

Date: 15<sup>th</sup> December, 2025

To, Manager - Listing Compliance <b>National Stock Exchange of India Limited</b> 'Exchange Plaza'. C-1, Block G, Bandra Kurla Complex, Bandra (E), Mumbai - 400 051 SYMBOL: JSLL	To, Head of the Department, Department of Listing Operation, <b>BSE Limited</b> Phiroze Jeejeebhoy Towers, Dalal Street, Mumbai 400001 SCRIP Code: 544476
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**Subject: Intimation under Regulation 30 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 – Publication of Case studies.**

Dear Sir/Madam,

Pursuant to Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, we wish to inform you that the following Case studies have been Published in “*Ayurvedya Adhyan: Global Journal of Ayurveda, Yoga and Integrative Medicine*” authored by medical professionals associated with **Jeena Sikho Lifecare Limited**, including our Managing Director, senior consultants, and Ayurvedic experts.

These publications underscore the Company’s continued commitment to advancing Ayurvedic research and promoting evidence-based clinical practices. The details of the case studies are as follows:

S. No.	Type	Name
1.	Case Study	Ayurvedic Insights in Managing Chronic Kidney Disease: A Holistic Healing Approach
2.	Case Study	Twak Vikara Chikitsa in Ayurveda: A Case Report on Lipodermatosclerosis with Venous Ulcer
3.	Case Study	Revitalizing Renal Health: A Case Study of Integrative Ayurvedic Treatment for Chronic Kidney Disease in a Patient with Hypertension, Diabetes and Fatty Liver
4.	Case Study	Ayurvedic Management of CLD (Nash) Associated with Type 2 Diabetes Mellitus: A Case Report

The above-mentioned case studies have been co-authored by **Acharya Manish Grover Ji (Managing Director)** along with the medical Dr. Gitika Chaudhary, Dr. Richa, Dr. Suyash Pratap Singh, Dr. Manjeet Singh and Dr. Priyank Sharma, Dr. Harshit Maurya and Dr. Tanu Rani, Dr. Amandeep Singh associated with the Company

## JEENA SIKHO LIFECARE LIMITED

120+ AYURVEDA CLINICS & HOSPITALS | FREEDOM FROM 2D DISEASES & DRUGS

### Registered Office Address:

SCO-11, Kalgidhar Enclave, Baltana, Zirakpur,  
 Punjab-140604, 01762-513185  
 CIN NO.: L52601PB2017PLC046545

### Corporate Office Address:

B-26, Opp. Metro Pillar No. 223, Rohtak Road,  
 New Multan Nagar, Delhi - 110056  
 Email ID: cs@jeenasikho.com | www.jeenasikho.com

Copies of the case studies are enclosed as *Annexures A to D* for your records.

This is for your kind information and record.

**Thanking you,  
Yours faithfully,**

**For Jeena Sikho Lifecare Limited**

**Manish Grover  
Managing Director  
DIN: 07557886**

**Place: Zirakpur, Punjab  
Date: 15.12.2025**

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## Ayurvedic Insights in Managing Chronic Kidney Disease: A Holistic Healing Approach

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### Abstract

Chronic kidney disease (CKD), type 2 diabetes mellitus (T2DM), hypertension, and coronary artery disease (CAD) are interrelated chronic conditions that pose major global health challenges. CKD, particularly in its advanced stages, leads to toxin buildup, fluid-electrolyte imbalance, and multi-organ complications. When CKD coexists with T2DM, hypertension, and CAD, the complexity of clinical management increases significantly, highlighting the need for integrative approaches. This case study evaluates the impact of *Ayurvedic* treatment in a 48-year-old female diagnosed with stage V CKD, along with T2DM, hypertension, and CAD, admitted at Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, India. Presenting symptoms included pedal oedema, generalized weakness, and lower back pain. The patient received inpatient *Ayurvedic* care comprising *Panchakarma* therapies, *Ayurvedic* formulations, and a customized diet plan. Over a seven-day treatment period, notable symptomatic relief was observed. Pedal edema reduced from grade 3 to grade 1, generalized weakness improved, and lower back pain decreased from a score of 4/10 to 1/10. Biochemical investigations also showed measurable improvements: blood urea levels declined from 65.38 mg/dL to 62.57 mg/dL, serum creatinine from 8.60 mg/dL to 7.41 mg/dL, and uric acid from 6.24 mg/dL to 6.18 mg/dL. These findings suggest that *Ayurvedic* interventions may support renal function, improve clinical symptoms, and enhance patient well-being in complex cases of CKD with comorbidities. However, rigorous clinical trials are necessary to validate these observations and develop standardized protocols for integrative CKD management.

**Keywords:** *Ayurveda*, Chronic Kidney Disease (CKD), *Hridroga*, Hypertension, *Madhumeha*, *Panchakarma*, Type II Diabetes Mellitus (T2DM), *Vataj pandu*.

### Introduction

Chronic kidney disease (CKD), type 2 diabetes mellitus (T2DM), hypertension, and coronary artery disease (CAD) are interlinked conditions with a significant global health impact [1]. CKD is a progressive loss of kidney function, leading to toxin accumulation, electrolyte imbalances, and systemic complications. Stage 5 CKD, or end-stage renal disease (ESRD), occurs when kidney function drops below 15%, requiring dialysis or transplantation [2].

T2DM, driven by insulin resistance and hyperglycemia, is a primary cause of CKD, leading to diabetic nephropathy. Hypertension accelerates kidney damage, further increasing

cardiovascular risk [4]. CAD, caused by arterial plaque buildup, heightens the risk of myocardial infarction and heart failure. The coexistence of these conditions worsens patient outcomes, demanding a multidisciplinary management strategy [4]. Patients with both T2DM and CKD face a 77.2% higher risk of cardiovascular events compared to those with a single condition [5]. Hypertension affects 89% of CKD patients with CAD, exacerbating cardiovascular risks [6]. CKD progression is accelerated in diabetics and hypertensives, leading to anemia, high urea, and creatinine levels [7]. Targeted interventions, including antihypertensives and glucose-lowering therapies, have demonstrated efficacy in

slowing disease progression [8]. Management of CAD in CKD remains debated. Some studies advocate aggressive revascularization, while others suggest conservative management yields similar mortality outcomes but different heart failure rates [6]. The complexity of managing multiple comorbidities highlights the need for patient-specific treatment plans.

Modern Treatment Strategies are as follows:

- **Pharmacological Interventions:** ACE inhibitors, ARBs, SGLT2 inhibitors, and statins are essential in CKD and cardiovascular risk reduction.

- **Dialysis & Transplantation:** ESRD requires renal replacement therapy, with transplantation being the definitive treatment.

*Ayurveda* offers a holistic approach to managing CKD, diabetes, hypertension, and CAD by addressing *doshic* imbalances and promoting systemic detoxification. The *Samprapti Ghatak* is mentioned in Table 1.

**Table 1:** The *Samprapti Ghatak*

Ghataka (Factor)	Details
<i>Dosha</i> (Bio-energies)	Pradhana: <i>Kapha-Vata</i> (primarily <i>Kapha</i> and <i>Vata</i> ) Anubandha: <i>Pitta</i> (associated in later stages)
<i>Dushya</i> (Affected tissues)	<i>Rasa</i> (plasma), <i>Rakta</i> (blood), <i>Meda</i> (adipose), <i>Mamsa</i> (muscle), <i>Majja</i> (bone marrow), <i>Shukra</i> (reproductive tissue), <i>Mutra</i> (urine)
<i>Srotas</i> (Affected channels)	<i>Mutravaha Srotas</i> (urinary channels), <i>Rasavaha</i> (plasma carrying), <i>Raktavaha</i> (blood-carrying), <i>Medovaha</i> (fat-carrying channels)
<i>Srotodushti</i> (Channel vitiation)	<i>Sanga</i> (obstruction), <i>Vimargagamana</i> (misdirection), <i>Atipravritti</i> (excessive flow)
<i>Agni</i> (Digestive/metabolic fire)	<i>Mandagni</i> (low digestive/metabolic activity)
<i>Ama</i> (Toxins/undigested waste)	Present in early & chronic stages, evolves into <i>Ama visha</i> (toxic by-products)
<i>Udbhava Sthana</i> (Origin site)	<i>Amashaya</i> (stomach/GI tract) or <i>Rasavaha Srotas</i> (plasma-carrying channels)
<i>Sanchara Sthana</i> (Circulation site)	<i>Sarva Sharira</i> (whole body) via <i>Rasa-Rakta</i> (plasma-blood)
<i>Adhithana</i> (Seat of manifestation)	<i>Mutravaha Srotas</i> (urinary system, mainly kidneys and bladder)
<i>Vyakti Sthana</i> (Site of expression)	<i>Vrikka</i> (kidneys), <i>Basti</i> (urinary bladder), and <i>Dhatus</i> (tissues)
<i>Rogamarga</i> (Pathway of disease)	<i>Abhyantara</i> (internal pathway)

- **Panchakarma Therapy:** Detoxification treatments, including *Basti* and *Virechana*, have shown potential in improving renal function and reducing dialysis dependency [9, 10, 11].
- **Ayurvedic Interventions:** Diuretic and anti-inflammatory formulations supports renal health [12]. *Ayurvedic* herbs like *Punarnava* and *Gokshura* aid in nephroprotection.
- **Diabetes & Hypertension Management:** *Ayurvedic* dietary principles, including a low-carb, high-protein diet, show benefits in metabolic stability control [13].
- **Cardiovascular Support:** *Panchakarma* (*Virechana*, *Basti*) removes toxins, while medications like *Arjuna*, *Guggulu*, and *Punarnava* improve heart function, reduce cholesterol, and prevent arterial blockages. A *Sattvic* diet, *Ayurvedic* medicines, and stress management through *Yoga*, *Pranayama*, and *Abhyanga* enhance circulation and reduce heart disease risk [14].

Integrating *Ayurveda* with allopathic medicines may enhance outcomes for CKD, diabetes, hypertension, and CAD patients. While *Ayurvedic* treatments show promise, further clinical validation is essential to establish their efficacy as complementary therapeutic options. Bridging *Ayurvedic* and allopathic medicine through evidence-based research can improve patient care.

## Objective

This study aims to assess the impact of *Ayurvedic* interventions combined with conventional treatments for

CKD with hypertension, T2DM and CAD in a 48-year-old female patient.

## Materials and Methods

### 1. Case Report

On June 14, 2024, a 48-year-old female, a known case of Chronic Kidney Disease stage V for the past six months, Hypertension for three years, Type 2 diabetes mellitus for twenty years, and Coronary Artery Disease with a history of percutaneous transluminal coronary angioplasty in 2021, visited Jeena Sikho Lifecare Limited Hospital in Derabassi, Punjab, India. A detailed evaluation was conducted, including comprehensive medical and family history, physical examination, and diagnostic investigations. She presented with intermittent pedal oedema, lower backache, and generalised weakness. Her vital signs on the first day of admission, at discharge, and during follow-up are presented in Table 2. The findings of the *Ashta-vidha Pareeksha* conducted on the first day and at discharge are detailed in Table 3.

**Table 2:** Vitals during the first day of the visit, discharge and follow up

Parameter	Findings		
Date	14-06-2024	20-06-2024	17-07-2024
Blood Pressure	140/100 mm of Hg	140/90 mm of Hg	140/80 mm of Hg
Pulse Rate	87/min	88/min	84/min
Weight	61 Kg	60 Kg	59 Kg

Table 3: Ashta-vidh pareeksha during first day of the visit and discharge

Parameter	Findings	
Date	14/06/2024	20/06/2024
Naadi (Pulse)	Vataj Pittaj	Vataj Pittaj
Mala (Stool)	Vibandhah (Constipated)	Avikrit (Normal)
Mutra (Urine)	Safena (Frothy)	Avikrit (Normal)
Jiwha (Tongue)	Saam (Coated)	Niram (Normal)
Sparsh (Touch)	Anushna Sheet (Normal)	Anushna Sheet (Normal)
Shabda (Voice)	Spashta (Clear)	Spashta (Clear)
Drik (Eye)	Avikrit (Normal)	Avikrit (Normal)
Akriti (Physique)	Madhyam	Madhyam

The patient was in IPD for 7 days, during that period she received consolidated *Ayurvedic* treatments. This treatment

procedure encompassed *Panchakarma* therapies such as *Awagaha swedan*, *Shiropichu* with *Brahmi* oil, *Udar Basti* with *Punarnava* oil, *Matra Basti* with *Gokshura* and *Punarnava* oil, *Udar pichu* with *Dhanwantaram* oil followed by *Nadi swedan*, *Lepam* with *Dashmool* and *Punarnava*, *Sarwang Abhyang* with *Mahanarayan Tail* and *Matra basti* with *Gokshur*, *punarnava* and *eranda Siddha Sneha*. The laboratory investigations during the treatment period is mentioned in Table 4.

Table 4: The laboratory investigations during the treatment period (Fig 1)

Parameter	Findings	
Date	14/06/2024	19/06/2024
Blood urea	65.38 mg/dl	62.57 mg/dl
Serum creatinine	8.60 mg/dl	7.41 mg/dl
Uric acid	6.24 mg/dl	6.18 mg/dl
Sodium	144.3 mEq/l	137.5 mEq/l
Potassium	4.76 mEq/l	4.79 mEq/l

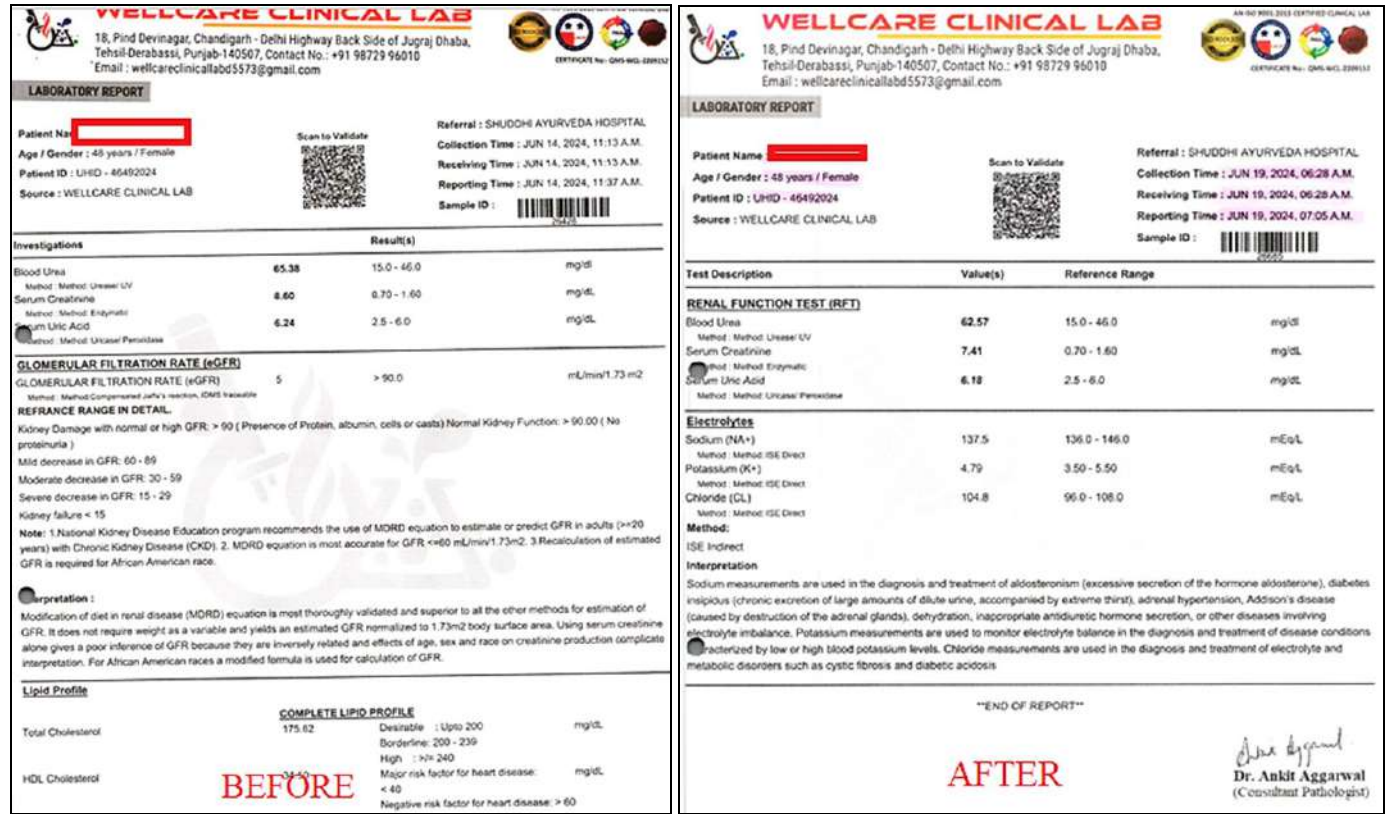


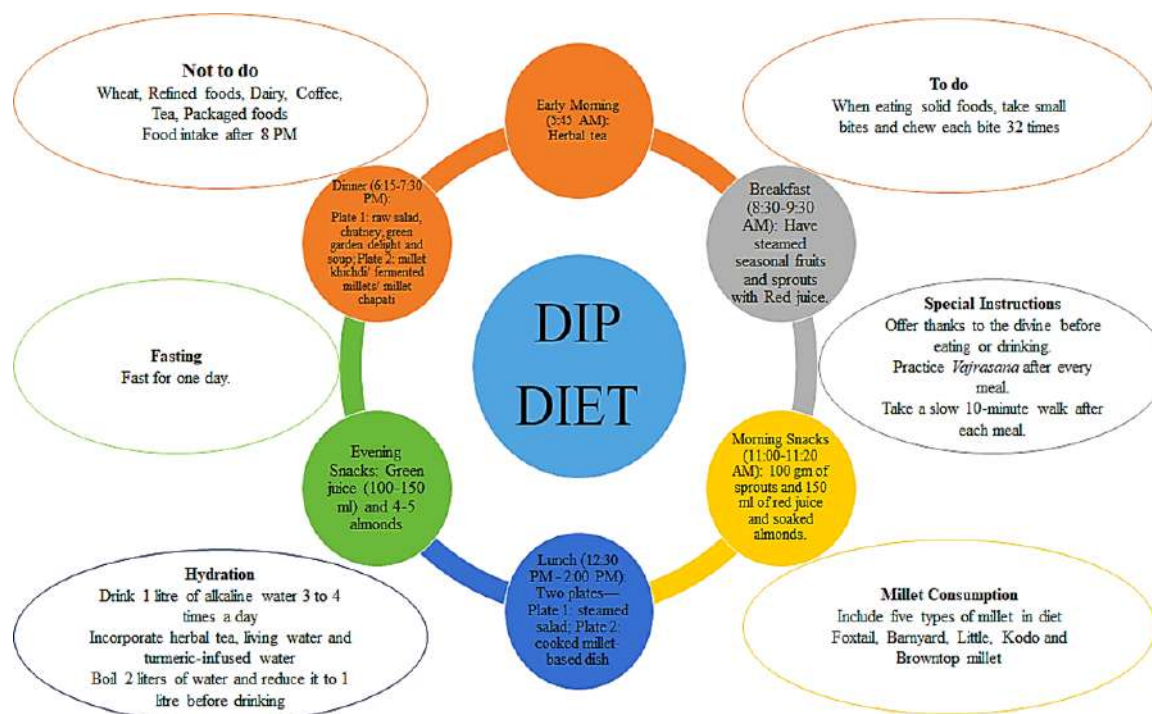
Fig 1: The laboratory investigation reports before and after treatment

2. Treatment Plan  
An *Ayurvedic* and Disciplined and Intelligent Person’s (DIP)

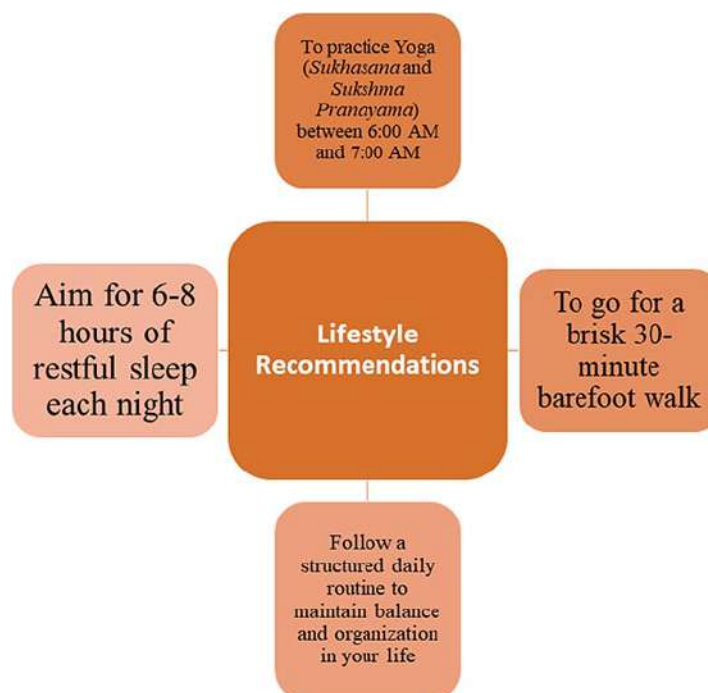
Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CKD [15]

## 1. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital (Fig 2):



## 2. Lifestyle Recommendations (Fig 3)



## 3. Panchakarma Procedures Administered to Patient

### i). Awagah Swedan <sup>[16]</sup>

- The patient was submerged up to the navel in a tub of warm water.
- The temperature of water was maintained at 42°C.
- The patient spent 40 minutes under the conditions provided.

### ii). Shiropichu with Brahmi Oil <sup>[17, 18]</sup>

- Brahmi oil was warmed to a comfortable temperature.
- 40 ml of warmed Brahmi oil was gently applied to the forehead and scalp.

- A cloth pad soaked in the oil was placed on the forehead, covering the *Ajna Chakra* and crown, and left in place for 20 minutes.

### iii). Udar Basti with Punarnava Oil <sup>[19, 20, 21]</sup>

- The person was positioned comfortably, and Punarnava oil was warmed (37-42°C) and applied to the abdominal region to relax the muscles and prepare the area for treatment.
- A dough barrier was formed around the navel to create a well that held the Punarnava oil in place.
- The warmed Punarnava oil was poured into the dough reservoir and left for 15-30 minutes.

**iv). Matra Basti with Gokshura and Punarnava Oil** <sup>[22]</sup>

- A decoction of *Punarnava* and *Gokshura* is made by boiling upto warm temperature (37-42°C).
- The patient was rested in a relaxed position, lying on their left side with knees drawn up. The oil was warmed to a comfortable temperature.
- Using an enema bulb or *Basti* tube, the nozzle was gently inserted into the rectum and administered approximately 120 ml of the medicated oil.
- The patient was advised to hold the oil inside for 30 minutes.

**v). Lepam with Dashmool and Punarnava** <sup>[23, 24]</sup>

- A smooth paste was prepared by mixing *Dashmool* and *Punarnava* powder with warm water.
- The area was cleansed, and the paste was evenly applied in a moderate layer.
- The *Lepam* was left undisturbed for 45 minutes until it dried naturally.

**vi). Sarwang Abhyang with Mahanarayana Oil** <sup>[25]</sup>

- The patient was positioned comfortably and *Mahanarayana* Oil was indirectly warmed to an optimal temperature.
- The warmed oil was evenly applied over the entire body, covering all major joints, muscles, and pressure points.
- Systematic massage was performed using gentle yet firm strokes, circular motions over joints, and long strokes along the limbs for approximately 45 minutes.
- The patient was allowed to rest for 15 minutes to facilitate deeper oil absorption, followed by a warm water bath.

