*Mesua ferrea*), ***Dhatki Pushp*** (*Woodfordia floribunda*), ***Gokshur*** (*Tribulus terrestris*), ***Jatamansi*** (*Nardostachys jatamansi*), ***Chikni Supari*** (*Areca catechu*), ***Adusa*** (*Adhatoda vasica*).	*Pitta-Kapha Shaman* (Balancing *Pitta* and *Kapha doshas*), *Deepan* (Appetizer), *Pachan* (Digestant), *Raktashodhana* (Blood purifier)
She Capsule	***Ashwagandha*** (*Withania somnifera*), ***Ulatkambal*** (*Cissampelos pareira*), ***Ashok*** (*Saraca asoca*), ***Supari*** (*Areca catechu*), ***Bhumi Amla*** (*Phyllanthus niruri*), ***Harmal*** (*Peganum harmala*), ***Lodhra*** (*Symplocos racemosa*), ***Shatpushpa*** (*Anethum sowa*), ***Vansh*** (*Bambusa vulgaris*), ***Ashwath*** (*Ficus religiosa*), ***Jiyapota*** (*Leucas aspera*), ***Shivlingi*** (*Bryonia laciniosa*), ***Bala*** (*Sida cordifolia*), ***Aluva*** (*Alocasia indica*), ***Naag Kesar*** (*Mesua ferrea*), ***Jiwanti*** (*Leptadenia reticulata*).	*Rasayana* (Rejuvenator), *Stanyavardhaka* (Lactation enhancer), *Balya (Strengthener)*, *Dhatuposhana* (Tissue nourisher), *Vatanulomana* (Vata regulator), *Pitta Shaman* (Pitta pacifier), *Pandughna* (Anti-anemic), *Manobalavardhana* (Mental strengthener)