**vii). Matra Basti with Punarnava, Gokshuru and Eranda Siddha Sneha** <sup>[26,27]</sup>

- The medicated oil with *Punarnava*, *Gokshuru* and *Eranda* was warmed to an appropriate temperature.
- The patient was positioned in the left lateral position with the right leg flexed.
- The warmed medicated oil was gently introduced into the rectum using a sterile enema syringe or *Basti Yantra*, ensuring a smooth and comfortable procedure.
- The patient remained still for a few minutes.

**4. Medicinal Interventions**

**i). Previously Prescribed Allopathic Medicines:** The previously prescribed medications for the patient were Alpha Ketoanalogue Tablet (1 TDS), Metformin (500 mg) + Vildagliptin (50 mg) (1 OD), Cilnidipine (10 mg BD), Aspirin (75 mg HS), Iron capsule, Methylcobalamin (1 OD), Metolazone (1 OD), Furosemide + Spironolactone, Febuxostat (40 mg), and Pantoprazole. Among these, Alpha Ketoanalogue Tablet, Furosemide + Spironolactone (1 OD), and Febuxostat (40 mg OD) were continued daily for three days and then on alternate days, while Metformin (500 mg) + Vildagliptin (50 mg), iron capsule, Methylcobalamin, Metolazone, and Pantoprazole were discontinued. Aspirin (75 mg HS) and Cilnidipine (10 mg) were continued throughout the treatment.

**ii). Ayurvedic Medications:** The *Ayurvedic* medicines employed in this case were, Dr CKD tablet, GFR Powder, Chander vati, Divya Shakti Powder and Liv Shuddhi Tablet along with *Panchakarma* therapies. The medicines advised during the treatment is mentioned in Table 5. The description of the medicines is detailed in Table 6.

**Table 5:** Medications taken during the treatment period

Date	Medicines	Dosage with Anupana
14-06-2024 (IPD)	GFR Powder	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> ) After meal with lukewarm water
	<i>Dhatu Poshak</i> Capsule	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	CKD Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Chandervati</i> Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Amal Pitt Nashak</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	JS BP cure	2 CAP TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Pearl</i> capsule	1 TAB TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
20-06-2024	GFR Powder	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Dhatu Poshak</i> Capsule	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	CKD Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Divya Shakti</i> Powder	Half a teaspoon BD ( <i>Madhyabhakta</i> with <i>koshna jala</i> ) Before bed with lukewarm water
	<i>Chandervati</i> Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
17-07-2024	GFR Powder	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Chandervati</i> Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Asthiposhak vati</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Sama vati</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Divya Shakti</i> Powder	Half a teaspoon BD ( <i>Madhyabhakta</i> with <i>koshna jala</i> )
	<i>Renal support</i> syrup	20 ml BD ( <i>Adhobhakta</i> with <i>sama matra koshna jala</i> ) After meal with equal amount of lukewarm water

**Table 6:** Description of the *Ayurvedic* medications taken during the treatment period.

Medicine Name	Ingredients	Therapeutic Effects
GFR Powder	<i>Bhoomi Amla (Phyllanthus niruri), Bhadi Harad (Terminalia chebula), Bahera (Terminalia bellirica), Kasni (Cichorium intybus), Makoy (Zea mays), Punarnava (Boerhavia diffusa), Gokshur (Tribulus Terrestris).</i>	Mutral ( <i>Diuretic</i> ), Shoth har ( <i>Anti-inflammatory</i> ), Virechana ( <i>Purgative</i> ), Rakta shodhana ( <i>Blood purifier</i> ), Vatanulomana ( <i>Vata regulator</i> ), Mutravirechana ( <i>Urinary purgation</i> ), Rasayana ( <i>Rejuvenative</i> ), Shamac-dam ( <i>Tissue digestion</i> ), Medohar ( <i>Mediurn remover</i> ), Frikkadoshahara ( <i>Kidney toxin eliminator</i> )
Chander Vati Tablet	<i>Kapoor Kachri (Hedychium spicatum), Vacha (Acorus calamus), Motha (Cyperus rotundus), Kalmegh (Andrographis paniculata), Gilo (Tinospora cordifolia), Devdaru (Cedrus deodara), Darv Haldi (Curcuma longa), Atees (Aconitum heterophyllum), Darv Haldi (Berberis aristata), Pipla Mool (Piper longum root), Chitrak (Plumbago zeylanica), Dhaniya (Coriandrum sativum), Harari (Terminalia chebula), Bahera (Terminalia bellirica), Amla (Embellica officinalis), Chavya (Piper chaba), Vayavdung (Embelia ribes), Pippali (Piper longum), Kalinjiree (Piper nigrum), Sonth (Zingiber officinale), dried siris, Saj Apal (Spondias officinalis), Swarn Makshik Bhasm (Gold and pyrite ash - Ayurvedic preparation), Sujj Kshar (Potassium carbonate - traditional alkali preparation), Sendha Namak (Rock salt), Kala Namak (Black salt), Chhoti Elaichi (Elettaria cardamomum - small cardamom), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Danti (Balsipermum montanum), Nishotara (Operculina turpethum), Vanslochan (Bambusa slicca), Loh Bhasm (Iron ash - Ayurvedic preparation), Shilajeet (Asphaltum punjabianum), Guggul (Commiphora wightii).</i>	Raktashodhana ( <i>Blood purifier</i> ), Pitta Shaman ( <i>Pitta pacifier</i> ), Deepan ( <i>Appetizer</i> ), Pachan ( <i>Digestant</i> ), Vata-Pitta Shaman ( <i>Dosha pacifier</i> )
Dhatu Poshak Capsule	<i>Chuna Shudh, Shankh Bhasam, Mukta Shudti, Prawal Pishti, Kapardika and Loh</i>	Dhanposhaka ( <i>Tissue nourishing</i> ), Rasayana ( <i>Rejuvenative</i> ), Balya ( <i>Strengthening</i> ), Asthodhak ( <i>Channel cleanser</i> ), Vata-Pitta Shamak ( <i>Vata and Pitta balancing</i> ), shodhak ( <i>Detoxifier</i> ), Agni Deepan ( <i>Digestive fire stimulant</i> ), Lekhana ( <i>scraping/Lipolytic</i> )
CKD Tablet	<i>Padambhed (Bergenia ciliaris), Varun (Crateava nurvala), Punarnava (Boerhavia diffusa), Gokhra (Tribulus terrestris), Apamarg (Achyranthes aspera), Haldi (Curcuma longa), Charila (Embelia ribes), Kubhi (Dolichos biflorus), Harad (Terminalia chebula), Bhumiama (Pericarp pimeoides), Gilo (Tinospora cordifolia), Shikakai (Terminalia citrina), Anantmool (Hemidemus indicus), Khas (Vetiveria zizanioides), Var Kshar (Alkaline substance - Potassium eight unclear), Muli Kshar (Raphantus sativus), Mukul Shora (Sodium bicarbonate), Sujj Kshar (Traditional alkaline substance - botanical origin unclear), Shilajeet (Asphaltum), Hajral Yahud (Siliceon dioxide), Sheet Parpati (Mercury-based preparation in Ayurvedic medicine).</i>	Vata-Pitta Shaman ( <i>Dosha pacifier</i> ), Raktashodhana ( <i>Blood purifier</i> ), Frikkadosh ( <i>Kidney toxin</i> ), Shothhar ( <i>Anti-inflammatory</i> ), Mutral ( <i>Diuretic</i> )
Amalpit Nashak	<i>Mulethi (Glycyrrhiza glabra), Pudina (Mentha spicata or Mentha arvensis), Hing (Ferula asa-foetida), Chitrak (Plumbago zeylanica), Jeera (Cuminum cimum), Vidang (Embelia ribes), Ajvain (Trachyspermum ammi), Sonth (Piper nigrum), Pipal (Piper longum), Shunthi (Zingiber officinale), Amla (Embellica officinalis), Phyllanthus emblica), Vibhitaki (Terminalia bellirica), Haritaki (Terminalia chebula), Shankh Bhasam (Calcined conch shell ash), Lawang (Szygium aromaticum).</i>	Pittashamak ( <i>Pitta pacifier</i> ), Agnideepan ( <i>Digestive fire enhancer</i> ), Amapachan ( <i>Metabolic toxin eliminator</i> ), Shoth har ( <i>Anti-inflammatory</i> ), Vatanulomana ( <i>Vata regulator</i> ), Rasayana ( <i>Rejuvenator</i> ), Ojaovardhaka ( <i>Immunity enhancer</i> )
JS BP cure	<i>Sarpagandha (Rauwolfia serpentina), Arjun (Terminalia arjuna), Shigru (Moringa oleifera), Haritaki (Terminalia chebula), Vibhitaki (Terminalia bellirica), Amla (Embellica officinalis), Godanti Bhasm (Gypsum).</i>	Raktashodhana ( <i>Blood purifier</i> ), Vatanulomana ( <i>Vata regulator</i> ), Shoth har ( <i>Anti-inflammatory</i> ), Bralmanea Roga Vatahar ( <i>Vata pacifier</i> ), Pitta Shaman ( <i>Pitta pacifier</i> ), Raktavardhaka ( <i>Blood builder</i> ), Vishagna ( <i>Detoxifier</i> ), Deepan ( <i>Appetizer</i> )
Pearl capsule	<i>Kamdudha ras, Salt giloy, Pravaal Panchamrit ras, Zaharnohra Khati Pishti, Aki Pishti, Kapdark Bhasm, Moti Pishti, Shankh Bhasm and Godanti Bhasm (Gypsum).</i>	Pittashaman ( <i>Pitta-pacifying</i> ), Vata Shaman ( <i>Harmonic reliever</i> ), Amalpitta Hara ( <i>Anti-hyperacidity</i> ), Hridya ( <i>Cardioprotective</i> ), Balya & Rasayana ( <i>Strengthening &amp; Rejuvenative</i> )
Divya Shakti Powder	<i>Trikatu, Triphala, Nagarmotha (Cyperus rotundus), Vay Vidang (Embelia ribes), Chhoti Elaichi (Elettaria cardamomum), Tej Patta (Cinnamomum tamala), Lavang (Szygium aromaticum), Nishoth (Operculina turpethum), Sendha Namak, Dhaniya (Coriandrum sativum), Pipla Mool (Piper longum root), Jeera (Cuminum cimum), Nagkesar (Mesua ferrea), Anish (Zanthoxylum armatum), Hardana (Punica granatum), Badi Elaichi (Amomum subulatum), Hing (Ferula asafocida), Kachnar (Bauhinia variegata), Ajmod (Trachyspermum ammi), Sujjikhshar, Pushkarmool (Inula racemosa), Mishri (Saccharum officinarum).</i>	Ojakshaya ( <i>Loss of vitality/immunity</i> ), Agnimandaya ( <i>Low digestive fire</i> ), Chakshushakya ( <i>Weak vision</i> ), Deepan ( <i>Appetizer</i> ), Rasayana ( <i>Rejuvenator</i> )
Asthiposhak	<i>Godanti, Shudh Shilajeet (Asphaltum punjabianum), Ashwagandha (Withania somnifera), Tabaqsheer (Bambusa vulgaris), Pippali (Piper longum), Amba Haldi (Curcuma amada), Hadjor (Cissampelos pareira), Maida Saq</i>	Asthi Dhatu Poshana ( <i>nourishes bone tissue</i> ), Asthi Bala Vardhana ( <i>strengthens bones</i> ), Vata-Pitta Shamak ( <i>Vata and Pitta balancing</i> ), shodhak ( <i>Detoxifier</i> ), Agni Deepan ( <i>Digestive fire stimulant</i> ), Lekhana ( <i>scraping/Lipolytic</i> )
Sama Vati	<i>Gokshur (Tribulus terrestris), Kaunch (Mucuna pruriens), Shatavar (Asparagus racemosus), Ashwagandha (Withania somnifera), Vidarikand (Pueraria tuberosa),</i>	Agnideepan ( <i>Digestive stimulant</i> ), Pachan ( <i>Digestant</i> ), Vatanulomana ( <i>Vata regulator</i> ),

	<i>Bej Band Lal (Stolo cordi(slia), Akarkara (Anacyclus pyrethrum), Talmakhana (Hygrophila auriculata), Musli (Chlorophytum tuberosum), Amla (Emblica officinalis), Sonth (Zingiber officinale), Jaiphal (Myristica fragrans), Swarn Makshik (Chalcopyrite), Shilajeet Shudh (Asphaltum punjabianum).</i>	Shoth har ( <i>Anti-inflammatory</i> ), Raktashodhana ( <i>Blood purifier</i> ), Rasayana ( <i>Rejuvenative</i> ), Mutral ( <i>Diuretic</i> ), Vrishya ( <i>Aphrodisiac</i> ), Dhatu Poshana ( <i>Channel cleanser</i> ), Vishagna ( <i>Detoxifier</i> ), Pittashaman ( <i>Pitta purifier</i> )
Renal Support Syrup	<i>Nimba (Azadirachta indica), Arjun (Terminalia arjuna), Gokshur (Tribulus terrestris), Haritaki (Terminalia chebula), Ashwagandha (Withania somnifera), Karanj (Pongamia pinnata), Chiraita (Swertia chirayita).</i>	Mutravirechana ( <i>Urine purifier</i> ), Shoth har ( <i>Anti-inflammatory</i> ), Raktashodhak ( <i>Blood purifier</i> ), Deepan ( <i>Appetizer</i> ), Pachan ( <i>Digestant</i> ), Rasayana ( <i>Rejuvenative</i> )

Result

After 7 days of IPD, the patient experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CKD, T2DM, CAD and hypertension. Also the relief from back ache and weakness shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The 2D Echo conducted on 13/06/2024 revealed the following findings: Left Ventricular Ejection Fraction (LVEF) of 50%. Mild left ventricular hypertrophy (LVH) was observed. The presence of a sclerosed aortic valve was noted. The conditions before and after treatment is mentioned in Table 7.

Table 7: The conditions before and after treatment

Conditions	Before Treatment	After Treatment
Pedal edema	3°	1°
Weakness	Generalized	Relief
Back ache	4/10	1/10

Future Research

This study was conducted on a 48-year-old female patient with CKD, hypertension, T2DM and CAD. While the results were promising, thorough evaluation and further investigation are necessary as the study involved only a single patient. Larger randomized controlled trials are essential to validate the reliability, efficacy, and safety of the integrated *Ayurvedic* therapies used in this study, ultimately aiming to establish standardized protocols and guidelines for clinical practice.

Discussion

Managing CKD with *Ayurvedic* interventions assures a promising alternative for conventionally practicing expensive treatment methods. This case report is about the procedure of *Ayurvedic* therapies and medications works in a 48-year-old female, diagnosed with CKD, T2DM, CAD and hypertension. The patient presented symptoms such as pedal oedema (on/off), generalized weakness and lower back ache. The patient underwent IPD for 7 days. The *Samprapti* <sup>[28-32]</sup> for this study is depicted in Fig 4.

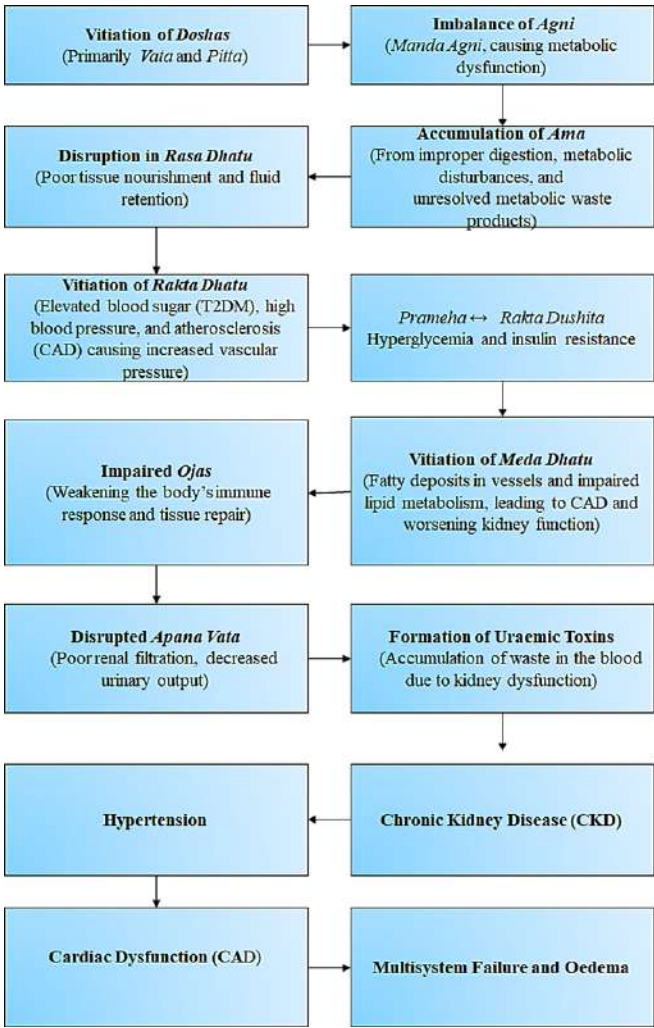


Fig 4: The Samprapti for this study

### 1. The Samprapti and Nidan Parivarjan

In *Ayurveda*, the *Samprapti* (pathogenesis) of CKD, CAD, hypertension, and T2DM is rooted in *Dosha-Dushya Sammurchana*, mainly involving vitiation of *Kapha*, *Pitta*, and *Vata*, along with *Medo Dhatu* (fat tissue), *Rakta Dhatu* (blood), and *Meda-Mamsa Dhatus* (adipose-muscle tissues). In CKD, *Mutravaha Srotas Dushti* (impairment of urinary channels) occurs due to *Ama* (toxins) accumulation, *Agnimandya* (digestive fire suppression), and *Rasa-Rakta-Prasada Dushti*, ultimately leading to *Ojas Kshaya* (vital essence depletion). CAD is a result of *Medoroga* and *Raktavaha Srotodushti*, where *Kapha* and *Meda* obstruct *Rakta Sanchara* (blood flow), causing *Dhamani Pratichaya* (atherosclerosis). Hypertension is associated with *Raktagata Vata*, *Avrita Vyana Vata*, or *Pittanubandhi Vata*, leading to *Rakta Chaapa Vriddhi* (elevated blood pressure). T2DM corresponds to *Madhumeha*, a subtype of *Prameha*, caused by *Kapha-Vata Dushti*, resulting in *Medo dushti*, *Agnimandya*, and *Srotorodha*, impairing glucose metabolism and leading to complications involving multiple organ systems [28-32].

*Nidan Parivarjan*, the foremost principle of *Ayurvedic* management, involves the elimination or modification of causative and aggravating factors. For all four conditions, this includes avoiding *Ahita Ahar Vihar* (unwholesome diet and lifestyle), such as *Ati-Madhura*, *Snigdha*, *Guru Ahara* (excessive sweet, oily, heavy foods), *Alpasanchalana* (lack of physical activity), and *Atinidra* or *Ratrijagarana* (excessive sleep or nighttime waking) [33]. In CKD and HTN, salt and processed food restriction, hydration balance, and stress reduction are essential [34]. In CAD, *Meda Harana* (fat-reducing) regimens and *Hridaya Balya* (cardiotonic) herbs are emphasized [35]. In T2DM, avoidance of *Madhura Ahara*, sedentary habits, and indulgence in stress or excessive sleep is recommended [36]. Thus, by targeting the root causes and reversing pathological progression through diet, lifestyle, and *Ayurvedic* therapies, disease management and prevention become achievable.

### 2. The Effects of Ahar-Vihar

The *Aahar* (dietary) component of the DIP diet emphasizes seasonal, plant-based, and millet-centered meals, aligning closely with *Ayurvedic* principles of *Saatmya* (suitability) and *Agni-Deepana* (enhancing digestive fire) [37]. Inclusion of steamed fruits, sprouts, herbal tea with raw ginger and turmeric, fermented foods, and green juices help in *Ama Pachana* (removal of metabolic toxins), while excluding wheat, dairy, refined, and packaged foods reduces *Kapha* accumulation and *Srotorodha* (channel obstruction) [38]. Structured meal timing and mindful eating practices like chewing 32 times support *Jatharagni* balance, prevent overloading digestion, and enhance *rasa Dhatu* formation [39]. Fasting once a week provides digestive rest and aids in *Dosha shaman* (pacification of *Doshas*) [40]. Hydration with alkaline and turmeric-infused water boosts *pitta* function and improves *Mutravaha Srotas* (urinary channels), particularly beneficial in CKD and metabolic disorders [41].

The *Vihar* (lifestyle) guidelines focus on *Dinacharya* (daily routine) practices such as early morning yoga (including *Sukhasana* and *Sukshma Pranayama*) [42], barefoot walking [43], structured daily schedules, and adequate sleep [44]. These collectively help balance *Vata Dosha*, enhance *Prana* (life force), and stabilize the nervous system, reducing stress—a key factor in hypertension, diabetes, and heart disease. Practices like *Vajrasana* after meals and a slow walk improve digestion and metabolism [45]. Sleep hygiene of 6–8 hours is

vital for *Ojas* preservation and endocrine balance [44]. Thus, the integrated *Aahar-Vihar* plan optimizes physiological functions, strengthens *Agni*, supports *Dhatu Poshana* (tissue nourishment), and prevents or reverses chronic lifestyle disorders like CKD, CAD, HTN, and T2DM.

### 3. The Effects of Panchakarma Therapies

The *Awagah Swedan* helps in *Vata-Kapha shamana*, relieves muscular stiffness, improves local circulation, and supports toxin elimination through sweat. This therapy is particularly effective in reducing abdominal bloating and enhancing *Agni* (digestive fire) [16]. *Shiropichu* with *Brahmi* oil calms the mind and nervous system, balances *Prana Vata*, and nourishes the *Majja Dhatu* (nervous tissue), which can be beneficial in stress-induced hypertension and diabetes-related neuropathies [17,18]. *Udar Basti* with *Punarnava* oil works on *Apana Vata* and the abdominal *Srotas* by reducing inflammation, improving bowel movement, and supporting kidney and liver function through localized action and transdermal absorption [19-21]. *Matra Basti* with *Gokshuradi* and *Punarnavadi* oil offers deep *Vatahara* action by nourishing and lubricating the colon, enhancing urinary output (*Mutravirechana*), and reducing oedema, especially beneficial in CKD and cardiac conditions [22]. *Lepam* with *Dashmool* and *Punarnava* acts as an anti-inflammatory and analgesic therapy, useful in managing *Shotha* (inflammation), joint disorders, and muscular fatigue [23,24]. *Sarvanga Abhyanga* with *Mahanarayan* oil rejuvenates all *Dhatus*, improves peripheral circulation, relieves stress, and facilitates lymphatic drainage [25]. *Matra Basti* with *Punarnava*, *Gokshura*, and *Eranda Siddha Sneha* provides synergistic effects, *Mutrala* (diuretic), *Vatanulomana* (regulates *Vata*), and *Srotoshodhana* (channel-cleansing), making it ideal for systemic detox and long-term management of chronic renal, metabolic, and cardiovascular diseases [26, 27].