32 Herbal Tea	***Gauzaban*** *(Echium amoenum),* ***Kulanjan*** *(Alpinia galanga),* ***Choti Elaichi*** *(Elettaria cardamomum),* ***Laung*** *(Syzygium aromaticum),* ***Badi Elaichi*** *(Amomum subulatum),* ***Badiyan Khtay*** *(Illicium verum),* ***Banafsha*** *(Viola odorata),* ***Jufa*** *(Clerodendrum serratum),* ***Ashwagandha*** *(Withania somnifera),* ***Mulethi*** *(Glycyrrhiza glabra),* ***Punarnava*** *(Boerhavia diffusa),* ***Brahmi*** *(Bacopa monnieri),* ***Chitrak*** *(Plumbago zeylanica),* ***Kali Mirch*** *(Piper nigrum),* ***Adoosa*** *(Adhatoda vasica),* ***Saunf*** *(Foeniculum vulgare),* ***Shankh Pushp*** *(Evolvulus alsinoides),* ***Tulsi*** *(Ocimum sanctum),* ***Arjuna*** *(Terminalia arjuna),* ***Motha*** *(Cyperus rotundus),* ***Senaye*** *(Cuscuta reflexa),* ***Sonth*** *(Zingiber officinale),* ***Majeeth*** *(Rubia cordifolia),* ***Sarfoka*** *(Sphaeranthus indicus),* ***Dalchini*** *(Cinnamomum verum),* ***Gulab*** *(Rosa spp.),* ***Green Tea*** *(Camellia sinensis),* ***Giloy*** *(Tinospora cordifolia),* ***Tej Patta*** *(Cinnamomum tamala),* ***Lal Chandan*** *(Pterocarpus santalinus),* ***White Chandan*** *(Santalum album),* ***Pudina*** *(Mentha spicata)*	*Deepan* (Digestive stimulant), *Pachan* (Digestion or digestive process).
Dr. Nabhi oil	***Amla*** *(Phyllanthus emblica),* ***Haritaki*** *(Terminalia chebula),* ***Bahera*** *(Terminalia bellerica),* ***Almond*** *(Prunus dulcis),* ***Jaiphal*** *(Myristica fragrans),* ***Ajwain*** *(Trachyspermum ammi),* ***Alsi*** *(Linum usitatissimum),* ***Long*** *(Syzygium aromaticum),* ***Camphor*** *(Cinnamomum camphora),* ***Olive*** *(Olea europaea),* ***Coconut*** *(Cocos nucifera),* ***Lemongrass*** *(Cymbopogon citratus),* ***Kali Jeeri*** *(Nigella sativa),* ***Ajmod*** *(Apium graveolens),* ***Guggul*** *(Commiphora wightii),* ***Giloy*** *(Tinospora cordifolia),* ***Chirayata*** *(Swertia chirata),* ***Kalonji*** *(Nigella sativa),* ***Katu Taila*** *(Sesamum indicum),* ***Taramira*** *(Eruca sativa),* ***Til (Katu) Tailam*** *(Sesamum indicum).*	*Agnideepana* (Stimulates digestive fire), *Vata-nashaka* (Vata pacifying), *Rasayana* (Rejuvenative), *Ojovardhak* (Enhances vitality or strengthens immunity), *Chakra sthirikara* (Stabilizes or strengthens the energy centers).
Dr. Tooth Oil	***Clove oil, Sat ajwain, peppermint and glycerine***	*Danta-māṃsa-bala-vardhaka* (strengthens teeth and gums), *Krimighna* (antimicrobial), and *Durgandha -hara*
Thyri Capsule	***Triphala*** *(Terminalia chebula, Terminalia bellirica, Emblica officinalis),* ***Brahmi*** *(Bacopa monnieri),* ***Gokshuru*** *(Tribulus terrestris),* ***Punarnava*** *(Boerhavia diffusa),* ***Sunthi*** *(Zingiber officinale),* ***Ashwagandha*** *(Withania somnifera),* ***Mulethi*** *(Glycyrrhiza glabra),* ***Shilajeet*** *(Mineral-based exudate – Fulvic Acid and Humic Acid),* ***Kaishore Guggulu*** *(Commiphora wightii, Terminalia chebula, Terminalia bellirica, Emblica officinalis, Zingiber officinale, Piper longum, Piper nigrum),* ***Kachnar Guggulu*** *(Commiphora wightii, Bauhinia variegata, Terminalia chebula, Terminalia bellirica, Emblica officinalis, Zingiber officinale, Piper longum, Piper nigrum).*	*Deepan* (Appetizer), *Pachan* (Digestant), *Shoth har* (Anti-inflammatory), *Raktashodhak* (Blood purifier), *Rasayana* (Rejuvenator), *Balya* (Strengthener), *Ojovardhaka* (Immunity enhancer)
Granthi Har Vati	***Kachnar*** *(Bauhinia variegata),* ***Guggul*** *(Commiphora wightii),* ***Amalki*** *(Phyllanthus emblica),* ***Vibhitik*** *(Terminalia bellirica),* ***Haritiki*** *(Terminalia chebula),* ***Shunti*** *(Zingiber officinale),* ***Marich*** *(Piper nigrum),* ***Pippal*** *(Piper longum),* ***Varuna*** *(Crateva religiosa),* ***Sukshamala*** *,* ***Dalchini*** *(Cinnamomum verum), and* ***Tamal Patar*** *(Cinnamomum tamala)*	***Lekhana* (scraping), *Stambhana* (astringent), *Shoth har* (anti-inflammatory), *Vedanasthapana* (analgesic), *Kapha-Vata Shaman* (pacifying *Kapha* and *Vata doshas).***
Aartav Shodhak Vati	***Soya*** *(Glycine max),* ***Carrot Seed*** *(Daucus carota),* ***Ulat Kambal*** *(Abroma augusta),* ***Baanas Ki Jad*** *(Withania coagulans),* ***Heerabol*** *(Commiphora myrrha),* ***Tankan Bhasma*** *(Sodium borate - $Na_2B_4O_7{\cdot}10H_2O$),* ***Hara Kashish*** *(Ferrous sulfate - $FeSO_4$),* ***Musabar*** *(Aloe barbadensis),* ***Hing*** *(Ferula asafoetida),* ***Halon*** *(Salvia aegyptiaca),* ***Kalonji*** *(Nigella sativa).*	*Artavashodhana* (Menstrual purifier), *Artavajanana* (Menstruation promoter), *Raktaprasadana* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Vatanulomana* (Vata regulator), *Shoth har* (Anti-inflammatory), *Kaphahara* (Kapha reducer), *Vedanasthapana* (Analgesic), *Yonishuddhikara* (Genital cleanser)
Telome + Syrup	***Kumari*** *(Aloe vera),* ***Giloy*** *(Tinospora cordifolia),* ***Bhringraj*** *(Eclipta prostrata),* ***Amla*** *(Phyllanthus emblica),* ***Kutki*** *(Picrorhiza kurroa),* ***Bhoomi Amla*** *(Phyllanthus niruri),* ***Daruhaldi*** *(Berberis aristata),* ***Vidanga*** *(Embelia ribes),* ***Chitraka*** *(Plumbago zeylanica),* ***Kalmegh*** *(Andrographis paniculata),* ***Nishoth*** *(Operculina turpethum),* ***Shahtara*** *(Fumaria indica),* ***Triphala*** *,* ***Noni*** *(Morinda citrifolia),* ***Pudina*** *(Mentha piperita),* ***Tulsi*** *(Ocimum sanctum),* ***Bilva*** *(Aegle marmelos),* ***Elaichi*** *(Elettaria cardamomum),* ***Sonth*** *(Foeniculum vulgare),* ***Jeera*** *(Cuminum cyminum),* ***Pipal*** *(Ficus religiosa),* ***Makoy*** *(Solanum nigrum),* ***Kasni*** *(Cichorium intybus),* ***Punarnava*** *(Boerhavia diffusa), and* ***Sorbitol*** *.*	*Rasayana* (Rejuvenator), *Vata-pitta shamaka* (Dosha-balancer), *Agnideepan (* Digestive stimulant), *Ojas vardhana* (Immunity enhancer), *Manasika shakti vardhana* (Mental strengthener)

Table 8 The conditions before and after treatment

Conditions	Before treatment	After treatment
Swelling	On Neck	Reduced Swelling
Menstruation	Irregular (LMP on 17-10-2024)	Spotting (02-05-2025)
Appetite	Increased	Normal