### 4. The Effects of Ayurvedic Medication

The commonly used herbs across *Ayurvedic* formulations for CKD, CAD, T2DM, and hypertension exhibit specific *Ras Panchaka* properties that contribute to their therapeutic efficacy. *Punarnava* possesses *Tikta* (bitter) and *Kashaya* (astringent) *rasa*, *Laghu* (light) and *Ruksha* (dry) *Guna*, *Ushna* (hot) *Virya*, and *Katu* (pungent) *Vipaka*, with a special effect (*Prabhava*) as a potent *Mutravirechaka* (diuretic), making it effective in reducing edema and supporting kidney function [46]. *Gokshur* is characterized by *Madhura* (sweet) *Rasa*, *Guru* (heavy) and *Snigdha* (unctuous) *Guna*, *Shita* (cold) *Virya*, and *Madhura Vipaka*, acting as a renal tonic and *Vrikkashamaka* [47]. *Haritaki* contains multiple *Rasas* (excluding salty), with *Laghu* and *Ruksha Guna*, *Ushna Virya*, and *Madhura Vipaka*, known for its *Tridosha-hara* action and digestive benefits [48]. *Vibhitaki* exhibits *Kashaya Rasa*, *Laghu* and *Ruksha Guna*, *Ushna Virya*, and *Katu Vipaka*, useful in reducing excessive *Kapha* and *Pitta* [49]. *Amla* is unique with a predominant *Amla* (sour) *rasa* but encompassing all *Rasas* except salty, *Laghu* and *Ruksha Guna*, *Shita Virya*, and *Madhura Vipaka*, offering potent antioxidant and *Rasayana* (rejuvenative) effects [50]. *Giloy* features *Tikta* and *Kashaya Rasa*, *Laghu* and *Snigdha Guna*, *Ushna Virya*, and *Madhura Vipaka*, with *Tridosha-hara* and *Rasayana* properties, making it effective in managing metabolic disorders [51]. *Ashwagandha* combines *Tikta*, *Kashaya*, and *Madhura Rasa*, *Guru* and *Snigdha Guna*, *Ushna Virya*, and *Madhura Vipaka*, and acts as a *Balya* (strengthening) and *Rasayana*, beneficial in stress-related and degenerative conditions [52].

## Conclusion

The following conclusions can be drawn from this case study on treating CKD, T2DM, CAD with hypertension using *Ayurvedic* interventions:

**Symptoms:** The *Ayurvedic* treatment provided significant symptomatic relief across key clinical complaints. Pedal oedema, which was initially marked as 3°, showed notable improvement and reduced to 1° following the treatment period. The patient also experienced marked relief from generalized weakness, indicating improved systemic vitality and energy levels. Additionally, the severity of backache, which was rated as 4/10 on the pain scale before treatment, decreased substantially to 1/10, reflecting effective musculoskeletal support and enhanced patient comfort.

**Investigations:** The *Ayurvedic* intervention demonstrated measurable improvements in several key biochemical parameters over the course of treatment. Blood urea levels decreased from 65.38 mg/dL to 62.57 mg/dL, indicating a positive trend in nitrogenous waste elimination. Serum creatinine, a vital marker of renal function, reduced significantly from 8.60 mg/dL to 7.41 mg/dL, suggesting enhanced kidney performance. Uric acid levels showed a slight reduction from 6.24 mg/dL to 6.18 mg/dL. Additionally, serum sodium levels decreased from 144.3 mEq/L to 137.5 mEq/L, and potassium levels showed a mild increase from 4.76 mEq/L to 4.79 mEq/L, reflecting better electrolyte regulation.

This study concludes that *Ayurvedic* treatments along with allopathic medicines for CKD yielded positive outcomes, including symptom alleviation, improved vital signs, and better laboratory test results. This approach seems to support kidney function and enhance overall patient health. However, additional research with larger, controlled trials is necessary to confirm these findings and develop standardized treatment guidelines.

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## ***Twak Vikara Chikitsa in Ayurveda: A Case Report on Lipodermatosclerosis with Venous Ulcer***

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### **Abstract**

Lipodermatosclerosis (LDS) is a chronic inflammatory disorder primarily affecting the lower limbs, characterized by skin fibrosis, induration, and pigmentation changes. This case study explores the *Ayurvedic* management of a 44-year-old male diagnosed with Lipodermatosclerosis with venous ulcer (*Twak vikar*), who visited Jeena Sikho Lifecare Limited Hospital, Gorakhpur, Uttar Pradesh, India. He presented with bilateral foot wounds, constipation, pain, and dilated veins in the left lower leg. Despite undergoing allopathic treatment, his symptoms had worsened, prompting a shift to *Ayurvedic* care. Following a detailed assessment, a diagnosis of *Twak vikar* was made, and treatment was initiated. The *Ayurvedic* protocol involved both *Shodhana* (purificatory) and *Shamana* (palliative) therapies. *Panchakarma* interventions included *Lepam* with *Tankan Bhasma*, *Sphatik Bhasma*, and *Jatyadi Taila*, alternated with *Apamarg Kshar* and *Jatyadi Taila*, along with *Prakshalan* (wound cleansing) using *Panchavalka Kashaya*. These therapies aimed at *Vrana Shodhana*, *Kleda Shoshana*, and *Meda Dhatu Shodhana*, addressing the underlying *Dosha-Dushya Sammurchana*. The patient experienced wound healing, reduction in pain, and overall well-being, reflecting the efficacy of *Ayurvedic* interventions. In conclusion, this case highlights the potential of integrated *Ayurvedic* approaches in the successful management of Lipodermatosclerosis with venous ulcer. Holistic therapies tailored to *Dosha* and *Dhatu* involvement not only relieved symptoms but also improved the patient's quality of life. Such evidence supports further research and integration of *Ayurveda* with conventional management for chronic dermatological vascular conditions like LDS.

**Keywords:** Lipodermatosclerosis, *Twak vikar*, Venous Ulcer, *Dushta Vrana*, Chronic Venous Insufficiency, *Ayurveda* and *Panchakarma*.

### **Introduction**

Lipodermatosclerosis (LDS) is a chronic inflammatory condition that primarily affects the lower extremities, marked by skin fibrosis, induration, and pigmentation changes. The condition is most common in middle-aged women with a history of venous insufficiency. LDS progresses through distinct stages, beginning with an acute inflammatory phase that involves painful erythematous plaques or nodules and advancing to a chronic fibrotic phase characterized by skin hardening and hyperpigmentation, often resulting in the classic "champagne bottle" appearance of the lower legs [1]. Histologically, LDS is noted for necrotic adipocytes, basophilic elastic fibers, and minimal inflammation, resembling features seen in pseudoxanthoma elasticum [2].

The condition may often be misdiagnosed as cellulitis due to its early presentation [3].

Management of LDS primarily focuses on addressing venous insufficiency through compression therapy, leg elevation, and, in some cases, oral medications like pentoxifylline. Compression therapy remains the cornerstone of treatment, with additional pharmacological interventions, such as stanozolol and oxandrolone, showing promise in reducing inflammation and fibrosis [4] of chronic leg ulcers [5].

Previous Studies on LDS have highlighted the pathogenesis, clinical features, and management approaches, particularly in relation to chronic venous insufficiency (CVI). Histopathological examinations of LDS reveal adipocyte necrosis and abnormal elastic fiber accumulation in the

dermis, with minimal inflammatory infiltrate [2]. Venous ulcers, often a complication of LDS, result from prolonged venous hypertension, leukocyte activation, and microvascular dysfunction [5]. Compression therapy remains the mainstay of treatment, with adjunctive therapies like topical growth factors, skin substitutes, and surgical interventions being explored for refractory cases [6].

From an *Ayurvedic* perspective, *Twak vikara* (skin disorders), such as *Kushta*, are attributed to the vitiation of *Tridosha*—*Vata*, *Pitta*, and *Kapha*—and their interaction with the *Dhatus* (tissues) like *Rasa*, *Rakta*, *Mamsa*, and *Lasika*. According to the *Charaka Samhitā*, *Kushta* involves an imbalance in the *Doshas* that leads to the accumulation of toxins (*Ama*) and localized inflammation, resulting in chronic skin and tissue changes [7]. In the context of LDS, this *Ayurvedic* framework aligns with the fibrosis, swelling (*Shotha*), discoloration (*Rakta Dushti*), and fat involvement (*Meda Dhatu Dushti*) seen in the condition. *Srotorodha* (channel obstruction) due to chronic circulatory disturbances, as seen in LDS, can lead to localized inflammation and fibrosis, correlating with the *Ayurvedic* principles of *Kleda Shoshana* (fluid loss) and *Rukshata* (dryness) in the affected area [8, 9].

The *Ayurvedic* treatment for LDS involves *Shodhana* (detoxification) and *Shamana* (palliative) therapies.

*Raktamokshana* (bloodletting) and *Virechana* (purgation) are key treatments in *Ayurvedic* medicine for conditions involving chronic inflammation and deep tissue involvement, aimed at cleansing the body of toxins and restoring *doshic* balance. Herbs like *Manjistha* (*Rubia cordifolia*), *Punarnava* (*Boerhavia diffusa*), and *Triphala* are commonly used to purify the blood (*Raktashodhana*), reduce *Meda Dushti*, and promote circulation. Turmeric and Ginger, with their anti-inflammatory properties, may further support treatment by improving blood flow and reducing swelling [10].

*Ayurvedic* management can complement modern treatments by addressing both the root causes and manifestations of LDS. *Shodhana* therapies like *Virechana* and *Raktamokshana*, combined with *Ayurvedic* treatments and dietary modifications, may offer additional relief, especially when conventional therapies are insufficient. When integrated with compression therapy and pharmacological interventions like pentoxifylline, *Ayurvedic* approaches could provide a more holistic and synergistic treatment plan for lipodermatosclerosis [5]. This integrated approach not only aims to alleviate symptoms but also restores balance in the body's deeper tissues, potentially improving long-term outcomes for patients with LDS. The *Samprapti ghataka* [11] of lipodermatosclerosis is mentioned in Table 1.

**Table 1:** The *Samprapti Ghataka*

Samprapti Ghataka	Details
Dosha	Vata-Pitta-Kapha Tridosha involvement (with predominance of Vata and Pitta)
Dooshya	<i>Rakta</i> , <i>Mamsa</i> , <i>Medas</i> , <i>Twak</i> , <i>Ambu</i> (interstitial fluid)
Agni	Dhatvagni Mandya (especially <i>Raktagni</i> , <i>MedoDhatvagni</i> )
Ama	<i>Samata</i> in <i>Rasa-Rakta</i> , presence of <i>Srotorodha</i> due to <i>Ama</i>
Srotas	<i>Raktavaha Srotas</i> , <i>Medovaha Srotas</i> , <i>Mamsavaha Srotas</i> , <i>Twakvaha Srotas</i>
Srotodushti	<i>Sanga</i> (obstruction), <i>Atipravrutti</i> (excess flow), <i>Siragranthi</i> (varicosity)
Udbhavasthana	<i>Pakvashaya</i> (colon) - origin of Vata vitiation
Sanchara Sthana	Circulation through <i>Raktavaha</i> & <i>Medovaha Srotas</i>
Adhishthana	Lower limbs, especially medial ankle and calf region
Vyakta Sthana	<i>Twak</i> (skin), <i>Medas</i> (fat layer) – leads to induration, pigmentation, and fibrosis
Roga Marga	<i>Bahya Roga Marga</i> (external pathway), involving <i>Twak</i> , <i>Mamsa</i> , <i>Medas</i> , <i>Rakta</i>

अथातो द्विद्विणीयचिकित्सितं व्याख्यास्यामः॥१॥  
इति ह स्माह भगवानात्रेयः॥२॥ [12]

*Ayurvedic* treatment for lipodermatosclerosis (LDS) and venous ulcers (VUs), both of which are complications of chronic venous insufficiency, focuses on restoring the balance of *doshas*, improving circulation, and promoting tissue healing [13]. According to *Ayurvedic* principles, these conditions may be correlated with *Raktavaha Srotodushti* (vitiation of the blood channels), *Vata-Pitta Pradhana Tridoshaja Vyadhi*, and *Dushta Vrana* (chronic wounds) [14]. Management involves both internal and external therapies. Internal medications include *Ayurvedic* formulations with anti-inflammatory, antioxidant, and circulatory stimulant properties, such as *Guduchi* (*Tinospora cordifolia*), *Guggulu* (*Commiphora mukul*), *Haridra* (*Curcuma longa*), and *Manjishtha* (*Rubia cordifolia*) [15], which help purify blood (*Raktashodhana*) and reduce inflammation. *Panchakarma* procedures, especially *Raktamokshana* (bloodletting), may be indicated for systemic detoxification and improving venous tone [16]. Local treatments play a vital role, including *Lepa* (*Ayurvedic* pastes), *Dhara* (decoction pouring), and *Vrana Chikitsa* using medicated oils like *Jatyadi Taila* or *Nimbadi*

*Taila*, which aid in wound healing and tissue regeneration [17]. Regular *Abhyanga* (oil massage) followed by *Swedana* (sudation) using anti-inflammatory oils like *Dashamoola Taila* helps relieve stiffness and skin hardening seen in LDS [18]. In the case of venous ulcers, *Ayurvedic* wound care includes cleaning with *Triphala Kashaya*, dressing with *Madhu* (honey), and application of *Panchavalkala* decoction for its astringent and healing properties [19]. Dietary modifications and lifestyle changes that support *Rakta Dhatu* and promote *Agni* (digestive fire) are also emphasized. This study deals *Ayurvedic* management of lipodermatosclerosis in a 44-year-old male patient.

## Materials and Methods

### 1. Case Report

A 44-year-old male visited Jeena Sikho Lifecare Limited Hospital, Gorakhpur, Uttar Pradesh, on March 17, 2025. His evaluation included a thorough medical history, physical examination, and diagnostics. There was no relevant family history. He came with wound in B/L foot, constipation and pain. He had dilated veins in the left lower leg. He was taking allopathic medicines. After getting the symptoms worse with pain and inflammation he came for *Ayurvedic* treatment. He

was diagnosed with lipodermatosclerosis with venous ulcer (*Twak vikar*). The *Ashtastana Pareeksha* with vitals during the visits are mentioned in Table 2. During the treatment period the patient underwent *Panchakarma* therapies like *Lepam* with *Tankan Bhasma*, *Sphatik Bhasma* and *Jatyadi Taila* and *Lepam* with *Apamarg Kshar* and *Jatyadi Taila* in alternate days and *Prakshalan* with *Panchavalkala*.

**Table 2:** The *Ashtastana Pareeksha* during the visits.

Parameter	Findings	
	(17-03-2025)	(18-04-2025)
Nadi	Vataj Pittaj	Vataj Pittaj
Mala	Badha	Avikrit
Mutra	Ishat peet varna	Ishat peet varna
Jiwha	Saam	Niram
Shabda	Spashta	Spashta
Spashta	Anushna sheeta	Anushna sheeta
Drik	Avikrit	Avikrit
Akriti	Madhyam	Madhyam

An accurately designed *Ayurveda* Diet was provided to the patient to complement the *Ayurvedic* treatments administered for lipodermatosclerosis with venous ulcer (*Twak vikar*)<sup>[20]</sup>:

## 2. Treatment Plan

### I. Diet Plan:

*Dietary Guidelines from Jeena Sikho Lifecare Limited:*

- Avoid wheat, refined foods, dairy, coffee, tea, and packaged foods.
- Do not eat after 8 PM.
- When eating solid foods, take small bites and chew each bite 32 times.

मिथ्याहाराचारस्य [१] विशेषाद्गुरुविरुद्धासात्म्याजीर्णाहिताशिनः  
स्नेहपीतस्य वान्तस्य वा व्यायामग्राम्यधर्मसेविनो  
ग्राम्यान्पौदकमांसानि वा पयसाऽभीक्षणमश्रुतो यो वा  
मज्जत्यप्सूष्माभितप्तः सहसा छर्दिं वा प्रतिहन्ति, तस्य पित्तश्लेष्माणौ  
प्रकुपितौ परिगृह्यानिः प्रवृद्धस्तिर्यगाः सिराः सम्प्राप्य समुद्धूय  
बाह्यं मार्गं प्रति समन्ताद्विक्षिपति, यत्र यत्र च दोषो विक्षिप्तो निश्चरति  
तत्र तत्र मण्डलानि प्रादुर्भवन्ति, एवं समुत्पन्नस्त्वचि दोषस्तत्र तत्र च  
परिवृद्धिं प्राप्याप्रतिक्रियमाणोऽभ्यन्तरं प्रतिपद्यते धातूनभिदूषयन् ॥३॥  
[21]

### Hydration

- Sip 2 liters of hot water throughout the day and consume DAP tea twice daily. To prepare 750 ml of DAP tea, combine 2 cloves, 5 cardamom pods, 25 black pepper seeds, 2 cinnamon sticks, and a spoon of fennel seeds with hot water.
- Drink alkaline water (750 ml/day), made with ½ cucumber, ½ lemon, ginger, turmeric, tomato, 3 green chilies, coriander, mint leaves, and Tulsi.
- Drink black or green tea without milk or sugar.

### Meal Timing and Structure:

“पथ्यं स इति गदर्थस्य  
किमूषधहा निशेवनिहि!!”

पथ्या असति गदर्थस्य किमूषधहाः  
निशेवनिहि!!” ९. [22]

- **Early Morning (5:45 AM):** Chew 2 cloves, crushed garlic, and curry leaves.
- **Breakfast (9:00 AM):** Seasonal fruits like pomegranate, cucumber, tomato, or guava (Weight × 10 Kg).
- **Morning Snacks (11:00 AM):** *Mugda yusha*, red juice, and 4-5 soaked almonds.
- **Lunch (12:30 PM - 2:00 PM):** Plate 1: salad (Weight × 5 Kg) and Plate 2: millet recipes with proper hydration.
- **Evening Snacks:** Green juice (100-150 ml).
- **Dinner (6:00 PM):** Salad and fermented millets with chutney made from five leaves, onion, tomato, garlic, and green chili.

अस्थदशागुने तोये श्रुतो युषस्तु शिम्भिजैहि !! [23]

### Fasting:

- Fast once a week with coconut water.

### Special Instructions:

- Sit in sunlight for 1 hour, morning and evening, with feet soaked in lukewarm water while chanting LUM, VUM, RUM, YUM, HUM, OM, and AUM in *gyan mudra* position.
- Offer thanks to the divine before eating or drinking.

## II. Lifestyle Recommendations:

- Practice meditation for stress relief.
- Perform Yoga (*Sukshma Pranayama* and *Sukhasana*) for 40 minutes daily.
- Do oil pulling every day.
- Ensure 6-8 hours of restful sleep each night.
- Follow a structured daily routine for balance and organization.

## III. Panchakarma procedures administered to patients

- Lepam* with *Tankan Bhasma*, *Sphatik Bhasma* and *Jatyadi Taila* [24, 25]

### Procedure

- *Tankan Bhasma* (1-2 grams) and *Sphatik Bhasma* (1-2 grams) were thoroughly mixed.
- *Jatyadi Taila* (5-10 drops) was added to the mixture, and a few drops of water were incorporated to form a smooth, thick paste.
- The affected skin area was cleaned with lukewarm water and mild cleanser.
- The *lepan* was applied evenly onto the affected area, ensuring complete coverage.
- Drying and Absorption:
- The *lepan* was left undisturbed for 10-15 minutes to allow it to dry and absorb into the skin.
- After the *lepan* dried, the area was washed with lukewarm water to remove any excess paste.
- The process was repeated 2-3 times a day as required for further healing and relief.

### Physiology and Mode of Action

- Balances *Pitta* and *Kapha doshas*, addressing skin issues caused by excess heat and moisture. It acts as an astringent, anti-inflammatory, and antimicrobial agent, helping to dry up excess moisture, reduce inflammation,

and prevent infections, thus aiding in conditions like eczema, rashes, and skin irritation.

- Possesses cooling properties that pacify excess *Pitta*, soothing irritated skin. It reduces redness, irritation, and burning sensations, promoting faster skin healing by restoring balance and calming inflammation, which helps in the recovery of damaged skin.
- Nourishes and heals the skin by enhancing tissue regeneration. With its deeply penetrating properties, it hydrates the skin, prevents infection, and promotes rejuvenation, thereby accelerating healing, reducing dryness, and improving the overall health of the skin.
- The synergy of *Tankan Bhasma*, *Sphatik Bhasma*, and *Jatyadi Taila* targets skin disorders by balancing the *doshas* and providing both cooling and healing effects. This combination reduces inflammation, prevents infections, accelerates healing, and restores the skin's integrity and health.

## ii). *Lepam with Apamarg Kshar and Jatyadi Taila* <sup>[24, 25, 26]</sup> Procedure

- 1-2 grams of *Apamarg Kshar* was mixed with 5-10 drops of *Jatyadi Taila* to form a smooth, thick paste, with a few drops of lukewarm water added.
- The affected skin area was gently cleaned with lukewarm water.
- The *lepam* was evenly applied onto the affected area, followed by a gentle massage.
- The *lepam* was left on for 10-15 minutes. Afterward, it was washed off with lukewarm water.
- The process was repeated 2-3 times a day as required for optimal results.

## Physiology and Mode of Action

- The combination of *Apamarg Kshar* and *Jatyadi Taila* helps balance *Pitta* and *Kapha doshas*, addressing skin issues caused by excess heat, toxins, and moisture. It promotes healing of skin conditions like eczema, acne, and rashes.
- *Apamarg Kshar* is known for its astringent and anti-inflammatory effects, which help reduce swelling, redness, and irritation. *Jatyadi Taila* enhances the soothing effect, calming the affected area and reducing burning sensations and inflammation.
- *Apamarg Kshar* exhibits antimicrobial properties, helping to prevent infections in the affected skin area. *Jatyadi Taila* further supports this by providing natural antiseptic benefits, aiding in the prevention of bacterial or fungal growth.
- The deeply penetrating properties of *Jatyadi Taila* nourish and hydrate the skin, while the *Apamarg Kshar* enhances tissue regeneration. Together, they speed up the recovery process, promote faster healing, and improve skin texture and integrity by repairing damaged tissues.

## iii). *Prakshalana with Panchvalkal* <sup>[27, 28]</sup> Procedure

- Equal quantities of barks (*Kutaja*, *Bilva*, *Chirata*, *Haritaki*, and *Amalaki*) were indirectly boiled in water to form a concentrated decoction.
- The affected area was cleaned, and the cooled decoction was applied using a cotton ball or clean cloth, gently massaging the skin.

- The decoction was left for 10-15 minutes and then rinsed off with lukewarm water. The process was repeated 2-3 times a day for effective results.

## Physiology and Mode of Action

- The combination of the *Panchvalkal* herbs (*Kutaja*, *Bilva*, *Chirata*, *Haritaki*, and *Amalaki*) works synergistically to detoxify the body, particularly in cases of skin disorders. These *Ayurvedic* herbs possess potent antioxidant, antimicrobial, and anti-inflammatory properties, helping to purify the skin and remove accumulated toxins from the external layers.
- The *Ayurvedic* herbs in the *Panchvalkal* decoction, such as *Kutaja* and *Bilva*, help reduce inflammation by balancing *Pitta* and *Kapha doshas*. These *dosha* imbalances often lead to skin conditions such as rashes, acne, and other inflammatory skin issues. The decoction reduces redness, irritation, and burning sensations, soothing the affected skin area.
- The healing properties of *Haritaki* and *Amalaki* promote tissue regeneration. These are rich in Vitamin C and tannins, which help in collagen formation and wound healing, accelerating the repair of damaged skin and improving skin texture.
- The astringent action of *Chiraita* and *Bilva* helps to contract the tissues, reducing excess moisture and pus formation in the affected areas. This enhances the skin's ability to resist bacterial infections and promotes quicker recovery from skin irritation or infections.

## Medicinal Interventions

The *Ayurvedic* treatment employed in this case included Udar vikar powder, Maha Charam Rog Har Vati, Chandraprabha vati, Arogya Vati tablet, Blood Purifier Syrup, Rakt Shodhak and Aarogyavardhini Vati along with *Panchakarma* therapies. The medications prescribed for the patient during the treatment is outlined in Table 3. The details of the medicine prescribed are described in Table 4.