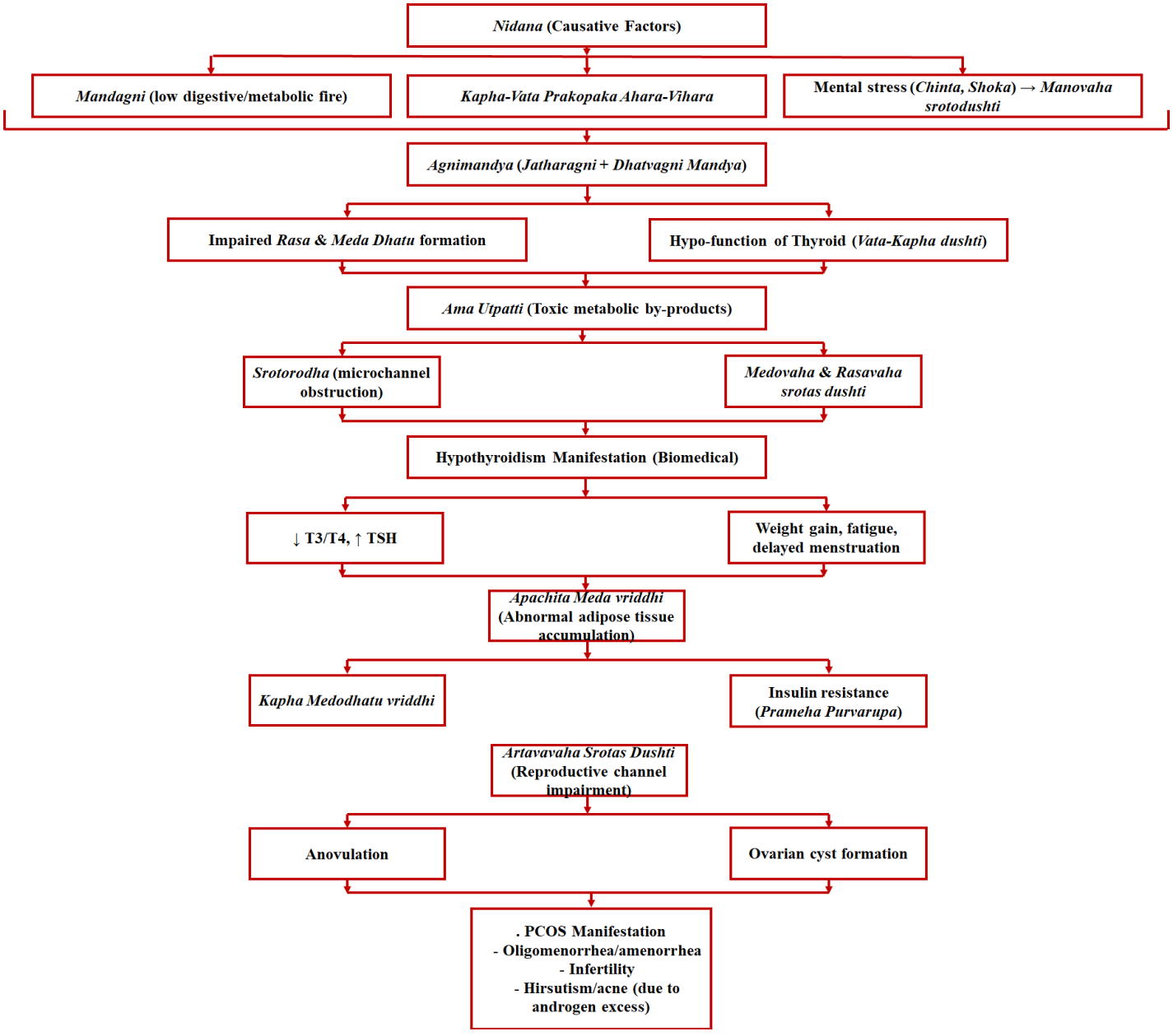
Implications for Future Research

The progression of hypothyroidism into PCOS in an individual suggests a deepening of endocrine dysfunction that, if unmanaged, may result in persistent anovulation, subfertility, and worsening metabolic derangements. *Ayurvedically*, this reflects a chronic *Kapha-Vata* imbalance with *Dhatvagni mandya* and *Srotorodha*, particularly affecting *Artavavaha* and *Medovaha srotas*. Future implications of *Ayurvedic* treatment in such a case point toward the potential for reversing early pathophysiological changes through therapies like *Rasayana* for tissue rejuvenation, *Vatanulomana* for hormonal regulation, and *Lekhana* for addressing metabolic load. Emphasis on individualized *Ayurvedic* formulations, detoxification procedures like *Basti* and *Virechana*, and structured lifestyle regimens can support long-term hormonal and reproductive health. As personalized approaches in *Ayurveda* gain empirical backing, their integration into endocrine disorder management holds promise for sustainable outcomes and reduced dependence on lifelong pharmacotherapy.

DISCUSSION

The *Ayurvedic* approach to managing hypothyroidism leading to PCOS offers a promising alternative to conventional treatment methods. This case study presents the application of specific *Ayurvedic* interventions in a 25-year-old female diagnosed with hypothyroidism leading to PCOS. The therapeutic regimen resulted in a marked improvement in symptoms, particularly the reduced weight, swelling and menstruation. The *Samprapti* (pathogenesis) [13,29,41,42,43,44,45] relevant to this case is illustrated in **Fig. 6.**

Fig. 6 The *samprapti* for this case study



The *Samprapti*

The *Samprapti* (pathogenesis) of hypothyroidism leading to PCOS unfolds through the chronic vitiation of *Kapha* and *Vata doshas*, combined with *Agnimandya*, initially of *Jatharagni*, followed by *Dhatvagni*, particularly *Rasagni* and *Medodhatvagni*. Due to *Nidana sevana* such as *Guru*, *Snigdha Ahara, Avyayama, Divaswapna,* and *Manasika Nidana* like *Chinta* and *Shoka*, *Kapha* and *Vata* become *Prakupita*, leading to the production of *Ama*. This *Ama* causes *Srotorodha* (obstruction) in *Rasavaha*, *Medovaha*, and *Artavavaha srotas*, disturbing the proper flow and transformation of *Rasa* and *Meda dhatus*, and eventually *Artava dhatu*. The *Meda vriddhi* and *Sanga* in *Artavavaha srotas* disrupt the function of the *Beeja Granthi* (ovaries), resulting in *Artava Dushti* such as *Yonivyapad*, *Aartava Kshaya*, and *Nashtartava*. This manifests clinically as hypothyroid symptoms and features of *Pushpaghni Jathaharini* (PCOS-like condition), including *Anartava, Arajaska, Vandhyatva*, and *Roukshya*. Thus, the *samprapti* is a complex interplay of *Dosha, Dhatu*, and *Srotas dushti*, demanding *Doshapratyanika*, *Agnideepan*, *Amapachan*, *Srotoshodhana*, and *Rasayana chikitsa* for effective and sustainable management. [29,30,31,37].

The *Nidan Parivarjana*

The *Nidana* (causative factors) of hypothyroidism leading to PCOS are multifactorial and include *Ahariya*, *Vihariya*, and *Manasika* components. Dietary causes such as excessive intake of Guru, *Snigdha*, and *Madhura ahara*, irregular eating habits (*Vishamashana*), overeating (*Atibhojana*), and suppression of appetite (*Alpabhojana*) contribute to *Agnimandya* (digestive fire impairment) and *Ama utpatti* (toxic metabolic waste), which play a key role in the vitiation of *Kapha* and *Vata doshas* [24,46,47]. Sedentary lifestyle habits like *Avyayama* (lack of exercise), *Divaswapna* (daytime sleep), and *Ratrijagarana* (late-night wakefulness) aggravate *Kapha* and obstruct *Medovaha* and *Artavavaha srotas*, leading to fat accumulation, hormonal imbalance, and disturbed menstrual physiology. Additionally, psychological stressors like *Chinta*, *Shoka*, and *Krodha* contribute to *Manovaha srotodushti*, further impairing neuroendocrine balance and reproductive health [48]. Endogenous factors such as *Beejadosha* (genetic predisposition) and chronic exposure to endocrine disruptors may also initiate or aggravate the disease process [49].

Nidana Parivarjana, or the avoidance of these causative factors, is the first and most crucial step in *Ayurvedic* management [50]. This includes adopting a balanced and *Deepaniya*, *Laghu*, *Ruksha* diet to enhance *Agni* and prevent *Ama* formation, along with regular meal timings following *Aahara Vidhi Vidhanas* [51]. Lifestyle modifications such as incorporating *Vyayama* (physical exercise), avoiding *Divaswapna* and ensuring adequate *Ratri Nidra* support the regulation of *Kapha* and promote healthy metabolism [52,53]. Stress management through Pranayama, *Dhyana*, and maintaining a *Sattvika ahara-vihara* are essential to prevent *Manovaha srotodushti*. Regular detoxification and *Dinacharya-Ritucharya* practices help maintain *dosha* equilibrium and prevent the progression of *Agnimandya*, *Srotorodha*, and *Dhatu dushti*, thereby addressing the root of both hypothyroidism and PCOS [54].

Effects of *Ayurvedic* medicines

Samprapti Vighatana involves therapies aimed at pacifying aggravated *doshas*, enhancing *Agni*, clearing *Ama*. Dr. Shuddhi Powder, Dr. Immune Tablet, and 32 Herbs Tea help in deep detoxification and restoration of *Agni*, thereby reducing *Ama* and enhancing metabolic clarity. Dr. Nabhi Oil aids in stimulating digestive fire and regulating *Apana Vata* through *Nabhi* (navel) *marma*. Thyri Capsule directly targets thyroid dysfunction by supporting hormonal homeostasis and reducing *Kapha*-related sluggishness. Granthi Har Vati and Aartav Shodhak Vati help resolve ovarian cysts (*Granthi*) and purify the reproductive channels. Telome + Syrup, G-Cordial Syrup, Ladies Tonic, and She Capsule restore normal *Artava pravritti* by nourishing *Shukra* and *Rasa dhatus*, while also addressing stress and emotional imbalance via *Manovaha* srotas. Arogyavardhini Vati supports liver function and hormonal detox, contributing to proper hormonal conversion and regulation. Dr. Tooth Oil, though not directly related to PCOS, may contribute to systemic detox and *dosha* balance through oral and *marma* stimulation.