**Table 3:** The medications prescribed for the patient during the treatment

Date	Medicines	Dosage with Anupana
17/03/2025	Udar vikar powder	Half teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Maha Charam Rog Har Vati	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Chandraprabha Vati	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Arogya Vati tablet	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Blood Purifier Syrup	15 ml BD ( <i>Adhobhakta</i> with <i>saraswa rasna kosha jala</i> )
18/04/2025	Rakt Shodhak	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Maha Charam Rog Har Vati	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Aarogyavardhini Vati	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Rakta Prasadan Tonic	15 ml BD ( <i>Adhobhakta</i> with <i>saraswa rasna kosha jala</i> )

**Table 4:** The details of the medicine prescribed during the treatment

Medicine	Ingredients	Therapeutic Benefits
Udar vikar powder	<i>Hing (Ferula asafoetida), Ajwain (Trachyspermum ammi), Jeera (Cuminum cyminum), Saunf (Foeniculum vulgare), Dhaniya (Coriandrum sativum), Amla (Phyllanthus emblica), Bala (Sida cordifolia), Pippali (Piper longum), Chitrak (Plumbago zeylanica), Shunthi (Zingiber officinale), Triphala (Phyllanthus emblica, Terminalia chebula, Terminalia bellirica), Saindhav</i>	Agni deepana, Balancing doshas, Shoola nivarana, Snehana, Vatanuloman and Hridshoola shamana
Maha Charam Rog Har Vati	<i>Gandhak (Sulfur), Chhoti Elaichi (Elettaria cardamomum), Dalchini (Cinnamomum verum or Cinnamomum cassia), Tejpatra (Cinnamomum tamala), Nagkesar (Mesua ferrea), Guggulu (Commiphora wightii), Haridra (Terminalia chebula), Bibhitaki (Terminalia bellirica), Amalaki (Phyllanthus emblica), Haritaki, Baheda, Amla</i>	Balancing doshas, Vatahara, Shothahara, Deepan and Pachan
Chandraprabha vati	<i>Camphor (Cinnamomum camphora), Vacha (Acorus calamus), Nagar motha (Cyperus rotundus), Bhumi Amla (Phyllanthus niruri), Giloy (Tinospora cordifolia), Turmeric (Curcuma longa), Devdaru (Cedrus deodara), Dhaniya (Coriandrum sativum), Haritaki (Terminalia chebula), Baheda (Terminalia bellirica), Amla (Phyllanthus emblica), Vidanga (Embelia ribes), Ginger (Zingiber officinale), Kalimirsch (Piper nigrum), Sendha Salt, Gokhru (Operculina turpethum), Tejpatra (Cinnamomum tamala), Cinnamon (Cinnamomum cassia), Cardamom (Elettaria cardamomum), Shilajeet</i>	Helps in Agnimandya, Mutrakris, Raktashodhana, Rasayana and managing vrana
Arogya Vati tablet	<i>Kajjali, Abhrak Bhasma, Loha Bhasma, Tamra Bhasma, Triphala (Terminalia bellirica, Terminalia chebula, Phyllanthus emblica), Vibhitaki (Terminalia bellirica), Haridra (Curcuma longa), Lasuna (Allium sativum), Katuka (Picrorrhiza kurroa), Nimb Patti (Azadirachta indica)</i>	Rasayana, Agnideepana, Vata-Kaphahara, Pramcha, Raktashodhaka, Pitta shamana, Swedakara and Raktashodhana
Blood Purifier Syrup	<i>Khair Chal (Acacia catechu), Babchi (Psoralea corylifolia), Devdaru (Cedrus deodara), Darv Haldi (Curcuma aromatica), Haritaki (Terminalia chebula), Bhera (Terminalia bellerica), Amla (Phyllanthus emblica), Mahamajishtha (Rubia cordifolia), Dhamasa (Fagonia cretica), Sariva (Hemidesmus indicus), Amba Haldi (Curcuma amada), Kutki (Picrorhiza kurroa), Chiraita (Swertia chirata), Rasont (Rubia groenveltdsa), Satyanashi (Cissampelos pareira), Madhu (Honey) and Shaker (Saccharum officinarum)</i>	Manages Raktashodhana, Pitta shamana, Rasayana, Kandughna and Pramcha
Rakt Shodhak	<i>Mahamanismadi Kwath (Rubia cordifolia), Nimb Twam (Azadirachta indica), Gorakhimundi (Sphaeranthus indicus), Kalmegha (Andrographis paniculata), Bhumi amla (Phyllanthus niruri), Chandan (Santalum album), Khadirashishtha (Acacia catechu), Pitapapda (Ficus carica), Gandhak Rasayan (Psciada mayana), Kishor Guggulu (Picrorhiza kurroa), Shunthi (Zingiber officinale), Pippali (Piper longum), Chitrak (Plumbago zeylanica), Shudh Shilajeet (Asphaltum punjabianum), Mirchi (Piper nigrum, Piper longum, Zingiber officinale)</i>	Yakrit shamana, Pitta shamana, Rakta shodhana and Agni deepana
Aarogyvardhini Vati	<i>Shothari, Kutki (Picrorhiza kurroa), Gandhak (Sulfur), Lasun (Allium Sativum), Bher (Daucus carota), Tamra Bhasma (Copper oxide), Haritaki (Terminalia chebula), Bibhitaki (Terminalia bellirica), Amalaki (Embelia officinalis), Shuddha Shilajeet (Asphaltum), Kajjali, Guggul (Commiphora wightii), Chitra (Plumbago zeylanica), Katuki (Picrorhiza kurroa), Nimb (Azadirachta indica)</i>	Pitta Shamana, Amla Pitta Nivarana, Agni Deepana, Vata-Pitta Shodhaka and Rakta Shodhana
Rakta Pradan Tonic	<i>Khair Chal (Acacia catechu), Babchi (Psoralea corylifolia), Devdaru (Cedrus deodara), Darv Haldi (Curcuma aromatica), Haritaki (Terminalia chebula), Bhera (Terminalia bellirica), Amla (Phyllanthus emblica), Mahamajishtha (Rubia cordifolia), Dhamasa (Woodfordia fruticosa), Sariva (Hemidesmus indicus), Amba Haldi (Curcuma amada), Kutki (Picrorhiza kurroa), Chiraita (Swertia chirata), Rasont (Plumbago zeylanica), Satyanashi (Cissampelos pareira), Honey (Apis mellifera)</i>	Rakta shodhana, Pitta shamana, Amla pacha-ka, Twak vikar and Rasayana

## Result

**Effectiveness of Ayurvedic Treatments:** The patient underwent 2 months of Ayurvedic regimen, after the treatment he experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against lipodermatosclerosis with venous ulcer (*Twak vikar*). After the treatment he was well oriented and got relief from symptoms like constipation and pain which shows that the Ayurvedic interventions used in the case study are effective for this *Twak vikar*. The wound in the leg of patient also got

better healing (Fig 1). The conditions before and after treatment is mentioned in Table 5.

**Table 5:** The conditions before and after treatment

Conditions	Before Treatment	After Treatment
Weakness	Severe weakness	Mild weakness
Stool	Constipation	Relieved
Pain	8/10	3/10
Wound	Severe	Healing stage



Fig 1: The improvement of patient during treatment

### Implications for Future Research

This study focused on a *Twak vikar*, yielding promising results. However, due to the small sample size, further research with randomized controlled trials and larger cohorts is needed to confirm the safety, efficacy, and reliability of integrated *Ayurvedic* treatments, helping to establish standardized therapeutic guidelines.

### Discussion

*Ayurvedic* treatment integration for *Twak vikar* offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 44-year-old man who has been diagnosed with *Twak vikar*. *Samprapti* [29, 30] of this case study is illustrated in Fig 2.

हेतुं द्रव्यं लिङ्गं कुष्ठानामाश्रयं प्रशमनं च।  
शृण्वन्निवेशः सम्यग्विशेषतः स्पर्शनघ्नानाम्॥३॥ [31]

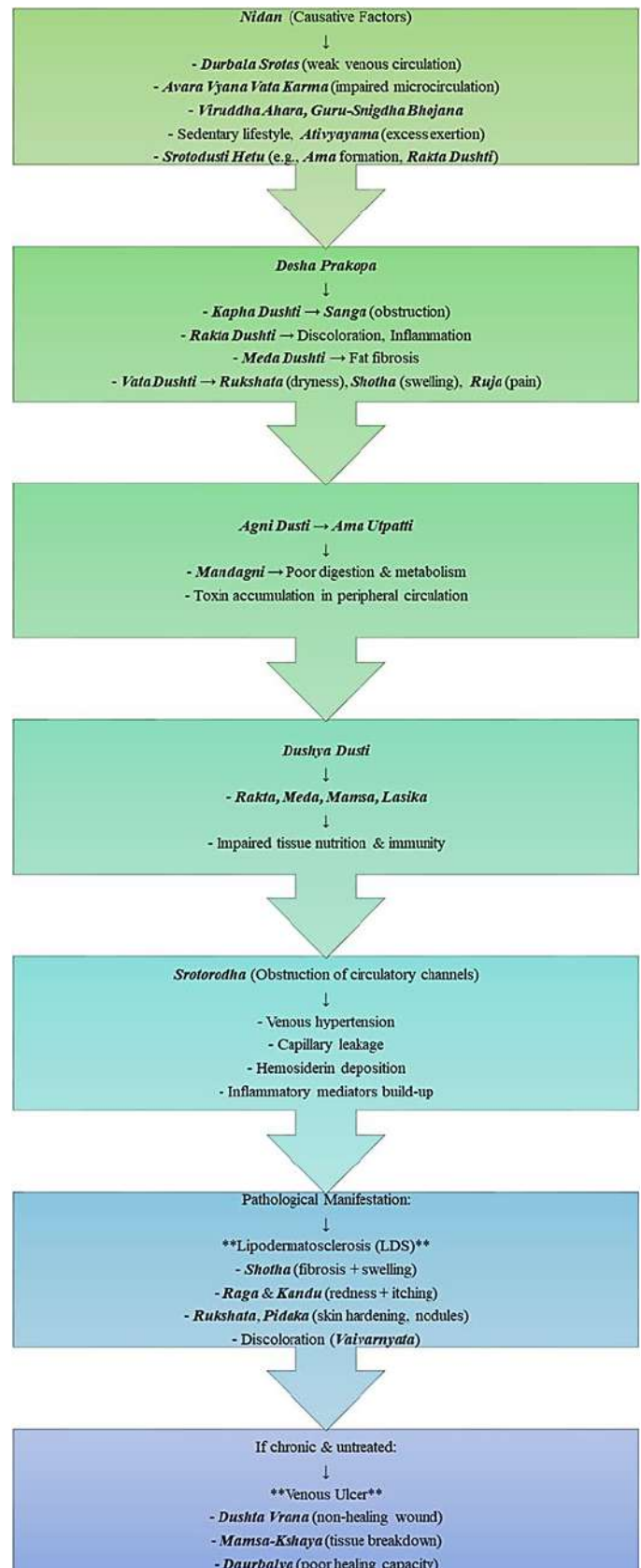


Fig 2: Samprapti of this case study

During his two months of *Ayurvedic* treatment, he underwent *Ayurvedic* therapy regimen. To address this pathology, specific *Ayurvedic* formulations are employed. *Udar Vikar* Powder acts as *Deepana-Pachana*, reducing *Ama* and correcting *Mandagni*, thus targeting *Meda* and *Rasa Dushti*.

Maha Charam Rog Har Vati is effective in chronic skin disorders due to its *Kusthaghna* and *Rakta Shodhaka* properties, supporting wound healing (*Vrana Ropana*). Chandraprabha Vati balances *Vata* and *Kapha*, purifies channels (*Srotoshodhana*), and enhances microcirculation. Arogya Vati Tablet has *Tridosha* balancing effects and supports *Deepana* and *Rakta Shodhana*. Blood Purifier Syrup and Rakt Shodhak specifically act on *Rakta Dushti* and reduce *Pitta*-associated inflammatory responses. Aarogyavardhini Vati plays a crucial role in improving liver function (hepatoprotective), enhancing digestive fire (*Agni*), purifying the blood (*Rakta Shodhana*), and nourishing the skin (*Twak Poshana*) while promoting wound healing (*Vrana Ropana*). Together, these formulations help in *Ama Nirharana*, *Dosha Shamana*, *Srotoshodhana*, *Vrana Shodhana*, and *Ropana*, thereby effectively breaking the pathological process (*Samprapti Vighatana*) of LDS with venous ulcers.

To counter the pathogenesis, *Panchakarma*-based local therapies were employed. *Lepam* with *Tankan Bhasma*, *Sphatik Bhasma*, and *Jatyadi Taila* provided *Kleda Shoshana* (absorption of moisture), *Shothahara* (anti-inflammatory), *Vrana Shodhana* (cleansing), and *Ropana* (healing) actions. *Tankan* and *Sphatika* offer antimicrobial and astringent properties, while *Jatyadi Taila* supports tissue regeneration. On alternate days, *Lepam* with *Apamarg Kshar* and *Jatyadi Taila* was done, targeting *Granthi* (induration) and aiding in *Lekhana* (scraping) of excessive *Meda* and *Rakta Dushti*, particularly effective in chronic fibrotic tissue. Furthermore, *Prakshalan* (cleansing wash) with *Panchavalkala Kashaya* provided *Vrana Shodhana* and *Ropana*, being *Kashaya* Rasa dominant, *Tridosha Shamaka*, and *Tvachya* (beneficial to skin). This regimen helped in *Dosha Shamana*, *Srotoshodhana*, *Dhatu Shuddhi*, and accelerated *Vrana Ropana*, thereby achieving *Samprapti Vighatana* of LDS with venous ulcer from an *Ayurvedic* perspective.

This case study highlights the potential benefits of *Ayurvedic* therapy for managing lipodermatosclerosis with venous ulcer (*Twak vikar*). *Ayurvedic* treatment, offer a more accessible, cost-effective approach, addressing underlying imbalances. While promising, further research is needed to confirm the effectiveness, safety, and reliability of *Ayurvedic* treatments in lipodermatosclerosis with venous ulcer (*Twak vikar*) management.

## Conclusion

This case study evaluating the treatment of lipodermatosclerosis with venous ulcer (*Twak vikar*) through *Ayurvedic* interventions yields the following findings:

**Symptoms:** Upon the first visit, the patient presented with General weakness, Constipation and pain with severe wound. After *Ayurvedic* treatment, significant improvements were observed. The patient reported relief from weakness and constipation and the wound also seems to be healed, with no new symptoms emerging, suggesting a marked improvement in overall health.

**Vitals and Investigations:** There was a notable reduction in general weakness, constipation and pain with wound healing reflecting positive changes in both lifestyle and diet.

In summary, holistic *Ayurvedic* therapies for lipodermatosclerosis with venous ulcer (*Twak vikar*) showed promising results, including improvements in laboratory test results, vital signs, and symptoms. The integration of *Ayurvedic* treatments appears to alleviate lipodermatosclerosis with venous ulcer (*Twak vikar*) symptoms, and improve overall health.

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# Revitalizing Renal Health: A Case Study of Integrative *Ayurvedic* Treatment for Chronic Kidney Disease in a Patient with Hypertension, Diabetes and Fatty Liver

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## Abstract

Chronic Kidney Disease (CKD) is a significant global health issue, affecting approximately 10% of the population worldwide. In low-income regions, the incidence is particularly high, exacerbated by limited access to kidney replacement therapies (KRT). In India, 17.2% of the population is affected by CKD, with diabetic nephropathy being the primary cause. Hypertension, diabetes, and obesity are major risk factors for the disease, which often progresses silently without noticeable symptoms. This case study evaluates the impact of *Ayurvedic* interventions in managing CKD in a 54-year-old female patient with a known case of CKD, hypertension, Type 2 Diabetes Mellitus (T2DM), and fatty liver. The patient, under the care of Jeena Sikho Lifecare Limited Hospital, Amritsar, Punjab, received a combination of *Panchakarma* treatments, including *Abhyangam* with *Dhanwantaram Tail*, *Shirodhara* with *Ksheer Bala*, and *Matra Basti* with *Sehacharadi Oil*, alongside *Ayurvedic* formulations to improve kidney function, regulate blood sugar, and support liver health. After a 7-day treatment period, significant improvements were noted in the patient's renal function, with a decrease in serum creatinine and urea levels, as well as enhanced eGFR. The patient also reported relief from symptoms like frothy urine and disturbed sleep. This case highlights the potential benefits of integrating *Ayurvedic* therapies with conventional treatment for CKD management, suggesting a promising approach for improving patient outcomes.

**Keywords:** Chronic Kidney Disease (CKD), *Ayurveda*, *Panchakarma*, Hypertension, Type II Diabetes Mellitus (T2DM), *Vataj pandu*, *Madhumeha*, *Mutraj vyadhi*.

## Introduction

Chronic kidney disease (CKD) poses a major global health concern, affecting about 10% of people worldwide. Its incidence is increasing, particularly in low-income regions where the impact is most severe. Ranking as the seventh leading cause of global mortality, CKD underscores the urgent need for strategies focused on early detection and management [1, 2]. Approximately 13% of the global population is affected by CKD, with older individuals being more susceptible [3]. The condition imposes a significant economic strain on healthcare systems, especially due to the high costs associated with kidney replacement therapy (KRT), which remains inaccessible in many low-resource settings [4]. In India, CKD affects 17.2% of the population, with diabetic nephropathy identified as the primary cause [5, 6]. Hypertension, diabetes, and obesity are major risk factors, and early diagnosis is critical, as CKD often progresses without

noticeable symptoms [7]. The growing prevalence of non-communicable diseases, coupled with inadequate access to dialysis and transplants, exacerbates this challenge [8, 9].

Modern medicine acknowledges the growing prevalence of CKD, primarily driven by diabetes and hypertension. Timely detection and intervention are vital, as CKD typically remains asymptomatic in its early stages. According to the SEEK study, 6% of CKD cases in India were found to be in stage 3 or beyond [5]. Although advances in dialysis and kidney transplants have been made, these treatments are often unaffordable or unavailable in resource-limited settings, contributing to the healthcare burden.

Hypertension, diabetes, and obesity are the primary risk factors for CKD. Early detection is paramount since the disease often advances silently without evident symptoms. Modern medicine has highlighted significant barriers in managing CKD, especially in low-resource settings where

access to kidney replacement therapy is limited. The increasing prevalence of non-communicable diseases has further compounded these challenges. Despite technological advancements in dialysis and kidney transplants, gaps in affordability and accessibility persist [7, 8]. Current public health efforts are directed at enhancing early detection, expanding treatment access, and mitigating the strain on healthcare systems. Contemporary research emphasizes addressing diabetes and hypertension as critical factors in reducing CKD prevalence.

In *Ayurvedic* medicine, CKD is associated with *Vataj Pandu* due to the resemblance of symptoms. Classical texts highlight the necessity of understanding *Nidaan* and *Samprapti* for effective CKD management. *Ayurvedic* treatment strategies aim to correct imbalances in *Dosha*, *Dushya*, and *Srotas*, which are integral to the progression of CKD. Treatment plans are customized based on individual factors such as *Bala*, *Prakriti*, *Agni*, and *Oja*, all of which influence disease management and quality of life [10].

*Ayurvedic* interventions include dietary adjustments, *Ayurvedic* formulations, and lifestyle changes that target oxidative stress, inflammation, and kidney function [11, 12]. These approaches can complement or, in some cases, replace conventional treatments, especially for CKD linked to type II diabetes, where *Dosha* imbalances play a central role [11]. *Ayurveda's* integrative approach seeks to address the

underlying causes of CKD and restore physiological balance, offering a valuable adjunct in managing this multifaceted condition [10, 13]. This study aims to assess the impact of *Ayurvedic* interventions combined with conventional treatments for *Vrikka rog* with hypertension, Type 2 Diabetes Mellitus and fatty liver in a 54-year-old female patient.

### Case Report

On February 19, 2024, a 54-year-old female known case of CKD for 1 year, hypertension for 1 year, fatty liver for 2 year and Type 2 diabetes mellitus for 15 years visited Jeena Sikho Lifecare Limited Hospital, Amritsar, Punjab. The patient was diagnosed with *Mutragata rog* and *Madhumeh*. A comprehensive medical history, family history, physical examination, and diagnostic evaluations were all part of the methodical and thorough examination. She has a history of Colectomy. She experienced general weakness, decreased frothy urine, disturbed sleep, abdominal bloating and gastritis. She was taking insulin. The initial assessment during the treatment is detailed in Table 1. The initial examination is noted in Table 2. The lipid profile examination during the treatment period is mentioned in Table 3. The Liver Function Test on February 19, 2024 is mentioned in Table 4. The laboratory investigations during the treatment period is provided in Table 5.

**Table 1:** The initial assessment during the treatment

Date	Blood Pressure (mmHg)	Weight	SpO2	Pulse/min
19-02-2024	160/80	73 Kg	99%	88
20-02-2024	140/70	73 Kg	99%	80
21-02-2024	140/80	73 Kg	98%	80
22-02-2024	150/90	73 Kg	99%	80
23-02-2024	140/80	73 Kg	97%	80
24-02-2024	130/80	73 Kg	98%	80
25-02-2024	130/90	73 Kg	98%	88
26-02-2024	140/80	73 Kg	99%	84
05-03-2024	150/80	71 Kg	99%	94
25-03-2024	110/80	72 Kg	96%	84

**Table 2:** The initial examination on February 9, 2024

Parameter	Findings
<i>Jivha</i>	<i>Saam</i>
<i>Nadi</i>	<i>Vataj pittaj</i>
<i>Drik</i>	<i>Avikrita</i>
<i>Nakha</i>	<i>Avikrita</i>

**Table 3:** The lipid profile examination during the treatment period

Parameter	Date 19-02-2024	Date 06-03-2024
Total Cholesterol	109 mg/dL	167 mg/dL
Triglycerides	187 mg/dL	181 mg/dL
HDL	31.8 mg/dL	41.9 mg/dL
LDL	39.8 mg/dL	88.9 mg/dL
VLDL	37.8 mg/dL	36.2 mg/dL
LDL/HDL ratio	1.25	2.12
HDL/LDL ratio	0.8	0.47
Cholesterol/HDL Ratio	3.43	3.99

**Table 4:** The Liver Function Test on February 19, 2024

Parameter	Findings
Total Bilirubin	0.31 mg/dl
Conjugated Bilirubin	0.16 mg/dl
Unconjugated Bilirubin	0.15 mg/dl
SGOT	29.5 IU/L
SGPT	25 IU/L
Alkaline phosphatase	160 IU/L
Total protein	8.56 gm/dl
Albumin	4.82 gm/dl
Globulin	3.74 gm/dl
A/G ratio	1.29

**Table 5:** The laboratory investigations during the treatment

Parameters	Date 19-02-2024	Date 21-02-2024	Date 06-03-2024
Haemoglobin	11.6 gm/dL	10.6 gm/dL	12 gm/dL
Urea	184 mg/dL	120.6 mg/dL	70.4 mg/dL
Creatinine	9.32 mg/dL	6.26 mg/dL	4.63 mg/dL
Uric acid	4.30 mg/dL	4.70 mg/dL	7.40 mg/dL
Sodium	135.7 mmol/L	135.5 mmol/L	138 mmol/L
Potassium	5.08 mmol/L	5.1 mmol/L	6.10 mmol/L
TLC	10.39 th/cumm	8.9 th/cumm	8.53 th/cumm
RBC	4.21 mill/cumm	4.38 mill/cumm	4.36 mill/cumm
Platelet count	224 th/cumm	233 th/cumm	-
eGFR	4.68 ml/min	10.49 ml/min/1.73 m <sup>2</sup>	10.49 ml/min/1.73 m <sup>2</sup>
ESR	-	18 mm/1 hr	16 mm/1 hr
CRP	-	7.2 mg/dL	0.32 mg/dL
BUN	86 mg/dL	33 mg/dL	33 mg/dL

The patient was admitted for 7 days. During the IPD, *Ayurvedic* therapies were administered to the patient. The

health conditions during the IPD is mentioned in Table 6. The basic vitals during discharge is noted in Table 7.