Several *dravyas* commonly found in these formulations have significant roles in the *samprapti vighatana* of hypothyroidism (*Mandagni* and *Ama* accumulation) leading to PCOS (*Artava Kshaya* and hormonal imbalance). *Ashwagandha* acts as a powerful *Medhya* and *Rasayana* herb, balancing the *Vata-Pitta doshas*, improving *Agni* (digestive fire), and supporting *Shukra* and *Artava dhatu* by reducing *Manasa* stress, which is a key factor in PCOS [55]. *Triphala*, a classic *Tridoshahara* and *Ama Pachaka* formulation, detoxifies the body, improves *Agni*, and promotes hormonal balance through its antioxidant and digestive properties [56]. *Giloy* is a renowned *Medhya Rasayana* with *Jwaraghna* and *Pitta Shamaka* actions, enhancing immunity and thyroid function [57]. *Punarnava* acts as a *Rasayana* and *Kapha-Vata Shamaka*, aiding in reducing edema and promoting *Mala* (waste) elimination via its diuretic effect, thereby supporting hormonal detoxification [58]. *Kachnar* is noted for its *Shothahara* (anti-inflammatory) and endocrine balancing effects, helping to restore thyroid function [59]. *Guggulu* stimulates *Agni* and acts as a *Medohara* and *Vishaghna*, promoting healthy lipid metabolism and weight reduction, which is essential in managing PCOS [60]. *Ayurvedic* herbs like *Shunti*, *Laung*, *Elaichi*, and *Tej Patra* are excellent *Deepan-Pachan* agents, enhancing digestion and metabolism, while also having *Shothahara* and *Rasayana* properties that support thyroid and hormonal health [61,62,63]. Collectively, these *dravya* act in harmony to kindle the *Agni*, reduce *Ama*, balance the *Tridoshas*, and support the healthy functioning

of the endocrine system, thus effectively managing the clinical manifestations of hypothyroidism and PCOS. **Table 9** shows the *Ras Panchaka* of the common ingredients used in the *Ayurvedic* formulations.

Table 9 The *Ras Panchaka* along with therapeutic effects of the common ingredients in the *Ayurvedic* formulations

Ingredients	*Rasa* (Taste)	*Guna* (Qualities)	*Virya* (Potency)	*Vipaka* (Post-digestive Taste)	*Prabhava* (Special Effect)	Therapeutic Effects (*Karma*)	Medicines
Ashwagandha *(Withania somnifera)*	*Madhura* (Sweet), *Kashaya* (Astringent)	*Guru* (Heavy), *Snigdha* (Unctuous)	*Ushna* (Hot)	*Madhura* (Sweet)	*Medhya* (Intellect promoting), *Rasayana* (Rejuvenator)	Balances *Vata-Kapha,* strengthens *Agni* (digestive fire), adaptogen, improves thyroid, supports reproductive tissues, anti-inflammatory	Dr. Immune tablet, 32 Herbs Tea, Thyri Capsule, She Capsule
Triphala *(Haritaki, Bibhitaki, Amalaki)*	*Tikta* (Bitter), *Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Madhura* (Sweet)	*Deepan* (Digestive), *Pachan* (Digestive), *Rasayana* (Rejuvenator)	*Tridosha* balancing, promotes *Agni* (digestive fire), detoxifies *Ama* (toxins), antioxidant, regulates digestion	Dr. Shuddhi Powder, Thyri Capsule, Telome + Syrup
Giloy *(Tinospora cordifolia)*	*Tikta* (Bitter), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	*Jwaraghna* (Antipyretic), *Rasayana* (Rejuvenator)	Balances *Tridosha,* boosts immunity, anti-inflammatory, detoxifies liver & thyroid, regulates blood sugar	Dr. Nabhi Oil, 32 Herbs Tea, Telome + Syrup
Punarnava *(Boerhavia diffusa)*	*Tikta* (Bitter), *Katu* (Pungent), *Madhura* (Sweet)	*Laghu* (Light), *Snigdha* (Unctuous)	*Ushna* (Hot)	*Katu* (Pungent)	*Mutral* (Diuretic), *Shoth har* (Anti-inflammatory)	Reduces edema & inflammation, detoxifies *Rasa* (plasma) & *Rakta* (blood) *dhatu,* balances *Kapha-Vata,* supports hormonal regulation	Thyri Capsule, 32 Herbs Tea, Telome + Syrup
Kachnar *(Bauhinia variegata)*	*Tikta* (Bitter), *Kashaya* (Astringent)	*Ruksha* (Dry), *Laghu* (Light)	*Ushna* (Hot)	*Katu* (Pungent)	*Shoth har* (Anti-inflammatory), *Granthi bhedaka* (Nodule resolving)	Reduces thyroid swelling & inflammation, supports endocrine balance, resolves cysts/nodules	Dr. Shuddhi Powder, Granthi Har Vati
Guggulu *(Commiphora wightii)*	*Tikta* (Bitter), *Katu* (Pungent)	*Ruksha* (Dry), *Laghu* (Light)	*Ushna* (Hot)	*Katu* (Pungent)	*Medohara* (Fat reducing), *Deepan* (Digestive)	Stimulates *Agni* (digestive fire), reduces *Medo dhatu* (fat tissue), anti-inflammatory, supports thyroid hormone synthesis	Dr. Nabhi Oil, Thyri Capsule, Granthi Har Vati
Shunti *(Zingiber officinale)*	*Katu* (Pungent)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	*Deepan* (Digestive), *Shoth har* (Anti-inflammatory)	Enhances digestion & metabolism, reduces inflammation, improves circulation & hormonal balance	Dr. Immune Tablet, Thyri Capsule, Granthi Har Vati, 32 Herbs Tea
Laung *(Syzygium aromaticum)*	*Katu* (Pungent), *Tikta* (Bitter)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	*Krimighna* (Antimicrobial), *Deepan* (Digestive)	Improves digestion & metabolism, anti-inflammatory, antioxidant, supports thyroid & hormonal function	Dr. Shuddhi Powder, Dr. Immune Tablet, 32 Herbs Tea, Dr. Nabhi Oil
Elaichi *(Elettaria cardamomum)*	*Madhura* (Sweet), *Katu* (Pungent)	*Laghu* (Light), *Snigdha* (Unctuous)	*Ushna* (Hot)	*Madhura* (Sweet)	*Deepan* (Digestive), *Vatahar* (Vata pacifying)	Enhances digestion, pacifies Vata, supports metabolism & hormonal health, improves circulation	Dr. Shuddhi Powder, Dr. Immune Tablet, 32 Herbs Tea, Telome + Syrup