**Table 6:** The health conditions during the IPD

Conditions	20-02-2024	21-02-2024	22-02-2024	23-02-2024	24-02-2024	25-02-2024	26-02-2024
General weakness	✓	✓	✓	✓	✓	✓	✓
Bowel	3–4 times (clear)	Clear	Normal	Clear	Clear	Clear	Clear
Urine	Reduced	Reduced	Reduced	Reduced	Frothy/micturition	Reduced foamy	Better
Sleep	Disturbed	Disturbed	Disturbed	Disturbed	Mild disturbed	Mild disturbed	Normal
Chest	Clear	Clear	Clear	Clear	Clear	Clear	Clear
Abdomen	Bloated	-	-	-	Disturbed	Disturbed	Clear
Gastritis	✓	-	-	-	-	-	-
Apetite	Normal	Normal	Normal	Normal	Normal	Normal	Normal

**Table 7:** The basic vitals during discharge

Parameter	Findings
Blood Pressure	135/90 mm of Hg
Pulse Rate	80/min
Weight	73 Kg
<i>Nadi</i>	<i>Vataj Pittaj</i>
<i>Mutra</i>	<i>Prakrita</i>
<i>Shabda</i>	<i>Spashta</i>
<i>Mala</i>	<i>Avikrita</i>
<i>Drik</i>	<i>Prakrita</i>
<i>Sparsh</i>	<i>Samasheetoshna</i>
<i>Akrti</i>	<i>Avikrita</i>
<i>Jihwa</i>	<i>Niram</i>

An accurately designed DIP Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CKD [14];

## Treatment Plan

### 1. Diet Plan:

#### Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

- Avoid wheat, refined foods, dairy, coffee, tea, and packaged foods.
- Do not eat after 8 PM.
- When eating solid foods, take small bites and chew each bite 32 times.

### Hydration:

- Sip water slowly, mindful of the amount consumed each time.
- Aim to drink 1 liter of alkaline water 3 to 4 times a day.
- Incorporate herbal tea, living water, and turmeric-infused water into your daily routine.
- Boil 2 liters of water and reduce it to 1 liter before drinking.

### Millet Consumption:

- Include five types of millet in your diet: Foxtail, Barnyard, Little, Kodo, and Browntop millet.
- Cook the millets in mustard oil using stainless steel cookware.

### Meal Timing and Structure:

- Early Morning (5:45 AM): Begin with herbal tea along with raw ginger and turmeric.
- Breakfast (8:30-9:30 AM): Have fruits (Apple/Papaya) and a fermented millet shake.
- Morning Snacks (11:00-11:20 AM): 100 gm of sprouts and 150 ml of red juice and soaked almonds.
- Lunch (12:30 PM - 2:00 PM): Two plates—Plate 1: steamed salad; Plate 2: cooked millet-based dish.
- Evening Snacks: Green juice (100-150 ml) and 4-5 almonds.
- Dinner (6:15-7:30 PM): Plate 1: raw salad, chutney, green garden delight, and soup; Plate 2: millet khichdi/fermented millets/millet *chapati*.

### Fasting:

- It is recommended to fast for one day.

### Special Instructions:

- Offer thanks to the divine before eating or drinking.
- Practice *Vajrasana* after every meal.
- Take a slow 10-minute walk after each meal.

### Diet Types:

- The diet includes low-salt solid, semi-solid, and smoothie options.
- Suggested foods include herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds, and steamed salads.

### 2. Lifestyle Recommendations

- Include meditation as a method for relieving stress.
- Practice Yoga (*Sukhasana* and *Sukshma Pranayama*) between 6:00 AM and 7:00 AM.
- Go for a brisk 30-minute barefoot walk.

iv). Aim for 6-8 hours of restful sleep each night.

v). Follow a structured daily routine to maintain balance and organization in your life.

### 3. Panchakarma procedures administered to patients

#### i). *Abhyangam* with *Dhanwantaram Tail* [15]

##### Procedure

- 100 ml of *Dhanwantaram Tail* was warmed to body temperature.
- The warm oil was applied gently to the entire body for 30 minutes, starting with the head and progressing to the arms, torso, abdomen, and legs, using circular motions over joints and long strokes along limbs.
- The *Abhyangam* massage was performed with rhythmic, soothing strokes and moderate pressure, focusing on tension areas and the head for relaxation.
- The patient was allowed to relax for 5–10 minutes. Warm water or a damp towel was offered to cleanse excess oil.

##### Physiology and Mode of Action

- *Abhyangam* stimulates blood flow and lymphatic drainage, promoting the removal of metabolic waste and toxins from tissues, leading to improved muscle tone and overall detoxification.
- The soothing massage activates the parasympathetic nervous system, reducing stress and promoting relaxation, better sleep, and hormonal balance, while improving mood and mental clarity.
- The warm *Dhanwantaram Tail* nourishes muscles and joints, relieving stiffness, improving flexibility, and providing moisture to the skin, promoting elasticity and reducing dryness.
- The anti-inflammatory and analgesic properties of *Dhanwantaram Tail* help reduce muscle pain, joint inflammation, and tension, providing therapeutic relief from conditions like arthritis and muscle soreness.
- Regular use of *Dhanwantaram Tail* enhances vitality, strengthens the body, and supports long-term health by nourishing tissues, improving skin texture, and promoting overall rejuvenation.

#### ii). *Shirodhara* with *Ksheer Bala*

##### Procedure:

- The patient was positioned on their back with the head slightly elevated, and the area around the forehead and scalp was cleaned.
- 2 liters of *Ksheer Bala*, a medicated milk mixture, was prepared by warming it to a comfortable temperature for the procedure.
- A special vessel was used to pour the warm *Ksheer Bala* in a steady stream onto the forehead, focusing on the *Ajna* area.
- The treatment lasted 45 minutes while the patient remained relaxed with closed eyes.

##### Physiology and Mode of action

- *Shirodhara* with *Ksheer Bala* activates the parasympathetic nervous system, reducing stress, anxiety, and insomnia.
- The warm milk improves circulation, relaxes the scalp muscles, and promotes calmness.
- It balances stress hormones, enhancing mental clarity and emotional stability.

- *Ksheer Bala* nourishes the scalp, strengthens the nervous system, and promotes rejuvenation [16, 17, 18].

### iii). *Matra Basti with Sehacharadi oil (60 ml)*

#### Procedure

- The 60 ml of *Sehacharadi* oil was warmed to body temperature.
- The person lay on their left side in a comfortable position and the lubricated enema nozzle was gently inserted into the rectum.
- The oil was slowly released into the rectum using an enema bag or bulb, and held for 15-20 minutes for absorption.

#### Physiology and Mode of Action

- *Sehacharadi* oil, absorbed through the rectal mucosa, lubricates and hydrates the intestines, promoting smoother bowel movements and reducing constipation.
- It calms the nervous system, balances *Vata dosha*, and supports colon cleansing.
- The oil nourishes gastrointestinal tissues, reduces inflammation, and alleviates conditions like hemorrhoids and anal fissures. [19, 20]

### iv). *Sarwang swedan with Dashmool Kwath*

#### Procedure:

- The *Dashmool Kwath* was prepared by boiling the formulation and warming the decoction to a comfortable temperature.
- The patient was instructed to lie down comfortably, covered with a towel, leaving the head exposed to the steam.
- Steam from the *Dashmool Kwath* was directed towards the patient's body, ensuring a safe distance and allowing the steam to cover the body. Gentle circular massage was applied during the steam therapy.
- After 25 minutes, the patient's body was wiped with a clean towel to remove sweat, and they were allowed to rest.

#### Physiology and Mode of Action

- The heat from the steam therapy induces vasodilation, improving blood flow to the skin and underlying tissues.

This enhanced circulation helps in the delivery of nutrients and the removal of metabolic waste, leading to better tissue health and detoxification.

- The steam helps to activate the lymphatic system, promoting the movement of lymph fluid, which aids in the removal of toxins from the body. This supports the immune system and overall detoxification processes.
- The warmth of the steam penetrates the muscles and joints, relaxing tense muscles and alleviating stiffness. The *Ayurvedic* constituents of *Dashmool* have analgesic and anti-inflammatory properties, providing relief from muscle pain, joint stiffness, and conditions like arthritis.
- The sweat induced by the steam helps to expel toxins from the body through the skin. This detoxifying effect improves skin tone, texture, and elasticity. The *Dashmool*, known for their purifying properties, help cleanse the body of accumulated impurities.
- The heat and steam stimulate the parasympathetic nervous system, inducing a state of deep relaxation. This reduces stress, calms the mind, and promotes emotional well-being, enhancing the overall rejuvenating effects of the therapy [21].

#### Medicinal Interventions

The *Ayurvedic* treatment employed in this case included Chander Vati Tablet, Nephron Plus, CKD Syrup, Liver Tonic, DM Capsule, 32 Herbal Tea, Liv DS, Amal Pitt Har Powder, Liver Tonic, JS BP cure, Dr. Shuddhi Powder and Divya Shakti Powder along with *Panchakarma* therapies.

She was on IPD for 7 days, during that period she received consolidated *Ayurvedic* treatments. This treatment procedure encompassed *Panchakarma* therapies such as *Abhyangam with Dhanwantaram Tail*, *Shirodhara with Ksheer Bala*, *Matra Basti with Sehacharadi oil (60 ml)* and *Sarwang swedan with Dashmool Kwath*. The *Ayurvedic* medications advised during IPD is detailed in Table 8. The *Ayurvedic* medications advised during the discharge is mentioned in Table 9. The patient returned on March 05, 2024. The medications advised during the visit is detailed in Table 10. The patient revisited on March 25, 2025 for regular follow-up, and the medications provided are described in Table 11.

**Table 8:** The medicine advised during the IPD

Medicine Name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	Kapoor Kachri ( <i>Hedychium spicatum</i> ), Vacha ( <i>Acorus calamus</i> ), Motha ( <i>Cyperus rotundus</i> ), Kalmegh ( <i>Andrographis paniculata</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Daruhaldi ( <i>Daruhaldi</i> ), Dev Daru ( <i>Dev Daru</i> ), Dev Daru Haldi ( <i>Curcuma longa</i> ), Atees ( <i>Aconitum heterophyllum</i> ), Daru Haldi ( <i>Berberis aristata</i> ), Pipla Mool ( <i>Piper longum root</i> ), Chitraka ( <i>Plumbago zeylanica</i> ), Dhaniya ( <i>Coriandrum sativum</i> ), Harad ( <i>Terminalia chebula</i> ), Bahera ( <i>Terminalia bellirica</i> ), Amla ( <i>Embelica officinalis</i> ), Chavya ( <i>Piper chaba</i> ), Vayavidang ( <i>Embelia ribes</i> ), Pippal ( <i>Piper longum</i> ), Kalimirch ( <i>Piper nigrum</i> ), Sonth ( <i>Zingiber officinale</i> dried ginger), Gaj Pipal ( <i>Gaj Pipal</i> ), Swarn Makshik Bhasma ( <i>Swarn Makshik Bhasma</i> ), Sujjik Khar ( <i>Potassium carbonate - traditional alkali preparation</i> ), Sendha Namak ( <i>Rock salt</i> ), Kala Namak ( <i>Black salt</i> ), Choti Elaichi ( <i>Elettaria cardamomum</i> small cardamom), Dalchini ( <i>Cinnamomum verum</i> ), Tejpatra ( <i>Cinnamomum tamala</i> ), Danti ( <i>Baliospermum montanum</i> ), Nishothra ( <i>Operculina turpethum</i> ), Banslochan ( <i>Bambusa silica</i> ), Loh Bhasam ( <i>Loh Bhasam</i> ), Shilajit ( <i>Asphaltum punjabianum</i> ), Guggal ( <i>Commiphora wightii</i> )	2 TAB TDS ( <i>Adhobhakta</i> with <i>kosha jala</i> )	Improves urine outflow, boosts immunity, helps in cell rejuvenation, enhances digestion and boosts metabolism
CKD Syrup	Kasani ( <i>Cichorium intybus</i> ), Gokhru ( <i>Tribulus terrestris</i> ), Shatavari ( <i>Asparagus racemosus</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Sorbitol, and	3 TSF BD ( <i>Adhobhakta</i> with <i>sama matra kosha</i> )	Provides relief from pain and discomfort associated

	Shilajit ( <i>Asphaltum punjabianum</i> )	<i>jala</i> )	with kidney issues.
JS BP cure	Sarpagandha ( <i>Rauvolfia serpentina</i> ), Arjuna ( <i>Terminalia arjuna</i> ), Shigru ( <i>Moringa oleifera</i> ), Haritaki ( <i>Terminalia chebula</i> ), Vibhitaki ( <i>Terminalia bellirica</i> ), Amla ( <i>Emblica officinalis</i> ), Godanti Bhasma ( <i>Gypsum</i> )	1 CAP BD ( <i>Adhobhakta</i> with <i>Kosha jala</i> )	Maintain a healthy heart functioning, kidney function, and improve digestive health
Liver Tonic	Lal Punarnava ( <i>Boerhavia diffusa</i> ), Safed Punarnava ( <i>Boerhavia diffusa</i> ), Bala ( <i>Sida cordifolia</i> ), Atibala ( <i>Abutilon indicum</i> ), Patha ( <i>Cyclea peltata</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Chitrak ( <i>Plumbago zeylanica</i> ), Kakoli ( <i>Lilium polyphyllum</i> ), Vasa ( <i>Adhatoda vasica</i> ), Nagarmotha ( <i>Cyperus rotundus</i> ), Ajwain ( <i>Trachyspermum ammi</i> ), Sonth ( <i>Zingiber officinale</i> ), Kali Mirch ( <i>Piper nigrum</i> ), Long ( <i>Piper longum</i> ), Methi ( <i>Trigonella foenum-graecum</i> ), White Jeera ( <i>Cuminum cyminum</i> ), Roheda Chhal ( <i>Tecomella undulata</i> ), Dalchini ( <i>Cinnamomum verum</i> ), Tejpattra ( <i>Cinnamomum tamala</i> ), Badi Elaichi ( <i>Amomum subulatum</i> ), Choti Elaichi ( <i>Elettaria cardamomum</i> ), Jaiphal ( <i>Myristica fragrans</i> ), Nagkesar ( <i>Mesua ferrea</i> ), Kankol ( <i>Piper cubeba</i> ), Mulethi ( <i>Glycyrrhiza glabra</i> ), Chokel ( <i>Balanites aegyptiaca</i> ), Mahua ( <i>Madhuca longifolia</i> )	2 TSF BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )	Helps in improving overall liver health.

Table 9: The Ayurvedic medications advised during the discharge on 26 February 2024

Medicine name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	Kapoor Kachri ( <i>Hedychium spicatum</i> ), Vacha ( <i>Acorus calamus</i> ), Motha ( <i>Cyperus rotundus</i> ), Kalmegh ( <i>Andrographis paniculata</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Devdaru ( <i>Cedrus deodara</i> ), Desi Haldi ( <i>Curcuma longa</i> ), Atees ( <i>Aconitum heterophyllum</i> ), Darvi Haldi ( <i>Berberis aristata</i> ), Puja Mool ( <i>Piper longum</i> root), Chitrak ( <i>Plumbago zeylanica</i> ), Dhamiya ( <i>Coriandrum sativum</i> ), Harad ( <i>Terminalia chebula</i> ), Bahera ( <i>Terminalia bellirica</i> ), Amla ( <i>Phyllanthus emblica</i> ), Chavya ( <i>Piper chaba</i> ), Yavakshar ( <i>Enicostema ribes</i> ), Pippali ( <i>Piper longum</i> ), Kachri ( <i>Piper nigrum</i> ), Sonth ( <i>Zingiber officinale</i> dried pieces), Gaj Pipali ( <i>Scindapsus officinalis</i> ), Swarn Makshik Bhasma (Gold iron pyrite ash - Ayurvedic preparation), Sujji Khar (Potassium carbonate - traditional alkali preparation), Senda Namak (Rock salt), Kala Namak (Black salt), Choti Elachi ( <i>Elettaria cardamomum</i> small cardamom), Dalchini ( <i>Cinnamomum verum</i> ), Tejpat ( <i>Cinnamomum tamala</i> ), Danti ( <i>Baliospermum montanum</i> ), Nishothra ( <i>Operculina turpethum</i> ), Banslochan (Bamboo silica), Loh Bhasm (Iron ash - Ayurvedic preparation), Shilajit ( <i>Asphaltum punjabianum</i> ), Guggal ( <i>Commiphora wightii</i> ).	1 TAB TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )	Improves urine outflow, boosts immunity, helps in cell rejuvenation, enhances digestion and boosts metabolism
CKD Syrup	Rasasni ( <i>Cichorium intybus</i> ), Gokhru ( <i>Tribulus terrestris</i> ), Shatavari ( <i>Asparagus racemosus</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Sorbitol, and Shudh Shilajeet ( <i>Asphaltum punjabianum</i> ).	3 TSF BD ( <i>Adhobhakta</i> with <i>soma matra kosha jala</i> )	Provides relief from pain and discomfort associated with kidney issues.
Liver Tonic	Lal Punarnava ( <i>Boerhavia diffusa</i> ), Safed Punarnava ( <i>Boerhavia diffusa</i> ), Bala ( <i>Sida cordifolia</i> ), Atibala ( <i>Abutilon indicum</i> ), Patha ( <i>Cyclea peltata</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Chitrak ( <i>Plumbago zeylanica</i> ), Kakoli ( <i>Lilium polyphyllum</i> ), Vasa ( <i>Adhatoda vasica</i> ), Nagarmotha ( <i>Cyperus scariosus</i> ), Arjuna ( <i>Terminalia arjuna</i> bark), Sonth ( <i>Zingiber officinale</i> ), Kali Mirch ( <i>Piper nigrum</i> ), Long ( <i>Piper longum</i> ), Methi ( <i>Trigonella foenum-graecum</i> ), White Jeera ( <i>Cuminum cyminum</i> ), Rohida Chhal ( <i>Tecomella undulata</i> ), Dalchini ( <i>Cinnamomum verum</i> ), Tejpattra ( <i>Cinnamomum tamala</i> ), Badi Elachi ( <i>Amomum subulatum</i> ), Choti Elachi ( <i>Elettaria cardamomum</i> ), Jaiphal ( <i>Myristica fragrans</i> ), Nagkesar ( <i>Mesua ferrea</i> ), Kankol ( <i>Piper cubeba</i> ), Multhi ( <i>Glycyrrhiza glabra</i> ), Shekel ( <i>Balanites aegyptiaca</i> ), Mahuua ( <i>Madhuca longifolia</i> ).	2 TSF BD ( <i>Adhobhakta</i> with <i>soma matra kosha jala</i> )	Helps in improving overall liver health.
JS BP cure	Sarpagandha ( <i>Rauvolfia serpentina</i> ), Arjuna ( <i>Terminalia arjuna</i> ), Shigru ( <i>Moringa oleifera</i> ), Haritaka ( <i>Terminalia chebula</i> ), Vibhitaka ( <i>Terminalia bellirica</i> ), Amla ( <i>Emblica officinalis</i> ), Godanti Bhasma ( <i>Gypsum</i> ).	1 CAP BD ( <i>Adhobhakta</i> with <i>Koshna jala</i> )	Maintain a healthy heart functioning, kidney function, and improve digestive health.
32 Herbal Tea	Gauzaban ( <i>Echium amoenum</i> ), Kulanjan ( <i>Alpinia galanga</i> ), Choti Elaichi ( <i>Elettaria cardamomum</i> ), Laung ( <i>Syzygium aromaticum</i> ), Badi Elaichi ( <i>Amomum subulatum</i> ), Badiyan Khay ( <i>Illicium verum</i> ), Banafsha ( <i>Viola odorata</i> ), Jufa ( <i>Clerodendrum serratum</i> ), Ashwagandha ( <i>Withania somnifera</i> ), Mulethi ( <i>Glycyrrhiza glabra</i> ), Punarnava ( <i>Boerhavia diffusa</i> ), Brahmi ( <i>Bacopa monnieri</i> ), Chitrak ( <i>Plumbago zeylanica</i> ), Kali Mirch ( <i>Piper nigrum</i> ), Adoosa ( <i>Adhatoda vasica</i> ), Saunf ( <i>Foeniculum vulgare</i> ), Shankh Pushp ( <i>Evolvulus alsinoides</i> ), Tulsi ( <i>Ocimum sanctum</i> ), Arjuna ( <i>Terminalia arjuna</i> ), Motha ( <i>Cyperus rotundus</i> ), Senave ( <i>Cuscuta</i>	30 gram ( <i>Adhobhakta</i> with <i>koshna jala</i> )	Deepan and pachan

	<i>reflexa</i> ), Sonth ( <i>Zingiber officinale</i> ), Majeeth ( <i>Rubia cordifolia</i> ), Sarfoka ( <i>Sphaeranthus indicus</i> ), Dalchini ( <i>Cinnamomum verum</i> ), Gulab ( <i>Rosa spp.</i> ), Green Tea ( <i>Camellia sinensis</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Tej Patta ( <i>Cinnamomum tamala</i> ), Lal Chandan ( <i>Pterocarpus santalinus</i> ), White Chandan ( <i>Santalum album</i> ), Pudina ( <i>Mentha spicata</i> ).	
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**Table 10:** The medications advised during the visit on March 05, 2024