Effects of *Ahar-Vihar*

The *Ahar-Vihar* (diet and lifestyle) guidelines provided for managing hypothyroidism leading to PCOS are rooted in *Ayurvedic* principles and aim to restore hormonal balance, metabolism, and digestive health [64]. The recommended *Pathya Ahar* includes whole grains, fresh fruits and vegetables, legumes, healthy fats (like flaxseeds and nuts), and herbal teas (such as 32 Herbs Tea), which together support sustained energy, detoxification, improved digestion, and hormonal regulation [65,66,67]. These foods help manage insulin resistance and reduce inflammation, both of which are central to PCOS and hypothyroidism. In contrast, the *Apathya Ahar* advises avoiding processed foods, dairy, caffeine, and refined sugars or carbohydrates, as these can disrupt hormonal balance, promote inflammation, and contribute to weight gain and metabolic imbalance [68,69]. The *Pathya Vihar* emphasizes eating freshly prepared meals at regular times, maintaining a consistent daily routine (*Dinacharya*), engaging in physical activity (like *yoga*, walking, and cycling), and practicing *yoga asanas* such as *Sarvangasana* and *Matsyasana* alongside pranayama techniques like *Anulom Vilom* and *Bhramari*. These practices help stimulate thyroid and reproductive glands, regulate hormonal rhythms, and reduce stress [70,71,72]. The *Apathya Vihar* discourages daytime sleeping, late-night activity, oversleeping, cold exposure, and unmanaged stress, all of which aggravate *Kapha* and *Vata doshas* and further disrupt endocrine function [73,74,75]. Additional daily practices include sipping hot water and consuming DAP tea

(a mix of spices like cloves, cardamom, pepper, and fennel), alkaline water with ginger, lemon, turmeric, and *Tulsi*, and *Ayurvedic* drinks such as coriander water, *Punarnava* juice, and aloe vera juice [76,77]. These aid in detoxification, reduce inflammation, and support organ function. Sunbathing with chanting (LUM, VUM, etc.) while soaking feet in lukewarm water helps regulate circadian and energy rhythms. Gratitude before meals and mindful eating enhance digestive fire and parasympathetic activation. Collectively, these interventions aim to correct the root imbalances in hypothyroidism and PCOS by improving metabolism, reducing insulin resistance, regulating menstrual cycles, supporting thyroid and ovarian function, and promoting overall physical and emotional well-being.

This case study underscores the potential of *Ayurvedic* therapy in effectively managing hypothyroidism leading to PCOS. *Ayurvedic* interventions provide a cost-efficient strategy by addressing the root causes of these conditions and supporting improved thyroid gland function. However, additional research is essential to validate their efficacy and safety in the treatment of these disorders.

CONCLUSION

This case study evaluating the treatment of hypothyroidism leading to PCOS through *Ayurvedic* interventions yields the following findings:

Symptoms: At the initial consultation, the patient exhibited symptoms including weight gain, neck swelling, increased appetite, and irregular menstrual cycles. Following the administration of *Ayurvedic* therapy, notable improvements were observed. The patient experienced relief from abdominal discomfort, and no new symptoms were reported, indicating a substantial enhancement in overall health and well-being.

Investigations: The patient exhibited significant clinical and biochemical improvement over the course of treatment. On the initial assessment dated 05 March, 2025, the thyroid profile showed markedly abnormal values: T3 was elevated at 90.6 ng/ml, T4 was 2.9 µg/dl, and TSH was exceedingly high at >150.0 uIU/ml, indicating a dysregulated thyroid state suggestive of hypothyroidism. By 06 April, 2025, T3 and T4 levels had reduced to 4.52 pg/ml and 0.82 ng/dl respectively, while TSH dropped significantly to 36.350 uIU/ml, indicating a positive trend. Continued improvement was observed in the follow-up on 09 May, 2025, where T3 was 4.13 pg/ml, T4 was 1.31 ng/dl, and TSH had further decreased to 10.410 uIU/ml.