Medicine name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	Kapoor Kachri ( <i>Hedychium spicatum</i> ), Vacha ( <i>Acorus calamus</i> ), Motha ( <i>Cyperus rotundus</i> ), Kalmegh ( <i>Andrographis paniculata</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Devdaru ( <i>Cedrus deodara</i> ), Desi Haldi ( <i>Curcuma longa</i> ), Atees ( <i>Aconitum heterophyllum</i> ), Darvi Haldi ( <i>Berberis aristata</i> ), Pipla Mool ( <i>Piper longum</i> root), Chitrak ( <i>Plumbago zeylanica</i> ), Dhaniya ( <i>Coriandrum sativum</i> ), Harad ( <i>Terminalia chebula</i> ), Bahera ( <i>Terminalia bellirica</i> ), Amla ( <i>Phyllanthus emblica</i> ), Chavya ( <i>Piper chaba</i> ), Vayavidang ( <i>Embelia ribes</i> ), Pippal ( <i>Piper longum</i> ), Kalimirch ( <i>Piper nigrum</i> ), Sonth ( <i>Zingiber officinale</i> dry-ginger), Tej Patra ( <i>Cinnamomum tamala</i> ), Swarana Makshika Bhasma ( <i>Ayurvedic parade. formulation</i> ), Swarna Suji ( <i>K shell potassium carbonate - traditional alkali preparation</i> ), Sada Namak (Rock salt), Kala Namak (Black salt), Choti Elaichi ( <i>Elettaria cardamomum</i> - small cardamom), Dalchini ( <i>Cinnamomum verum</i> ), Tejpatra ( <i>Cinnamomum tamala</i> ), Dana ( <i>Balsamodendron pentandrum</i> ), Nishotha ( <i>Operculina turpethum</i> ), Banslochan ( <i>Bambusa arundinacea</i> ), Loh Bhasam (Iron ash - <i>Ayurvedic preparation</i> ), Shilajit ( <i>Asphaltum punjabianum</i> ), Guggul ( <i>Commiphora wightii</i> ).	1 TAB TDS (Adhbhoktra with kozhna jala)	Improve outflow, boosts immunity, helps in cell rejuvenation, enhances digestion and boosts metabolism.
Nephron Plus	Hazroolyahood ( <i>Lapis judaicus</i> ), bhasma, Chandrapha powder and pashanbheda ( <i>Bergenian ligulata</i> ).	2 CAP BD (Adhbhoktra with kozhna jala)	Beneficial to kidney diseases and urinary problems.
CKD Syrup	Kasani ( <i>Cichorium intybus</i> ), Gokhru ( <i>Tribulus terrestris</i> ), Shatavari ( <i>Asparagus racemosus</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Sorbind, and Shudh Shilajeet ( <i>Asphaltum punjabianum</i> ).	3 TSF BD (Adhbhoktra with kozhna jala)	Provides relief from pain and discomfort associated with kidney issues.
Liver Tonic	Lal Punarnava ( <i>Boerhavia diffusa</i> ), Sufed Punarnava ( <i>Boerhavia diffusa</i> ), Bala ( <i>Sida cordifolia</i> ), Ashoka ( <i>Albizia lebbek</i> ), Patha ( <i>Cissampelos</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Chitrak ( <i>Plumbago zeylanica</i> ), Kakoli ( <i>Lilium polyphyllum</i> ), Jasa ( <i>Adhatoda vasica</i> ), Nagarmotha ( <i>Cyperus rotundus</i> ), Ajwain ( <i>Trachyspermum ammi</i> ), Sonth ( <i>Zingiber officinale</i> ), Kali Mirch ( <i>Piper nigrum</i> ), Long ( <i>Piper longum</i> ), Methi ( <i>Trigonella foenum-graecum</i> ), White Jeera ( <i>Cuminum cyminum</i> ), Roheda Chhal ( <i>Tecomella undulata</i> ), Dalchini ( <i>Cinnamomum verum</i> ), Tejpatra ( <i>Cinnamomum tamala</i> ), Badi Elaichi ( <i>Amomum subulatum</i> ), Chotti Elaichi ( <i>Elettaria cardamomum</i> ), Jaiphal ( <i>Myristica fragrans</i> ), Nagkesar ( <i>Mesua ferrea</i> ), Kankol ( <i>Piper cubeba</i> ), Multhi ( <i>Glycyrrhiza glabra</i> ), Shekel ( <i>Badamites axoepyrca</i> ), Malna ( <i>Malvaceae longifolia</i> ).	2 TSF BD (Adhbhoktra with sama matra kozhna jala)	Helps in improving overall liver health.
DM CAPSULE	Amba Haldi ( <i>Curcuma amada</i> ), Giloy ( <i>Tinospora cordifolia</i> ), Sufed Mulil ( <i>Chlorophytum borivilianum</i> ), Methi ( <i>Trigonella foenum-graecum</i> ), Neem ( <i>Azadirachta indica</i> ), Karela ( <i>Momordica charantia</i> ), Jamun ( <i>Syzygium cumini</i> ), Bilva Patra ( <i>Aegle marmelos</i> ), Gulmar ( <i>Gymnema sylvestre</i> ), Shudh Shilajeet.	2 CAP BD (Pragbhoksa with kozhna jala)	Helps to stimulate insulin production. Beneficial for managing blood glucose levels and increases metabolism and energy levels.
JS BP cure	Sarpgandha ( <i>Rauvolfia serpentina</i> ), Arjuna ( <i>Terminalia arjuna</i> ), Shigru ( <i>Moringa oleifera</i> ), Haritaki ( <i>Terminalia chebula</i> ), Vibhitaki ( <i>Terminalia bellirica</i> ), Amla ( <i>Embelica officinalis</i> ), Godanti Bhasma ( <i>Gypsum</i> ).	1 CAP BD (Adhbhoktra with Kozhna jala)	Maintain a healthy heart functioning, kidney health and improve digestive health.
32 Herbal Tea	Gauzan ( <i>Echium amoenum</i> ), Kulanjan ( <i>Alpinia galanga</i> ), Choti Elaichi ( <i>Elettaria cardamomum</i> ), Laung ( <i>Syzygium aromaticum</i> ), Badi Elaichi ( <i>Amomum subulatum</i> ), Badi Kian Khtay ( <i>Illicium verum</i> ), Banafisha ( <i>Viola odorata</i> ), Jufa ( <i>Clerodendrum serratum</i> ), Ashwagandha ( <i>Withania somnifera</i> ), Mulethi ( <i>Glycyrrhiza glabra</i> ), Punarnava ( <i>Boerhavia diffusa</i> ), Brahmi ( <i>Bacopa monnieri</i> ), Chitrak ( <i>Plumbago zeylanica</i> ), Kali Mirch ( <i>Piper nigrum</i> ), Adoom (Sanskrit name), Ajwain ( <i>Trachyspermum ammi</i> ), Shudh Patp ( <i>Evolvulus alsinoides</i> ), Tulsi ( <i>Ocimum tenuiflorum</i> ), Sunth ( <i>Zingiber officinale</i> ), Motha ( <i>Cyperus rotundus</i> ), Seave ( <i>Cueszta reflexa</i> ), Sonth ( <i>Zingiber officinale</i> ), Majetha ( <i>Rubia cordifolia</i> ), Saroka ( <i>Sphaeranthus indicus</i> ), Dalchini ( <i>Cinnamomum verum</i> ), Gulab ( <i>Rosa spp.</i> ), Green Tea ( <i>Camellia sinensis</i> ).	30 gram (Adhbhoktra with kozhna jala)	Helps to enhance immunity, hyper acidity, kidney, liver and CA.

Liv DS	<i>Bhumiai</i> Ext. ( <i>Boerhavia prionitis</i> ), <i>Kasani</i> Ext. ( <i>Cichorium intybus</i> ), <i>Himsa</i> ( <i>Leptadenia reticulata</i> ), <i>Punarnava</i> Ext. ( <i>Boerhavia diffusa</i> ), <i>Guduchi</i> Ext. ( <i>Tinospora cordifolia</i> ), <i>Kakamachi</i> ( <i>Solanum nigrum</i> ), <i>Arjuna</i> ( <i>Terminalia arjuna</i> ), <i>Biranjaspita</i> ( <i>Berberis aristata</i> ), <i>Kasamardaru</i> ( <i>Solanum xanthocarpum</i> ), <i>Vidanga</i> ( <i>Embelia ribes</i> ), <i>Chitraka</i> ( <i>Plumbago zeylanica</i> ), <i>Kutki</i> ( <i>Picrorhiza kurroa</i> ), <i>Haridaki</i> ( <i>Terminalia chebula</i> ), <i>Bhingraj</i> ( <i>Eclipta prostrata</i> ).	1 Tab BD ( <i>Adhobhakt</i> with <i>koshna jala</i> )	Used for liver disease, CHT, GERD and loss of appetite
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**Table 11:** The medications prescribed during the follow up on 25 March, 2024

Medicine name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	<i>Kapoor Kachri</i> ( <i>Hedychium spicatum</i> ), <i>Vacha</i> ( <i>Acorus calamus</i> ), <i>Motha</i> ( <i>Cyperus rotundus</i> ), <i>Kalmegh</i> ( <i>Andrographis paniculata</i> ), <i>Giloy</i> ( <i>Tinospora cordifolia</i> ), <i>Devdaru</i> ( <i>Cedrus deodara</i> ), <i>Deyu Haldi</i> ( <i>Berberis aristata</i> ), <i>Atees</i> ( <i>Aconitum heterophyllum</i> ), <i>Daru Haldi</i> ( <i>Berberis aristata</i> ), <i>Pipla Mool</i> ( <i>Piper longum</i> root), <i>Chitraka</i> ( <i>Plumbago zeylanica</i> ), <i>Dhaniya</i> ( <i>Coriandrum sativum</i> ), <i>Harad</i> ( <i>Terminalia chebula</i> ), <i>Bahera</i> ( <i>Terminalia bellirica</i> ), <i>Amia</i> ( <i>Phyllanthus emblica</i> ), <i>Chavya</i> ( <i>Piper chaba</i> ), <i>Yavasajang</i> ( <i>Embelia ribes</i> ), <i>Pippal</i> ( <i>Piper longum</i> ), <i>Kalmirch</i> ( <i>Piper nigrum</i> ), <i>Sonth</i> ( <i>Zingiber officinale</i> dried ginger), <i>Gaj Pipal</i> ( <i>Scindapsus officinalis</i> ), <i>Swarn Makshik Bhasma</i> (Gold Iron pyrite ash - Ayurvedic preparation), <i>Sujji Kshar</i> (Potassium carbonate - traditional alkali preparation), <i>Senda Namak</i> (Rock salt), <i>Kala Namak</i> (Black salt), <i>Choti Elaichi</i> ( <i>Elettaria cardamomum</i> - small cardamom), <i>Dalchini</i> ( <i>Cinnamomum verum</i> ), <i>Tejpatra</i> ( <i>Cinnamomum tamala</i> ), <i>Danti</i> ( <i>Baliospermum montanum</i> ), <i>Nishothra</i> ( <i>Operculina turpethum</i> ), <i>Banslochan</i> (Bamboo silica), <i>Loh Bhasam</i> (Iron salt - Ayurvedic preparation), <i>Shilajeet</i> ( <i>Asphaltum punjabianum</i> ), <i>Guggul</i> ( <i>Commiphora wightii</i> ).	1 TAB TDS ( <i>Adhobhakt</i> with <i>koshna jala</i> )	Improves urine outflow, boosts immunity, helps in cell rejuvenation, enhances digestion and boosts metabolism
Nephron Plus	<i>Hazool yahood</i> ( <i>Lapis judaicus</i> ), <i>bhasma</i> , <i>Chandprabha powder</i> and <i>pashanbhedha</i> ( <i>Bergenia ligulata</i> )	2 CAP BD ( <i>Adhobhakt</i> with <i>koshna jala</i> )	Beneficial to kidney diseases and urinary problems
CKD Syrup	<i>Kasani</i> ( <i>Cichorium intybus</i> ), <i>Gokhru</i> ( <i>Tribulus terrestris</i> ), <i>Shatavari</i> ( <i>Asparagus racemosus</i> ), <i>Giloy</i> ( <i>Tinospora cordifolia</i> ), <i>Sorbitol</i> , and <i>Shudh Shilajeet</i> ( <i>Asphaltum punjabianum</i> )	3 TSF BD ( <i>Adhobhokh</i> with <i>sama matra</i> <i>koshna jala</i> )	Provides relief from pain and discomfort associated with kidney issues.
Liver Tonic	<i>Lal Punarnava</i> ( <i>Boerhavia diffusa</i> ), <i>Safed Punarnava</i> ( <i>Boerhavia diffusa</i> ), <i>Bala</i> ( <i>Sida cordifolia</i> ), <i>Atibala</i> ( <i>Abutilon indicum</i> ), <i>Patha</i> ( <i>Cyclea peltata</i> ), <i>Giloy</i> ( <i>Tinospora cordifolia</i> ), <i>Chitrak</i> ( <i>Plumbago zeylanica</i> ), <i>Kakoli</i> ( <i>Lilium polyphyllum</i> ), <i>Vasa</i> ( <i>Adhatoda vasica</i> ), <i>Nagarmotha</i> ( <i>Cyperus rotundus</i> ), <i>Ajwain</i> ( <i>Trachyspermum ammi</i> ), <i>Sonth</i> ( <i>Zingiber officinale</i> ), <i>Kali Mirch</i> ( <i>Piper nigrum</i> ), <i>Long Pippal</i> ( <i>Piper longum</i> ), <i>Methi</i> ( <i>Trigonella foenum-graecum</i> ), <i>White Jeera</i> ( <i>Cuminum cyminum</i> ), <i>Roheda Chhal</i> ( <i>Tecomella undulata</i> ), <i>Dalchini</i> ( <i>Cinnamomum verum</i> ), <i>Tejpatta</i> ( <i>Cinnamomum tamala</i> ), <i>Badi Elaichi</i> ( <i>Amomum subulatum</i> ), <i>Chhoti Elaichi</i> ( <i>Elettaria cardamomum</i> ), <i>Gajpippal</i> ( <i>Myristica fragrans</i> ), <i>Tagara</i> ( <i>Messua ferrea</i> ), <i>Kankol</i> ( <i>Piper cubeba</i> ), <i>Mulethi</i> ( <i>Glycyrrhiza glabra</i> ), <i>Shekel</i> ( <i>Balantiies aegyptiaca</i> ), <i>Madhuca</i> ( <i>Madhuca longifolia</i> )	3 TSF BD ( <i>Adhobhakh</i> with <i>sama matra</i> <i>koshna jala</i> )	Helps in improving overall liver health.
DM CAPSULE	<i>Amba Haldi</i> ( <i>Curcuma amada</i> ), <i>Giloy</i> ( <i>Tinospora cordifolia</i> ), <i>Safed Musli</i> ( <i>Chlorophytum borivilianum</i> ), <i>Methi</i> ( <i>Trigonella foenum-graecum</i> ), <i>Neem</i> ( <i>Azadirachta indica</i> ), <i>Karela</i> ( <i>Momordica charantia</i> ), <i>Jamun</i> ( <i>Syzygium cumini</i> ), <i>Bilva Patra</i> ( <i>Aegle marmelos</i> ), <i>Gudmar</i> ( <i>Gymnema sylvestre</i> ), <i>Shudh Shilajeet</i> .	2 CAP BD ( <i>Prashobhoka</i> with <i>koshna jala</i> )	Beneficial for managing blood glucose levels and increasing metabolism and energy levels
32 Herbal Tea	<i>Gauzaban</i> ( <i>Echium amoenum</i> ), <i>Kulanjan</i> ( <i>Alpinia galanga</i> ), <i>Choti Elaichi</i> ( <i>Elettaria cardamomum</i> ), <i>Lavang</i> ( <i>Syzygium aromaticum</i> ), <i>Badi Elaichi</i> ( <i>Amomum subulatum</i> ), <i>Badiyan Khatay</i> ( <i>Illicium verum</i> ), <i>Banaksha</i> ( <i>Viola odorata</i> ), <i>Jufa</i> ( <i>Clerodendrum serratum</i> ), <i>Ashwagandha</i> ( <i>Withania somnifera</i> ), <i>Mulathi</i> ( <i>Glycyrrhiza glabra</i> ), <i>Punamava boos</i> ( <i>Boerhavia diffusa</i> ), <i>Brahmi</i> ( <i>Bacopa monnieri</i> ), <i>Chitrak</i> ( <i>Plumbago zeylanica</i> ), <i>Kali Mirch</i> ( <i>Piper nigrum</i> ), <i>Adoosa</i> ( <i>Adhatoda vasica</i> ), <i>Saunt</i> ( <i>Foeniculum vulgare</i> ), <i>Shankh Pushp</i> ( <i>Evolvulus alsinoides</i> ), <i>Tulsi</i> ( <i>Ocimum sanctum</i> ), <i>Arjuna</i> ( <i>Terminalia arjuna</i> ), <i>Motha</i> ( <i>Cyperus rotundus</i> ), <i>Senaye</i> ( <i>Cascata reflexa</i> ), <i>Sonth</i> ( <i>Zingiber officinale</i> ), <i>Majeeth</i> ( <i>Rubia cordifolia</i> ), <i>Sarjoka</i> ( <i>Sphaeranthus indicus</i> ), <i>Dalchini</i> ( <i>Cinnamomum verum</i> ), <i>Gulab</i> ( <i>Rosa spp.</i> ), <i>Green Tea</i> ( <i>Camellia sinensis</i> ), <i>Giloy</i> ( <i>Tinospora cordifolia</i> ), <i>Tej Patta</i> ( <i>Cinnamomum tamala</i> ), <i>Lal Chandan</i> ( <i>Pterocarpus santalinus</i> ), <i>White Chandan</i> ( <i>Santalum album</i> ), <i>Pudina</i> ( <i>Mentha spicata</i> ).	30 gram ( <i>Adhobhakh</i> with <i>koshna jala</i> )	Helps to enhance immunity, hyper acidity, kidney, liver and CA
Liv DS	<i>Bhumiai</i> Ext. ( <i>Boerhavia prionitis</i> ), <i>Kasani</i> Ext. ( <i>Cichorium intybus</i> ), <i>Himsa</i> ( <i>Leptadenia reticulata</i> ), <i>Punarnava</i> Ext. ( <i>Boerhavia</i>	1 Tab BD ( <i>Adhobhakt</i> with <i>koshna jala</i> )	Used for liver disease, CHT, GERD and loss of appetite

	<i>diffusa</i> ), <i>Guduchi Ext.</i> ( <i>Tinospora cordifolia</i> ), <i>Kakamachi</i> ( <i>Solanum nigrum</i> ), <i>Arjuna</i> ( <i>Terminalia arjuna</i> ), <i>Biranjaspaha</i> ( <i>Berberis aristata</i> ), <i>Kasamarda Jhavuka</i> ( <i>Solanum xanthocarpum</i> ), <i>Vidanga</i> ( <i>Embelia ribes</i> ), <i>Chitraka</i> ( <i>Plumbago zeylanica</i> ), <i>Kutki</i> ( <i>Picrorhiza kurroa</i> ), <i>Haridaki</i> ( <i>Terminalia chebula</i> ), <i>Bhingraj</i> ( <i>Eclipta prostrata</i> ).		
Amal Pitt Har Powder	<i>Shunti</i> ( <i>Zingiber officinale</i> ), <i>Maricha</i> ( <i>Piper nigrum</i> ), <i>Pippali</i> ( <i>Piper longum</i> ), <i>Amalki</i> ( <i>Phyllanthus emblica</i> ), <i>Bibhitaki</i> ( <i>Terminalia belerica</i> ), <i>Haritaki</i> ( <i>Terminalia chebula</i> ), <i>Musta</i> ( <i>Cyperus rotundus</i> ), <i>Shatavari</i> ( <i>Asparagus racemosus</i> ), <i>Vatsak</i> ( <i>Tacca amomum verum</i> ), <i>Vidanga</i> ( <i>Embelia ribes</i> ), <i>Vidarikanda</i> ( <i>Pueraria tuberosa</i> ), <i>Shatapushpa</i> ( <i>Anethum graveolens</i> ), <i>Trivita</i> ( <i>Tribulus terrestris</i> ), <i>Sharkara</i> ( <i>Saccharum officinarum</i> ).	1/2 TSF HS ( <i>Nishikal</i> with <i>koshna jala</i> )	Improves Digestive Health, Helps in Maintaining Balance and Improves a Sense of Wellness

## Result

The patient underwent IPD for 7 days, after the treatment she experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CKD, hypertension and T2DM. At the time of discharge, the patient was well oriented and there was relief from pain, weakness, burning micturition, frothy urine, disturbed sleep, abdominal bloating and gastritis which shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The laboratory investigations as mentioned in Table 5 done during treatment period.

Laboratory tests conducted during the treatment showed significant improvements in renal function. Serum urea levels decreased gradually from 164.5 mg/dL to 70.4 mg/dL, indicating enhanced kidney function. Similarly, serum creatinine levels reduced from 6.85 mg/dL to 4.63 mg/dL. The eGFR increased from 4.68 ml/min/1.73 m<sup>2</sup> to 10.49 ml/min/1.73 m<sup>2</sup>. These results underscore the potential efficacy of *Ayurvedic* therapies in managing CKD.

## Implications for Future Research

A CKD patient with hypertension, T2DM and fatty liver was the subject of the current investigation, which produced encouraging findings. However, a more thorough assessment is necessary because of the small sample size of just one case. Future studies should use randomized controlled trials and bigger sample sizes to verify the safety, effectiveness, and dependability of the integrated *Ayurvedic* treatments. These kinds of investigations will be essential for creating standardized therapeutic standards and methods.

## Discussion

*Ayurvedic* treatment integration for CKD offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 54-year-old woman who has been diagnosed CKD with T2DM for 15 years, Hypertension, and fatty liver. The patient's symptoms including general weakness, frothy micturition, disturbed sleep, abdominal bloating and gastritis were found to be reduced. The *samprapti* <sup>[22, 23]</sup> for this case study is depicted in Fig 1.

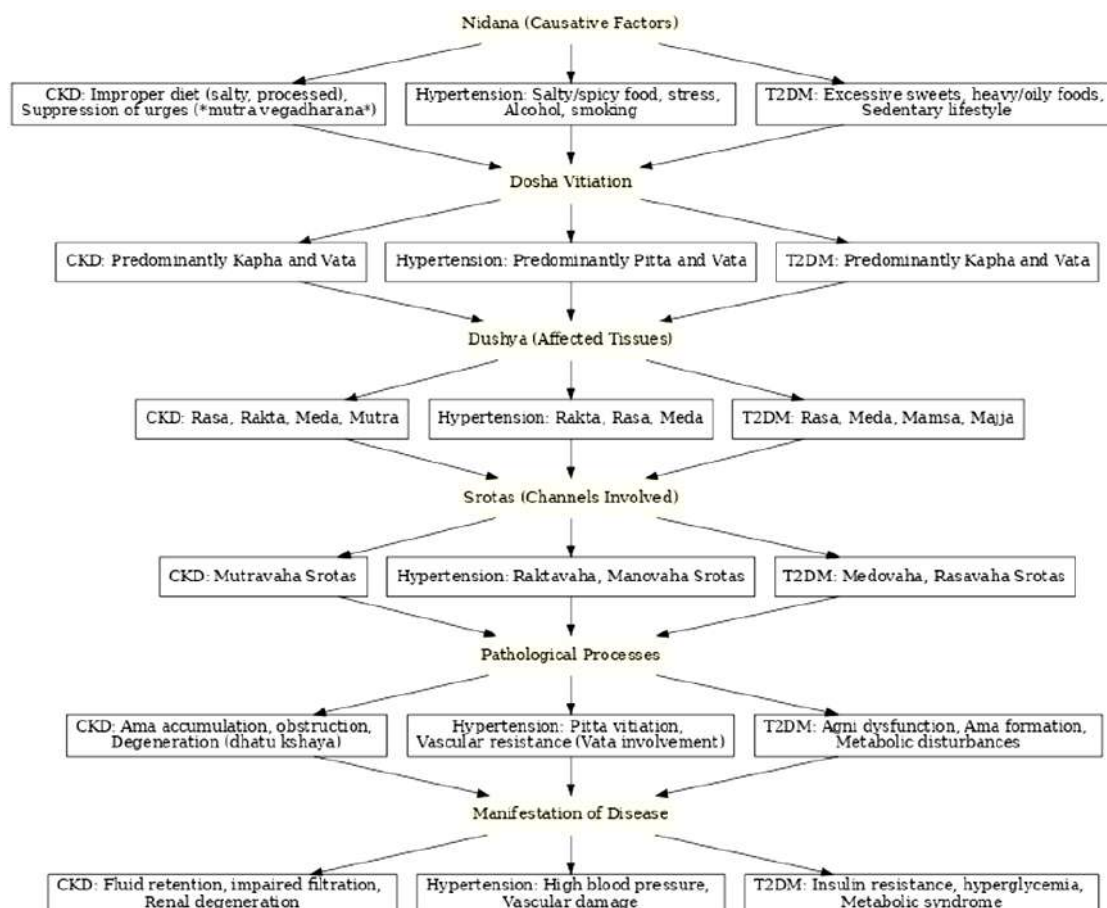


Fig 1: The *samprapti* for this case study

During her 7 days IPD, she underwent *Panchakarma* treatments as part of the *Ayurvedic* therapy regimen.

- i). **Abhyangam with Dhanwantaram Tail (15):** *Abhyangam* enhances circulation and lymphatic drainage, aiding in detoxification and improved muscle tone. The warm *Dhanwantaram Tail* nourishes muscles, joints, and skin, relieving stiffness and dryness while offering pain and inflammation relief through its anti-inflammatory properties. Regular use of this oil strengthens tissues, promotes rejuvenation, and enhances vitality.
- ii). **Shirodhara with Ksheer Bala:** 2 liters of warm *Ksheer Bala* was poured in a steady stream onto the forehead, focusing on the *Ajna* area for 45 minutes while the patient remained relaxed. *Shirodhara* induces parasympathetic activation, reducing stress, anxiety, and insomnia. The warm milk promotes circulation, relaxes the scalp, and nourishes the nervous system, improving mental clarity and emotional stability.
- iii). **Matra Basti with Sehacharadi Oil (60 ml):** The *Sehacharadi oil* was warmed to body temperature and slowly administered into the rectum while the patient lay on their left side, holding the oil for 15-20 minutes for absorption. *Sehacharadi oil* lubricates the intestines, promoting smoother bowel movements and reducing constipation. It calms the nervous system, balances *Vata dosha*, and supports colon health by reducing inflammation and nourishing gastrointestinal tissues.
- iv). **Sarwang Swedan with Dashmool Kwath:** The steam induces vasodilation, improving circulation and detoxification. It activates the lymphatic system to remove toxins, supports muscle relaxation, and relieves joint stiffness. *Dashmool's* anti-inflammatory properties help alleviate pain and inflammation, while the steam induces deep relaxation, reducing stress and enhancing emotional well-being.