Ayurvedic interventions for hypothyroidism including better lab parameters, stable vital signs, and symptom relief. These therapies work by addressing the root imbalances through *dosha* correction and supporting the optimal function of vital systems, particularly the thyroid gland. While the outcomes are promising, further large-scale clinical research is essential to confirm these findings and establish standardized *Ayurvedic* treatment guidelines for these conditions.

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Fig 1 The Laboratory investigation reports during the treatment

AARTHI SCANS & LABS

LARGEST INTEGRATED DIAGNOSTIC CHAIN

SIEMENS (GERMAN) MRI & CT SCANNERS | FULLY AUTOMATED ROBOTIC LAB

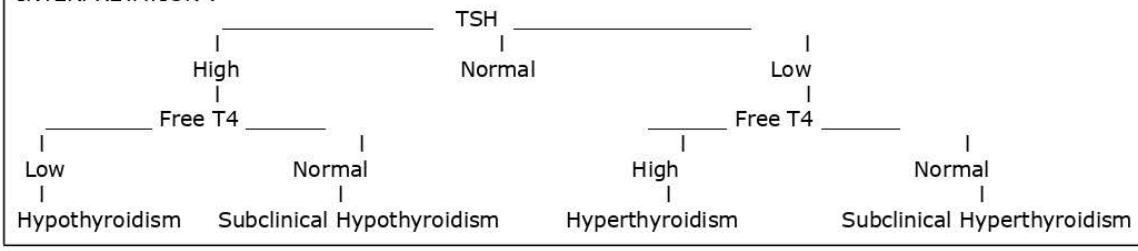
Patient
Age / Sex : 24 Y / Female
Referrer : SVASTH LIFE - HEALTHI - CREDIT
Branch : GURUGRAM - HUB

SID No. : **156003384**
Reg Date & Time : 05/03/2025 00:18:22
Coll Date & Time : 05/03/2025 08:46:58
Report Date & Time : 05/03/2025 20:01:14

Final Test Report

INVESTIGATION / METHOD	RESULT	UNITS	BIOLOGICAL REFERENCE INTERVAL
IMMUNOLOGY			
SVASTH LIFE - 23A01-01 MF HEALTHI			
THYROID PROFILE TEST - TOTAL			
Total-T3 (Triiodothyronine-T3) (Method : ECLIA) (Specimen: SERUM)	90.6	ng/dl	70-204
Total-T4 (Thyroxine T4) (Method : ECLIA) (Specimen: SERUM)	**2.9**	µg/dl	5.56-12.4
kindly correlate clinically.			
TSH (Thyroid-stimulating hormone)-Ultra (Method : ECLIA) (Specimen: SERUM)	>150.0	uIU/ml	0.35-5.5
kindly correlate clinically.			

NOTE:
*Time of the day, stress, intense physical activity, certain medications, sleep deprivation, fasting and illness cause fluctuations in TSH levels.
*Hence it is advised to take the TSH test around the same time of the day and in the same manner (fasting/non-fasting).
INTERPRETATION :



Vitamin D Total 25(OH) (Method : CLIA) (Specimen: SERUM)	**21.40**	ng/ml	Deficiency : < 20 Insufficiency : 20-30 Sufficiency : 30-100 Toxicity : > 100

BEFORE

AARTHI SCANS & LABS

LARGEST INTEGRATED DIAGNOSTIC CHAIN

SIEMENS (GERMAN) MRI & CT SCANNERS | FULLY AUTOMATED ROBOTIC LAB

Patient	: [redacted]	SID No.	: **168001148**
Age / Sex	: 25 Y / Female	Reg Date & Time	: 09/05/2025 10:03:15
Referrer	: HOME COLLECTION	Coll Date & Time	: 09/05/2025 12:31:02
Branch	: HOME COLLECTION DELHI	Report Date & Time	: 09/05/2025 13:35:25

INVESTIGATION / METHOD	RESULT	UNITS	BIOLOGICAL REFERENCE INTERVAL
IMMUNOLOGY			
THYROID PROFILE TEST - FREE			
Free T3 (Triiodothyronine -Free T3) (Method : ECLIA) (Specimen: SERUM)	4.13	pg/ml	Cord :0.15-3.91 Adults :2.1-4.40 Pregnancy:2.0-3.80
Free T4 (Thyroxine Free) (Method : ECLIA) (Specimen: SERUM)	1.31	ng/dl	0.8-2.7 Pregnancy: 1stTrimester:0.7-2.0 2ndTrimester:0.5-1.6

AFTER

AARTHI SCANS & LABS

LARGEST INTEGRATED DIAGNOSTIC CHAIN

SIEMENS (GERMAN) MRI & CT SCANNERS | FULLY AUTOMATED ROBOTIC LAB

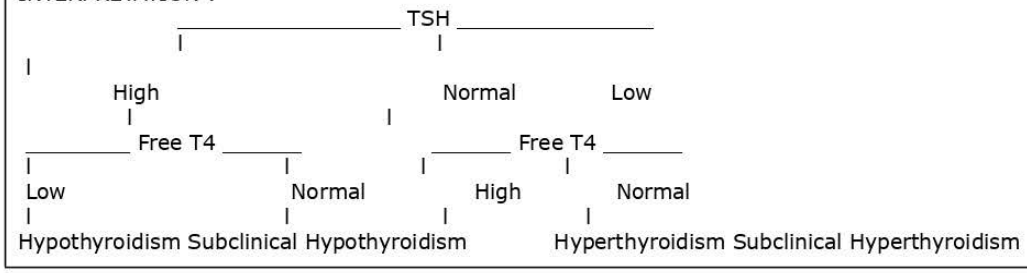
Patient	: [redacted]	SID No.	: **168001148**
Age / Sex	: 25 Y / Female	Reg Date & Time	: 09/05/2025 10:03:15
Referrer	: HOME COLLECTION	Coll Date & Time	: 09/05/2025 12:31:02
Branch	: HOME COLLECTION DELHI	Report Date & Time	: 09/05/2025 14:25:17