The *Ayurvedic* treatment plan in this case included a comprehensive regimen of various *Ayurvedic* formulations and *Panchakarma* therapies aimed at addressing multiple health concerns. *Chander Vati Tablet* is primarily used for managing high blood sugar and related complications, enhancing overall metabolism. *Nephron Plus* is designed to support kidney function, improving filtration and detoxification processes, crucial for maintaining kidney health. *CKD Syrup* serves as a vital formulation for individuals with *CKD*, promoting renal function and reducing complications associated with the condition. *Liver Tonic* (administered twice) is used for improving liver health by detoxifying the liver, supporting liver cell regeneration, and enhancing overall digestive function. The *DM Capsule* is effective for managing diabetes mellitus, addressing issues such as insulin resistance and blood sugar regulation. *32 Herbal Tea* contains a blend of medicines that support overall digestive health, detoxification, and immune system enhancement. *Liv DS* is another liver-supporting formulation that improves liver function, reduces acidity, and promotes healthy digestion. *Amal Pitt Har Powder* is used to balance excess *pitta dosha*, relieving symptoms such as acidity, indigestion, and inflammatory conditions. *JS BP Cure* supports the management of high blood pressure by promoting vascular health and aiding in blood pressure regulation. *Dr. Shuddhi Powder* is a detoxifying agent used for cleansing the body of toxins and rejuvenating the digestive and metabolic systems. Finally, *Divya Shakti Powder* is used to enhance vitality, improve energy levels, and support overall

immune function. Together, these medications are complemented by *Panchakarma* therapies, which aim to detoxify the body, balance the doshas, and enhance the therapeutic effects of the *Ayurvedic* formulations. This holistic treatment approach supports multiple organ systems, promotes detoxification, and restores overall health.

This case study highlights the benefits of combining traditional medical treatments with *Ayurvedic* therapy for managing *CKD*. *Ayurvedic* treatments offer a cost-effective approach targeting underlying imbalances, improving renal function, and addressing coexisting conditions like diabetes and hypertension. Further research is needed to confirm their effectiveness and safety in *CKD* management.

## Conclusion

This case study evaluating the treatment of *CKD* with hypertension, fatty liver and *T2DM* through *Ayurvedic* interventions yields the following findings:

**Symptoms:** Upon admission, the patient presented with general weakness, low micturition, frothy urine, disturbed sleep, abdominal bloating and gastritis. After *IPD Ayurvedic* treatment, significant improvements were observed. The patient reported relief from frothy urine, disturbed sleep with no new symptoms emerging, suggesting a marked improvement in kidney function and overall health.

**Vitals:** The patient's vital signs fluctuated during the treatment period. Blood pressure varied from 145/80 mmHg to 130/80 mmHg. The patient's weight was maintained throughout the treatment, and there was a notable reduction in sleep issues and frothy urine, reflecting positive changes in both lifestyle and diet.

**Investigations:** Laboratory tests conducted during the treatment showed significant improvements in renal function. Serum urea levels decreased gradually from 164.5 mg/dL to 70.4 mg/dL, indicating enhanced kidney function. Similarly, serum creatinine levels reduced from 6.85 mg/dL to 4.63 mg/dL. The eGFR increased from 4.68 ml/min/1.73 m<sup>2</sup> to 10.49 ml/min/1.73 m<sup>2</sup>. These results underscore the potential efficacy of *Ayurvedic* therapies in managing *CKD*.

The *Ayurvedic* treatment for *CKD* showed positive results, improving lab tests, vital signs, and symptoms. *Ayurvedic* treatments focus on restoring balance and addressing imbalances, enhancing renal health. Further clinical trials are needed to confirm these findings and establish standardized treatment methods for *CKD*.

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## Ayurvedic Management of CLD (Nash) Associated with Type 2 Diabetes Mellitus: A Case Report

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### Abstract

Chronic Liver Disease (CLD) is a progressive condition characterized by long-standing liver inflammation, hepatocellular degeneration, and fibrosis. Non-Alcoholic Steatohepatitis (NASH), a severe form of Non-Alcoholic Fatty Liver Disease (NAFLD), is increasingly prevalent in individuals with Type 2 Diabetes Mellitus (T2DM), posing complex therapeutic challenges. A 57-year-old male diagnosed with CLD and NASH associated with T2DM presented to Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, with complaints of weakness, anemia, black stools, facial puffiness, itchy sclera, constipation, disturbed sleep, and mild breathlessness. He was admitted and treated through a comprehensive *Ayurvedic* protocol including *Panchakarma* therapies and *Ayurvedic* formulations. The patient reported marked relief in weakness, anemia, constipation, sleep quality, and respiratory discomfort. Laboratory investigations showed significant biochemical improvement: total bilirubin, conjugated bilirubin and direct bilirubin were dropped. Fibroscan findings also showed clinical progress. This case highlights the promising role of *Ayurvedic* integrative management in improving liver function and systemic symptoms in CLD (NASH) associated with T2DM.

**Keywords:** Chronic Liver Disease (CLD), Type 2 Diabetes Mellitus (T2DM), Non-Alcoholic Fatty Liver Disease (NAFLD), *Ayurveda*, *Panchakarma*, *Yakrit vikar*.

### Introduction

Chronic Liver Disease (CLD) is a long-term condition involving progressive liver function decline over more than six months, driven by ongoing inflammation, tissue destruction, and regeneration. Causes include chronic alcohol use, toxic exposure, viral infections like Hepatitis B (HBV), autoimmune diseases and genetic or metabolic disorders. Alcoholic Liver Disease (ALD) and Non-Alcoholic Fatty Liver Disease (NAFLD), particularly its severe form Nonalcoholic Steatohepatitis (NASH), are key contributors to CLD, potentially progressing to fibrosis, cirrhosis, and end-stage liver disease [1]. Hepatic fibrosis gradually distorts liver structure, and disease progression is influenced by etiology, genetics, and environmental factors [2, 3]. It carries a 20% mortality rate and is mainly transmitted through vertical means, intravenous drug use, and sexual contact. Despite an

effective vaccine, HBV remains prevalent (5–20%) in low-income areas due to limited access [4–10].

Splenomegaly is seen in over 50% of cirrhotic patients and often indicates portal hypertension [11]. There is a significant link between CLD—especially NASH—and Type 2 Diabetes Mellitus (T2DM). A meta-analysis revealed that around 59.67% of T2DM patients also have NAFLD, and 96.1% of diabetic NAFLD patients have NASH, showing a strong bidirectional relationship [12–14]. Global prevalence of NAFLD among diabetics is about 55.5%, varying by region and ethnicity [15].

Management of NASH with T2DM includes lifestyle changes, glycemic control, and addressing dyslipidemia, though no definitive pharmacologic cure exists [16, 17]. *Ayurveda* offers a holistic view, linking NASH to *Kapha dosha* and *Medo dhatu* imbalance due to poor diet and

lifestyle. This leads to toxin (*Ama*) buildup and impaired digestion (*Mandagni*), affecting the liver (*Yakrit*), a vital organ governed by *Pitta dosha* and *Rakta vaha srotas* [18]. The obstruction of these *srotas* leads to inflammation and hepatocellular injury, progressing toward fibrosis and cirrhosis [19]. The *Samprapti Ghataka* [18, 19, 20] of this case is mentioned in Table 1.

**Table 1:** The *Samprapti Ghataka*

Samprapti Ghataka	Description
<i>Dosha</i>	<i>Kapha</i> and <i>Pitta</i> are primarily vitiated. <i>Vata</i> may be involved in advanced/chronic stages ( <i>cirrhosis, fibrosis</i> ).
<i>Dushya (Dhatus)</i>	<i>Ras, Rakta, Meda</i> , and <i>Mamsa Dhatus</i> are predominantly affected due to <i>metabolic disturbance</i> and <i>hepatic involvement</i> .
<i>Agni</i>	<i>Mandagni</i> (diminished metabolic fire), especially <i>Jatharagni</i> and <i>Dhatvagni (Meda Dhatvagni)</i> – leads to formation of <i>Ama</i> .
<i>Ama</i>	Present – due to improper <i>digestion</i> and <i>metabolism</i> ; it contributes to <i>Srotorodha</i> and <i>inflammatory changes</i> in the liver.
<i>Srotas</i>	<i>Medovaha Srotas, Raktavaha Srotas, Annavaha Srotas</i> , and <i>Yakrit-specific channels</i> are involved.
<i>Udbhava Sthana</i>	<i>Amashaya</i> – the origin of pathogenesis due to <i>faulty digestion/metabolism</i> .
<i>Sthana Samshraya</i>	<i>Yakrit (Liver)</i> – site of localization of vitiated <i>doshas</i> and <i>Ama</i> , causing tissue inflammation and damage.
<i>Vyaktavastha</i>	Clinical manifestation as <i>Yakrit Vikara (Chronic Liver Disease)</i> , <i>Meda Dushti</i> (lipid disorders), and <i>Prameha (T2DM)</i> .

Management involves both *Shodhana* and *Shamana*. *Virechana* is frequently employed to eliminate accumulated toxins and balance *Pitta*. *Ayurvedic* formulations like *Arogyavardhini Vati* are used to improve liver function and metabolism [20, 21, 22]. These effects are attributed to the antioxidant and multi-target therapeutic potential of *Ayurvedic* herbs, which modulate oxidative stress and metabolic pathways [21, 23]. Integrative approaches combining *Ayurveda* with modern medical care may offer improved outcomes for patients with NASH and T2DM [24, 25]. This study explores the combined impact of *Ayurvedic* interventions and conventional treatments in a 57-year-old CLD patient, particularly NASH associated with T2DM.

## Case Report

A 57-year-old male with chronic liver disease (CLD), NASH associated with T2DM visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, on June 26, 2024. The patient had no significant addiction or family history. He underwent post-endoscopic variceal ligation three times. Later he was admitted on July 13, 2024. He came with the chief complaints like weight loss and mild ascites. He reported anemia, mild back stool, general weakness, mild facial puffiness, mild itchy sclera, disturbed sleep, mild constipation and breathlessness. The *Ashta vidh pariksha* during the treatment period are mentioned in Table 2.

**Table 2:** The *Ashta vidh pariksha* during the treatment period

Parametr	Findings
<i>Nadi (Pulse)</i>	<i>Vataj Pittaj</i>
<i>Mala (Stool)</i>	<i>Badh, Krishna Avarna</i> (Constipated, Black stool)
<i>Mutra (Urine)</i>	<i>Isht Peet</i> (Mild Yellow)
<i>Jihwa (Tongue)</i>	<i>Saam</i> (Coated)
<i>Shabda (Voice)</i>	<i>Spasht</i> (Clear)
<i>Sparsha (Touch)</i>	<i>Anushmasheet</i> (Normal)
<i>Akriti (Face)</i>	<i>Madhyam</i> (Normal)
<i>Drikk (Eyes)</i>	<i>Prakrit</i> (Normal)

The patient received 10 days of Daycare treatment at Jeena Sikho Lifecare Limited Hospital, following a comprehensive *Ayurvedic* treatment plan. This included *Panchakarma* therapies such as *Shirodhara* with *Brahmni* and *Karpoor oil*, *Udar Basti* with *Punarnava oil*, *Udar Lepam* with *Punarnava* and *Dashmoola*, *Pippalyadi siddha sneha basti*, *Bhumiamla* and *Guduci Kashaya Basti* and *Parishek* with *Dashmoola* and *Erandmool*. The treatment was revised by adding *Punarnava* and *Bhumiamlaki Siddh Sneha Basti* and *Kashaya Basti*. Laboratory investigations during the treatment period including follow ups are mentioned in Table 3. The diabetic chart during the Daycare is mentioned in Table 4. The patient was afterward discharged on July 24, 2024.

**Table 3:** Laboratory investigations observed during the treatment period

Date	13-07-2024	18-07-2024	30-12-2024	03-03-2025
Haemoglobin	6.7 gm/dL	7.9 gm/dL	7.0 gm/dL	11 gm/dL
Total bilirubin	3.12 mg/dL	2.52 mg/dL	1.37 mg/dL	1.42 mg/dL
Direct bilirubin	0.75 mg/dL	0.86 mg/dL	0.45 mg/dL	0.58 mg/dL
Indirect bilirubin	2.37 mg/dL	1.66 mg/dL	0.92 mg/dL	0.84 mg/dL
SGOT	35.66 IU/L	40.22 IU/L	44 IU/L	34 IU/L
SGPT	23.27 IU/L	20.65 IU/L	20 IU/L	25 IU/L
ALP	140.20 U/L	116.54 U/L	135 U/L	128 U/L
Total protein	7.16 g/dL	7.96 g/dL	7.10 g/dL	8.01 g/dL
Albumin	3.18 g/dL	3.27 g/dL	4.55 g/dL	3.13 g/dL
Globulin	3.98 g/dL	4.69 g/dL	2.55 g/dL	4.88 g/dL
A/G	0.8	0.7	1.78	0.64
Platelet count	0.62 lacs/cumm	0.62 lacs/cumm	90 x 10 <sup>3</sup> /Ul	75 x 10 <sup>3</sup> /Ul
Total RBC	2.6 mill/cumm	2.93 mill/cumm	2.76 mill/cumm	-

**Table 4:** The diabetic chart during the Daycare

Date	Sugar
14-07-2024	R-202 mg/dL
16-07-2024	F-117 mg/dL
17-07-2024	F-158 mg/dL
	R-248 mg/dL
	R-216 mg/dL
18-07-2024	F-135 mg/dL
	R-143 mg/dL

An accurately designed DIP Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CLD [26, 27];

Treatment Plan

I. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:



Fig 1: Dietary Guidelines

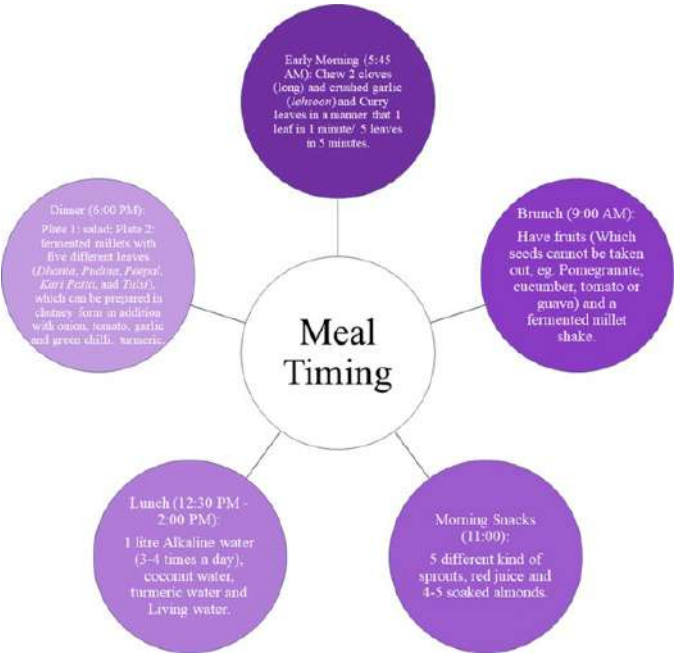


Fig 2: Meal Timing and Structure:

II. Lifestyle Recommendations

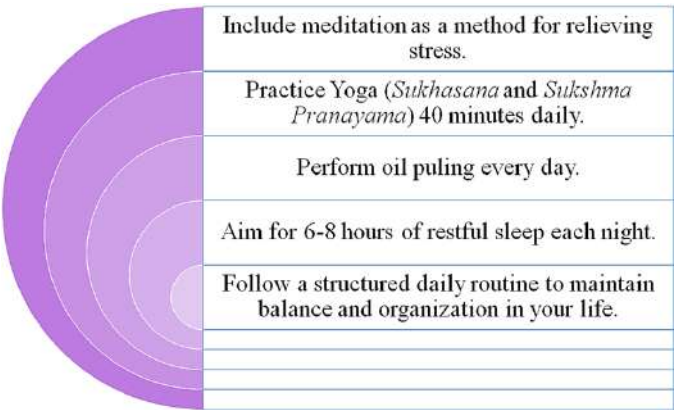


Fig 3:

### III. Panchakarma Procedures Administered to Patients

#### 1. Shirodhara with Brahmi and Karpoor Oil

##### Procedure

- The *Brahmi* and *Karpoor* oil was indirectly warmed to a comfortable temperature (~38–40°C).
- The patient was positioned supine on the massage table.
- A continuous stream of oil was poured gently over the *Ajna Chakra* (forehead), oscillating from temple to temple for about 30–45 minutes.
- They were allowed to rest for 15–30 minutes.

##### Physiology and Mode of Action

- The warm oil stream over the *Ajna Chakra* stimulates forehead receptors and modulates the HPA axis, reducing cortisol and increasing serotonin and melatonin.
- *Brahmi* acts as a brain tonic with anti-anxiety and memory-boosting effects. *Karpoor* has cooling and calming actions on the trigeminal nerve.
- The warmth induces vasodilation, enhancing blood flow to the scalp and brain.
- *Shirodhara* balances *Vata* and *Pitta doshas*, especially *Prana Vata* and *Sadhaka Pitta*. It calms the mind channels (*Manovaha Srotas*) and stabilizes *Chitta*, enhancing intellect, memory, and emotional clarity by reducing *Rajo* and *Tamo Gunas*. [28, 29].

#### 2. Udar Basti with Punarnava Oil

##### Procedure

- The person was positioned comfortably, and *Punarnava* oil was warmed and applied to the abdominal region to relax the muscles and prepare the area for treatment.
- A dough barrier was formed around the navel to create a well that held the *Punarnava* oil in place.
- The warmed *Punarnava* oil was poured into the dough reservoir and left for 15–30 minutes.

##### Physiology and Mode of Action

- *Punarnava* oil is absorbed through the skin in the abdominal region, promoting improved blood circulation and lymphatic drainage.
- The therapy helps regulate digestion, reduces gas, bloating, and indigestion by soothing the digestive tract and calming the *vata dosha*.
- The therapy helps balance *vata dosha*, which governs digestive and eliminatory functions, improving bowel movements and eliminating toxins while calming excess *pitta* and *kapha* in the abdomen [29, 30, 31].

#### 3. Udar lepam with Punarnava and Dashmoola

##### Procedure

- Equal parts of *Punarnava* and *Dashmoola churna* were mixed with warm water to prepare a smooth, warm paste.
- The patient was made to lie on their back, and the paste was applied evenly over the abdomen, about 0.5 to 1 cm thick.
- It was left on for approximately 30–45 minutes.
- The paste was gently removed using warm water.

##### Physiology and Mode of Action

- The warm *Ayurvedic* medicated paste allows active compounds to absorb through the skin, reducing inflammation, pain, and fluid retention in the abdominal region.

- *Punarnava* acts as a diuretic and anti-inflammatory, aiding in reducing abdominal bloating.
- *Dashmoola* pacifies *Vata*, relieves pain, and supports detoxification.
- The treatment pacifies *Vata* and *Kapha*, clears *Ama*, and supports the healthy function of digestive (*Annavaha*) and water (*Udakavaha*) channels, improving metabolism and relieving *Udara Roga* symptoms [33, 34].

#### 4. Pippalyadi Siddha Sneha Basti

##### Procedure

- The patient was positioned in the left lateral posture.
- 90 ml of *Pippalyadi Siddha Sneha* was indirectly warmed to body temperature and filled in a sterile *basti* syringe.
- The catheter was gently inserted 3–4 inches into the rectum.
- The entire 90 ml of medicated oil was slowly administered into the rectum.
- The patient was asked to rest supine and retain the oil for 30–60 minutes.

##### Physiology and Mode of Action

- The rectal route delivers *sneha* directly to the *Pakvashaya*, the main site of *Vata*, helping pacify *Apana Vata* and balance overall *Vata dosha*, which governs elimination, reproduction, and nerve impulses.
- The warm medicated oil gets absorbed through the rectal mucosa, reaching local pelvic tissues and nerves, reducing inflammation, dryness, and pain in conditions like lower backache, joint pain, and urinary issues.
- *Basti* bypasses first-pass liver metabolism, allowing active compounds to enter systemic circulation efficiently.
- *Pippalyadi taila* is formulated to remove *ama* (toxins), lubricate channels (*srotas*), and enhance *Agni*. [35, 36]

#### 5. BhumiAmala and Guduchi Kashaya Basti

##### Procedure:

- A lukewarm *Kashaya* (350 ml) of *BhumiAmala* and *Guduchi* was freshly prepared and strained.
- The 350 ml of *kashaya* was administered slowly into the rectum using a *basti* syringe.
- The patient was asked to rest supine and retain the *basti* for 15–30 minutes.

##### Physiology and Mode of Action

- Acts on *Rakta* and *Meda dhatus*, detoxifying blood and correcting lipid metabolism.
- Enhances *Pitta* balance and liver function through hepatoprotective action.
- Reduces *Ama* and systemic inflammation via *Deepana-Pachana* properties.
- Promotes hepatocyte regeneration and immune modulation. [37, 38].

#### 6. Parisheka with Erandmool and Dashmool

##### Procedure

- *Erandmool* and *Dashmool* were boiled up to a warm temperature.
- The warm liquid was poured over the patient's body in a rhythmic, continuous motion.
- The treatment continued for approximately 20–30 minutes.

**Physiology and Mode of Action**

- Acts on *Rakta* and *Meda dhatus*, aiding blood detoxification and correcting lipid metabolism.
- Balances *Pitta dosha* and enhances liver function with hepatoprotective effects.
- Reduces *Ama* and systemic inflammation, improving digestive efficiency.
- Promotes hepatocyte regeneration and modulates immune responses for liver restoration [39, 40].

**7. Punarnava and Bhumiamlaki Siddh Sneha Basti Procedure**

- The patient was positioned in the left lateral position.
- 90 ml of *Punarnava* and *Bhumiamalaki Siddha Taila* was indirectly warmed to a suitable lukewarm temperature.
- After lubricating the anal region and catheter, the oil was slowly administered into the rectum using a *basti* syringe.
- The patient was kept in a supine position to retain the *basti*, and after evacuation, was advised to take light, warm food and avoid exertion.

**Physiology and Mode of Action**

- The *basti* directly targets *Apana Vata*, which governs elimination and lower abdominal functions. The oil-based formulation nourishes and pacifies *Vata*, supporting proper bowel, urinary, and hepatic function.
- *Punarnava* reduces swelling and fluid retention, promotes diuresis, and helps in detoxifying the kidneys and liver.
- *Bhumiamalaki* offers hepatoprotective, antiviral, and anti-inflammatory actions, especially beneficial in managing liver disorders and urinary tract issues.
- The *basti* helps balance *Pitta* and *Vata doshas*, clears obstruction in *mutravaha* and *purishavaha srotas*, and enhances *Agni*, improving overall metabolism and reducing *Ama* [41].

**8. Punarnava and Bhumiamlaki Kashaya Basti Procedure**

- The patient was positioned in the left lateral posture.

- A decoction of *Punarnava* and *Bhumiamalaki* was freshly prepared, filtered, and indirectly warmed to a lukewarm temperature (280 ml).
- After lubricating the anal region and catheter, the warm decoction was slowly administered rectally using a *basti* syringe.
- The patient rested in a supine position for retention.