INVESTIGATION / METHOD	RESULT	UNITS	BIOLOGICAL REFERENCE INTERVAL
TSH (Thyroid-stimulating hormone)-Ultra (Method : ECLIA) (Specimen: SERUM)	**10.410**	uIU/ml	0.45-4.50 Pregnancy: 1 Trimester 0.10 - 2.5 µlU/mL 2 Trimester 0.2 - 3.00 µIU/mL 3 Trimester 0.3 - 3.00 µlU/mL

Interpretation :

**Requested the physician to interpret the results with clinical significance.

*Time of the day, stress, intense physical activity, certain medications, sleep deprivation, fasting and illness cause fluctuations in TSH levels.
*Hence it is advised to take the TSH test around the same time of the day and in the same manner (fasting/nonfasting).
INTERPRETATION :



TSH:
(As per American Thyroid Association)
1 Trimester 0.10 - 2.5 µlU/mL
2 Trimester 0.2 - 3.00 µIU/mL
3 Trimester 0.3 - 3.00 µlU/mL

AFTER

- Assay results should be interpreted in context to the clinical condition and associated results of other investigations. - Previous treatment with corticosteroid therapy may result in lower TSH levels while thyroid hormone levels are normal - Results are invalidated if the client has undergone a radionuclide scan within 7-14 days before the test. - Abnormal thyroid test findings often found in critically ill clients should be repeated after the critical nature of the condition is resolved. - The production, circulation, and disposal of thyroid hormone are altered throughout the stages of pregnancy.

*Normal T3 and T4 along with low TSH indicates mild or subclinical hyperthyroidism
•Low T4 and T3 along with high TSH level indicates hypothyroidism. The most common cause of hypothyroidism is Hashimoto thyroiditis
•High T4 and T3 along with low TSH indicate hyperthyroidism. The most common cause of hyperthyroidism is Grave's disease
•Normal thyroxine (T4) and T3 along with high TSH usually indicates mild or subclinical hypothyroidism

Note: TSH levels show circadian variation (fluctuates during the 24-hour cycle), reaching peak levels between 2 - 4 am and are at a low between 6-10 pm.

Fig 6. USG abdomen and pelvis

Name	[redacted]	**Patient ID**	AS_GGN_US_3385
Accession No	3385_252266_156	**Age/Gender**	024Y / Female
Referred By	SVASTH LIFE - HEALTHI - CREDIT	**Date**	05-Mar-2025

USG REPORT - ABDOMEN AND PELVIS

LIVER:

Is normal in size (12.5 cm) **with a diffuse increase in echogenicity suggestive of fatty change**. No obvious focal lesion seen. No intra – hepatic biliary radical dilatation seen.

GALL BLADDER:

Normally distended, thin walled, with echo free lumen.

CBD measure ~ 2.9 mm

PANCREAS:

Appears normal in size and it shows uniform echo texture.

SPLEEN:

Is normal in size (7.7 cm) and shows uniform echogenicity.

RIGHT KIDNEY:

Right kidney measures 10.2 x 3.7 cm.

The shape, size and contour of the right kidney appear normal.

Cortico medullary differentiation is maintained. No evidence of pelvicalyceal dilatation. No calculi seen.

LEFT KIDNEY:

Left kidney measures 9.5 x 4.7 cm.

The shape, size and contour of the left kidney appear normal.

Cortico medullary differentiation is maintained. No evidence of pelvicalyceal dilatation. No calculi seen.

BLADDER:

Is normal in contour. No intra luminal echoes are seen.

UTERUS:

Uterus measures ~ 7.0 x 4.3 x 2.9 cm, anteverted.

Endometrial thickness measures ~ 4.0 mm.

Myometrial echogenicity appears normal.

Name	[redacted]	Patient ID	AS_GGN_US_3385
Accession No	3385_252266_156	Age/Gender	024Y / Female
Referred By	SVASTH LIFE - HEALTHI - CREDIT	Date	05-Mar-2025

OVARIES:

Both ovaries appear polycystic with multiple, small, peripherally arranged follicles and echogenic stroma.

Right ovary measures ~ 3.1 x 2.9 x 1.8 cm volume: 9.07 cc.

Left ovary measures ~ 3.0 x 2.6 x 1.9 cm volume: 8.06 cc.

No adnexal mass seen.

No free fluid / abdominal lymphadenopathy is seen.

IMPRESSION:

Previous reports available: No

- **Grade I fatty change liver.**
- **Bilateral polycystic ovaries.**

Advice: Clinical correlation.

For any report clarifications, doctors can contact 7824-860997 from 9am – 8pm.

Dr Preeti Vaid., MD.,
Radiologist