**Physiology and Mode of Action**

- The *Kashaya Basti* primarily acts on *Apana Vata*, the sub-*dosha* responsible for elimination, aiding in proper expulsion of toxins and regulation of bowel, urinary, and reproductive functions. It helps eliminate *Ama* and balance *Vata* and *Pitta doshas*.
- *Punarnava* exhibits strong anti-inflammatory and diuretic actions, reducing fluid retention and supporting kidney function.
- *Bhumiamalaki* offers hepatoprotective and antiviral effects, supporting liver detoxification and cellular regeneration.
- The *basti* cleanses *Purishavaha*, *Mutravaha*, and *Raktavaha srotas*, improves *Agni*, and promotes overall detoxification and rejuvenation at both local and systemic levels [42].

**Medicinal Interventions**

The *Ayurvedic* treatment employed in this case included Liv DS Tablet, GE- LIV FORTE SYRUP, Liv ciro cure capsule, Amalpit Nashak, Arogya Vati tablet, Michli Churna, Chitrakadi Vati, Platojee Capsule, Brahmi Vati, Rakt Stambhak, Pearl Shield Capsules, Divya Shakti Powder, Yakrit Shoth Har Vati, Liv Balance Capsule, Jalodar vati, Udar vikar powder, LIV Shuddhi Tablet, FE Capsule, Sanjeevani vati capsule, Prameh Rog Har and Hemotone Syrup along with *Panchakarma* therapies. The medications prescribed during the treatment period is mentioned in Table 5. The description of the medicines is detailed in Table 6.

**Table 5:** The medications prescribed during the treatment period

Date	Medicines	Dosage with Anupana
26-06-2024	<i>Liv DS Capsule</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )
	<i>Liv Ciro Care</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Amlapitt Nashak</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
13-07-2024 to 24-07-2024 (Daycare)	<i>Arogya Vati tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Michli Churna</i>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Chitrakadi Vati Tablet</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Platojee Capsule</i>	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Brahmi Vati Tablet</i>	2 TAB HS ( <i>Nishkala</i> with <i>koshna jala</i> )
	<i>Rakt Stambhan Vati</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Pearl capsule</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
24-07-2024 (Discharge)	<i>Divya Shakti Powder</i>	Half teaspoon ( <i>Nishkala</i> with <i>koshna jala</i> )
	<i>Arogya Vati tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Rakt Stambhan Vati</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )
	<i>Liv DS Capsule</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
13-08-2024	<i>Arogya Vati tablet</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )

	<i>Yakrit Shoth Har Vati</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Liv Balance Capsule</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Jalodar Har Tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Divya Shakti Powder</i>	Half a teaspoon HS ( <i>Nishkala</i> with <i>koshna jala</i> )
28-10-2024	<i>Arogya Vati tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Udar Vikar Churna</i>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Divya Shakti Powder</i>	Half a teaspoon HS ( <i>Nishkala</i> with <i>koshna jala</i> )
	<i>Liv Ciro Care</i>	1 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Yakrit Shoth Har Vati</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
27-11-2024	<i>Arogya Vati tablet</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Liv Ciro Care</i>	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Yakrit Shoth Har Vati</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
30-12-2024	<i>Liv Shuddhi</i>	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>FE Capsule</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>sama matra koshna jala</i> )
	<i>Sanjeevani Capsules</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Divya Shakti Powder</i>	Half teaspoon HS ( <i>Nishkala</i> with <i>koshna jala</i> )
05-01-2025	<i>Prameh Har Powder</i>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>GE-LIV Forte Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>sama matra koshna jala</i> )
	<i>Divya Shakti Powder</i>	Half a teaspoon HS ( <i>Nishkala</i> with <i>koshna jala</i> )
	<i>Arogya Vati tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>FE Capsule</i>	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Liv Shuddhi</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
10-01-2025	<i>Hemotone Syrup</i>	20 ml BD ( <i>Adhobhakta</i> with <i>sama matra koshna jala</i> )
11-03-2025	<i>Liv Ciro Care</i>	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Udar Vikar Churna</i>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Prameh Har Powder</i>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Arogya Vati tablet</i>	1 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	<i>Platojee Capsule</i>	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )

Table 6: The description of the Ayurvedic medicines

Medicine Name	Ingredients	Therapeutic Effects
Liv DS Tablet	<i>Bhumiamla Ext. (Barleria prionitis)</i> , <i>Kasani Ext. (Cichorium intybus)</i> , <i>Bhulaw (Tylophora reticulata)</i> , <i>Punarnava Ext. (Boerhavia diffusa)</i> , <i>Gauchi Ext. (Tinospora cordifolia)</i> , <i>Kalmegh (Andrographis paniculata)</i> , <i>Shadun (Solanum xanthocarpum)</i> , <i>Arjuna (Terminalia arjuna)</i> , <i>Biranjaspitha (Berberis aristata)</i> , <i>Kusmarda (Embelia ribes)</i> , <i>Kumarda (Terminalia chebula)</i> , <i>Chitrak (Plumbago zeylanica)</i> , <i>Kutki (Picrorhiza kurroa)</i> , <i>Haridraki (Terminalia chebula)</i> , <i>Bhringraj (Eclipta prostrata)</i>	Used for liver disease, GIT, GERD and loss of appetite
GE-LIV Forte Syrup	<i>Bhringraj (Eclipta alba)</i> , <i>Kalmegh (Andrographis paniculata)</i> , <i>Kataki (Picrorhiza kurroa)</i> , <i>Vidhang (Argyrea nervosa)</i> , <i>Nisoth (Operculina turpethum)</i> , <i>Daruharidra (Berberis aristata)</i> , <i>Chitrak Mool (Plumbago zeylanica)</i> , <i>Bhumi Amla (Phyllanthus niruri)</i> , and <i>Shadashan (Acorus calamus)</i>	Used for liver disease, GIT, GERD and loss of appetite
Liv ciro care capsule	<i>Kutki (Picrorhiza kurroa)</i> , <i>Kasni (Hyoscyamus aristatum)</i> , <i>Kampkak (Ghoramachus indica)</i> , <i>Patol (Trichosanthes dioica)</i> , <i>Makoy (Solanum nigrum)</i> , <i>Ajvain (Trachyspermum ammi)</i> , <i>Punarnava (Boerhavia diffusa)</i> , <i>Sounth (Foeniculum vulgare)</i> , <i>Pudina (Mentha piperita)</i> , <i>Gokshur (Tribulus terrestris)</i> , <i>Draksha (Vitis vinifera)</i> , <i>Arjun (Terminalia arjuna)</i> , <i>Aloe Vera, Tulsi (Ocimum sanctum)</i> , <i>Manjishta (Rubia cordifolia)</i> , <i>Mulathi (Glycyrrhiza glabra)</i> , <i>Pudina (Mentha spicata or Mentha arvensis)</i> , <i>Mulethi (Glycyrrhiza glabra)</i> , <i>Arjun (Terminalia arjuna)</i> , <i>Tulsi (Ocimum sanctum)</i> , <i>Aloe Vera, Manjishta (Rubia cordifolia)</i> , <i>Nirmali (Strychnos potatorum)</i>	Improves Liver Function and detoxification
Amalpiti Nashak	<i>Hing (Ferula asafoetida)</i> , <i>Chitrak (Plumbago zeylanica)</i> , <i>Jeera (Cuminum cyminum)</i> , <i>Vidang (Embelia ribes)</i> , <i>Ajvain (Trachyspermum ammi)</i> , <i>Marich (Piper nigrum)</i> , <i>Pipal (Piper longum)</i> , <i>Shunthi (Zingiber officinale)</i> , <i>Amla (Embllica officinalis/Phyllanthus emblica)</i> , <i>Vibhitaki (Terminalia bellirica)</i> , <i>Haritaki (Terminalia chebula)</i> , <i>Shankh Bhasm (calcined conch)</i>	Improves Digestive Efficiency
Arogya Vati tablet	<i>Kajan (Carum copticum)</i> , <i>Loh Bhasm (Ferrous)</i> , <i>Abhrak Bhasm (Mica)</i> , <i>Tamra Bhasm (Copper)</i> , <i>Haritaki (Embllica officinalis)</i> , <i>Vibhitak (Terminalia bellirica)</i> , <i>Haritaki (Terminalia chebula)</i> , <i>Chitrak (Plumbago zeylanica)</i> , <i>Katuka (Picrorhiza kurroa)</i> , <i>Nimb Patra (Azadirachta indica)</i>	Boosts immunity and helps in cell rejuvenation
Michli Churna	<i>Shunthi (Zingiber officinale)</i> , <i>Kali Mirch (Piper nigrum)</i> , <i>Pippali (Piper longum)</i> , <i>Ansafal/Aniseed (Pimpinella anisum)</i> , <i>Dalchini (Cinnamomum verum)</i> , <i>Nagkeshar (Mesua ferrea)</i> , <i>Kapoor (Cinnamomum camphora)</i> , <i>Jayitri (Myristica fragrans/Mace)</i> , <i>Laung (Syzygium aromaticum)</i> , <i>Jayphal</i>	Helps in liver detoxification and digestion

	<i>(Myristica fragrans/Nutmeg)</i>	
Chitrakadi Vati	<i>Chitrak (Plumbago zeylanica), Pippali (Piper longum), Himalayan Salt, Ginger (Zingiber officinale), Kalimirch (Piper nigrum), Hing (Ferula asafoetida), Pomegranate (Punica granatum)</i>	Helps to digest undigested food and removes accumulated toxins
Platojee Capsule	<i>Papaya (Carica papaya), Guduchi (Tinospora cordifolia), Sudarshan, Arogyavardhini, Amlaki Rasayan, and Neem (Azadirachta indica)</i>	Improves Hb and Platelet count and boosts immunity
Brahmi Vati	<i>Brahmi (Bacopa monnieri), Rasa Sindura (Herbo-mineral compound - purified mercury and sulfur), Abhraka Bhasma (Purified and incinerated mica), Vang Bhasma (Purified and incinerated tin), Shuddha Shilajet (Asphaltum punjabianum), Kali Mirch (Piper nigrum), Pippali (Piper longum), Vayavidanga (Embelia ribes)</i>	Memory Booster & Stress Relief Supplement
Rakt Stambhak	<i>Sudh Parad, Sudh Gandhak, Giloy (Tinospora cordifolia), Heeradokhi, Semal (Bombax ceiba)</i>	Used to manage hemorrhoids, hematuria and abscess
Divya Shakti Powder	<i>Trikatu, Triphala, Nagarmotha (Cyperus rotundus), Vaya Vidang (Embelia ribes), Chhoti Elaichi (Elettaria cardamomum), Tej Patta (Cinnamomum tamala), Laung (Syzygium aromaticum), Nishoth (Operculina turpethum), Sendha, Dhania, Dhania (Coriandrum sativum), Pippali (Piper longum), Jeera (Cuminum cyminum), Nagkesar (Mesua ferrea), Anantmul (Asphodelus asperus), Anardana (Punica granatum), Badi Elaichi (Amomum subulatum), Hing (Ferula asafoetida), Kachnar (Bauhinia variegata), Ajmoda (Trachyspermum ammi), Hijjal (Pisonia grandis), Pudikamool (Uncaria tomentosa), Mishri (Saccharum officinarum)</i>	Deepan, pachan and detoxification
Yakrit Shoth Har Vati	<i>Punarnava (Boerhavia diffusa), Kalimirch (Piper nigrum), Pippali (Piper longum), Vayavidanga (Embelia ribes), Devdaru (Cedrus deodara), Kutha (Saussurea lappa), Haridra (Curcuma longa), Zedoary (Curcuma zedoaria), Haldi (Curcuma longa), Haridra (Curcuma longa), Sarson (Brassica juncea), Hatud (Terminalia chellula), Baheda (Terminalia bellirica), Haritaki (Terminalia chebula), Amla (Embelia officinalis), Danti (Baliospermum montanum), Chavya (Piper chaba), Indra Jon (Taxacum officinale), Pippla Mool (Piper longum), Motha Haridra (Tricleisium), Kaphal (Myrica esculenta), Katak (Picrorhiza kurroa), Shonth (Operculina turpethum), Saunth (Zingiber officinale), Kalai Singh (Cuminum sativum), Ajwain (Trachyspermum ammi), Mundhur Bhasma (Ferrum)</i>	Helps in better liver function, strengthen digestion process and Helps in Detoxification, Deepan and pachan
Liv Balance Capsule	<i>Bhumi Amla (Phyllanthus niruri), Punarnava (Boerhavia diffusa) and Makoy (Solanum nigrum)</i>	Deepan, pachan, detoxification, cell rejuvenation and enhance digestion
Jalodar vati	<i>Shuddha Gandhak, Kutaki (Picrorhiza kurroa), Pippali (Piper longum), Triphala, Chitrak (Plumbago zeylanica), Jeerak (Cuminum cyminum), Nimbu (Citrus limon), Sahadevi (Sida cordifolia)</i>	Increase urine outflow, reduces inflammation and reduce fluid overload
Udar vikar powder	<i>Hing (Ferula asafoetida), Ajwain (Trachyspermum ammi), Jeera (Cuminum cyminum), Saunf (Foeniculum vulgare), Dhania (Coriandrum sativum), Amla (Phyllanthus emblica), Bela (Sida cordifolia), Pippali (Piper longum), Chitrak (Plumbago zeylanica), Shunth (Zingiber officinale), Triphala (Phyllanthus emblica, Terminalia chebula, Terminalia bellirica)</i>	Helps in stimulating the digestive system, alleviating gas, promotes appetite, and improving bowel movements
LIV Shuddhi Tablet	<i>Milk Thistle (Silybum marianum), Guduchi (Tinospora cordifolia), Dandelion (Taraxacum officinale), Tulsi (Ocimum sanctum), Punarnava (Boerhavia diffusa), Amla (Phyllanthus emblica) and Arjuna (Terminalia arjuna)</i>	Helps with natural liver detox, digestion, and overall wellness
FE Capsule	<i>Makoy (Solanum nigrum), Shilajeet, Lauh Bhasam, Loh Bhasam, Swarn Makshik Bhasam, Mukta Shukti Pishti.</i>	Used to manage anemia and weakness
Sanjeevani vati capsule	<i>Bhumiamla (Phyllanthus niruri) and Ajwain (Trachyspermum ammi)</i>	Used for fever, liver and infection
Prameh Rog Har	<i>Kutaki (Picrorhiza kurroa), Chiraita (Swertia chirata), Neem (Azadirachta indica), Karela (Momordica charantia), Rasonth (Berberis aristata), Indi Beej (Tamarindus indica), Kala Namak, Giloy (Tinospora cordifolia), Sonth (Zingiber officinale), Bakool (Mimusops elengi), Teek (Sargassum), Korphad (Aloe vera), Tulsi (Ocimum sanctum), Laung (Syzygium aromaticum), Bhumi Amla (Phyllanthus niruri), Laung (Syzygium aromaticum), Bhumi Amla (Phyllanthus niruri), Ruhmoul, Bhasm, Roxana, Chinul (Rheum emodi), Saunth Guggulu (Commiphora mukul), Methi (Trigonella foenum-graecum), Jamun (Syzygium cumini), Babul Fruit (Vachellia nilotica), Karanj Mishra (Psoralea corylifolia), Katphala (Myrica esculenta), Harad (Terminalia chebula), Inderjaun (Holarrhena antidysenterica), Vanshlochan (Bambusa arundinacea), Bahera (Terminalia bellirica), Amla (Phyllanthus emblica), White Musli (Chlorophytum borivilianum), Gurnar (Gymnema sylvestre)</i>	Helps in lowering blood sugar levels
Hemotone Syrup	<i>Draksha (Vitis vinifera), Aamalaki (Embelia officinalis), Punarnava (Boerhavia diffusa), Ashokam (Saraca asoca), Jambu (Syzygium cumini), Sariva (Hemidesmus indicus), Haritaki (Terminalia chebula), Lakshamana (Ipomoea pes-tigridis), Shatavari (Asparagus racemosus), Bhumikushmanda (Phyllanthus niruri), Katuki (Picrorhiza kurroa), Rohethakam (Thespesia populnea), Vidanga (Embelia ribes), Maricham (Piper nigrum), Pippali (Piper longum), Shunthi (Zingiber officinale), Kakam (Elettaria cardamomum), and Sitha (Sugar)</i>	Supports Hemoglobin Levels, Boosts Energy and Vitality and increases Blood Circulation

Result

The patient underwent Daycare, after the treatment he experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CLD (NASH) associated with T2DM. At the time of

discharge, the patient was well oriented and there was relief from constipation and disturbed sleep which shows that the *Ayurvedic* interventions used in the case study are effective for CLD. The conditions before and after treatment are mentioned in Table 7.

Table 7: The conditions before and after treatment

Conditions	Before Treatment	After Treatment
Anemia	Severe	Mild relief
Black stool	Mild	Clear
Weakness	Moderate	Relieved
Facial Puffiness	Mild	Relieved
Itchy Sclera	Mild	Relieved
Sleep	Disturbed (2/10)	Sound (8/10)
Constipation	Mild	Normal
Breathlessness	Mild	Relieved

The patient's fatty liver was reduced from Grade I to Grade 0 as mentioned in Table 8 and Fig 4. A whole abdomen sonography on June 21, 2024, revealed chronic liver parenchymal disease, Cholelithiasis, splenomegaly and mild ascites.

Table 8: Fibro scan reports on July 01, 2024 and October 28, 2024.

Date	CAP (dB/m)	E (kPa)	Fatty Liver
01-07-2024	241	19.80%	Grade I
28-10-2024	196	13.90%	Grade 0

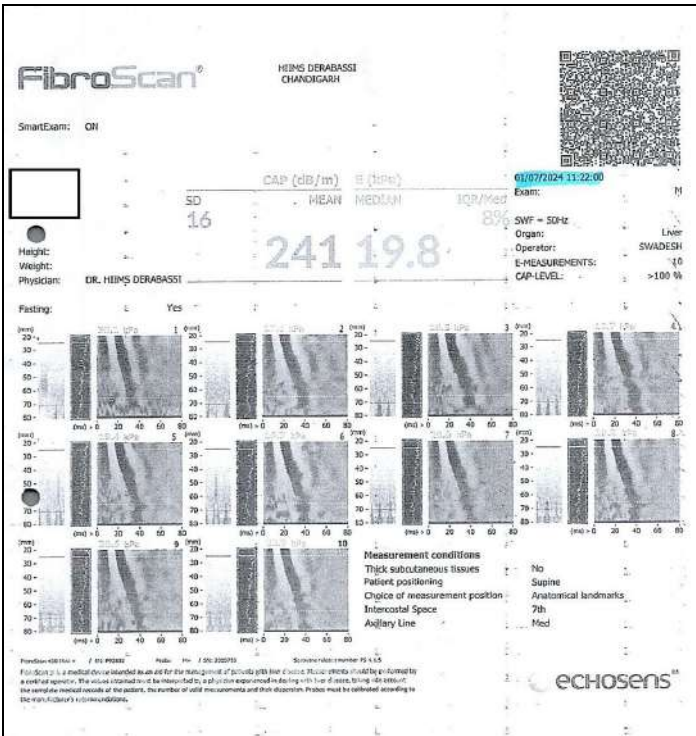


Fig 4A: The fibro scan report image on July 01, 2024



Fig 4B: The fibro scan report image on October 28, 2024

Implications for Future Research

This study focused on a CLD (NASH) associated with T2DM, yielding promising results. However, due to the small sample size, further research with randomized controlled trials and larger cohorts is needed to confirm the safety, efficacy, and reliability of integrated *Ayurvedic* treatments, helping to establish standardized therapeutic guidelines.

Discussion

*Ayurvedic* treatment integration for CLD offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 57-year-old man who has been diagnosed with CLD (NASH) associated with T2DM. During his 10-day Daycare sessions, he underwent *Panchakarma* treatments as part of the *Ayurvedic* therapy regimen. The *samprapti* [43] of this case study is illustrated in Fig 5.



**Fig 5:** The *samprapti* of this case study

A *Panchakarma*-based *Ayurvedic* protocol was adopted to address chronic liver pathology associated with Type 2 Diabetes Mellitus (T2DM). *Shirodhara* with *Brahmi* oil and *Karpoor* oil calmed the *Manovaha srotas*, pacifying *Rajo* and *Tamo gunas*, reducing HPA axis overactivity. *Udar Basti* with *Punarnava* oil relieved hepatic congestion and localized inflammation. *Udar Lepam* using *Punarnava* and *Dashmoola* exerted anti-inflammatory effects by pacifying *Vata* and *Pitta*. *Pippalyadi Siddha Sneha Basti* corrected *Vata-Meda-Prameha* pathologies through *Deepana-Pachana* action and *Ama pachana*. *Bhumiamla-Guduchi Kashaya Basti* targeted *Rakta* and *Meda dushti*, aiding liver detoxification, regeneration, and immune modulation. *Parisheka* with *Dashmoola* and *Erandamoola* reduced abdominal heaviness and supported *Srotoshodhana*. Later, *Punarnava-Bhumiamlaki Siddha Sneha Basti* and *Kashaya Basti* were added for enhanced *Shodhana* and *Rasayana* benefits. *Ayurvedic* formulations included Liv DS Tablet, GE-Liv Forte Syrup, Livi Ciro Cure Capsule, Yakrit Shoth Har Vati, Liv Balance Capsule, and LIV Shuddhi Tablet for hepatoprotection and detoxification. To improve *Agni* and reduce *Ama*, Chitrakadi Vati, Amalpit Nashak, and Arogya Vati Tablet were given. Prameh Rog Har, Sanjeevani Vati Capsule, and Divya Shakti Powder addressed *Kapha-Meda Dushti* and insulin resistance. Platojee Capsule, Rakt Stambhak, FE Capsule, and Hemotone Syrup corrected anemia and low platelet counts. For neuro-psychological

support, Brahmi Vati and Pearl Shield Capsule were used. Gastrointestinal issues and ascites were managed with Jalodar Vati, Michli Churna, and Udar Vikar Powder, balancing *Apana Vata* and relieving abdominal symptoms.

### Conclusion

This case study evaluating the treatment of CLD (NASH) associated with T2DM through *Ayurvedic* interventions yields the following findings:

**Symptoms:** Upon admission, the patient presented with anemia, black stool, weakness, facial puffiness, itchy sclera, disturbed sleep, constipation and breathlessness. After IPD *Ayurvedic* treatment and follow-up care, significant improvements were observed. The patient reported relief from general weakness, constipation, disturbed sleep, itchy sclera and constipation, with no new symptoms emerging, suggesting a marked improvement in liver function and overall health.

**Vitals and Investigations:** There was a notable reduction in general weakness, constipation, disturbed sleep, itchy sclera and constipation, reflecting positive changes in both lifestyle and diet. The total bilirubin decreased from 3.12 mg/dL to 1.42 mg/dL, likewise direct and conjugated bilirubin were also decreased from 0.75 mg/dL to 0.58 mg/dL and 2.37 mg/dL to 0.84 mg/dL, respectively indicating enhanced liver function. The albumin reduced from 3.18 g/dL to 3.13 g/dL. The fibroscan reports also shows the betterment of the patient,

which the CAP value reduced from 241 dB/m to 196 dB/m and E (kPa) reduced from 19.80 to 13.90.

In summary, integration of *Ayurvedic* therapies with previously prescribed necessary allopathic medicines for CLD showed promising results, including improvements in laboratory test results, vital signs, and symptoms. The integration of *Ayurvedic* treatments with prescription medications appears to enhance liver function, alleviate CLD symptoms, and improve overall health. However, further research through extensive, well-monitored clinical trials is needed to confirm these findings, establish standardized treatment protocols, and provide scientific evidence for incorporating *Ayurvedic* practices into conventional medical care.

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