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**Subject:** Intimation under Regulation 30 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 – Publication of Research Articles/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 authored by experts associated with Jeena Sikho Lifecare Limited, including our Managing Director, medical consultants, and senior Ayurvedic professionals.

These articles reflect the Company's continuous engagement in Ayurvedic research and clinical advancements and are detailed as under:

S. No.	Type	Name
1.	Case Study	Holistic Ayurvedic Management of Yakrit Vikar: A Case-Based Study on Chronic Liver Disease
2.	Case Study	Restoring Kidney Vitality: A Case Study On Integrated Ayurvedic Management Of Ckd With Hypertension And Type 2 Diabetes
3.	Case Study	Yakrit Dushti: An Ayurvedic Approach to Non-Alcoholic Fatty Liver Disease (NAFLD) Management – A case study
4.	Case Study	Role of Ayurveda in the Management of Infertility with PCOS and Diabetes Mellitus Type II
5.	Case Study	Integrative Management of Chronic Kidney Disease: A Case Report on Ayurvedic and Conventional Approaches

The above-mentioned case studies have been done by Acharya Manish Ji (Managing Director) along with the following professionals associated with Jeena Sikho Lifecare Limited:

Prof Ish Sharma, Dr. Gitika Chaudhary, Dr. Richa, Dr. Suyash Pratap Singh, Dr. Manjeet Singh, Dr. Priyank Sharma, Ms. Renu Bhardwaj, Dr. Shubham Badhan, Sreekutty VP, Dr. Gurdas, Dr. Sakshi, Dr. Tanu Rani and Dr. Shruti Satish Kamat.

Copies of the case studies are enclosed as *Annexures 1 to 5* 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: 06-08-2025**

## **JEENA SIKHO LIFECARE LIMITED**

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# Holistic *Ayurvedic* Management of *Yakrit Vikar*: A Case-Based Study on Chronic Liver Disease

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## ABSTRACT

This case study highlights the therapeutic value of *Ayurvedic* treatment in managing Chronic Liver Disease (CLD) in a 65-year-old male patient with comorbid hypertension and coronary artery disease (CAD). The treatment approach included dietary and lifestyle modifications, *Panchkarma* therapies, and *Ayurvedic* formulations. The patient reported significant symptomatic improvement in fatigue, dyspnea, pedal edema, gastric disturbances, itchiness, and sleep irregularities. Fibro Scan results showed a reduction in liver fat content (CAP decreased from 261 to 207) and a notable decline in liver stiffness (from 18 to 14.3 kPa), indicating regression in hepatic fibrosis. *Ayurvedic* herbs like *Amalaki* (*Emblica officinalis*), *Guduchi* (*Tinospora cordifolia*), *Punarnava* (*Boerhavia diffusa*), *Haritaki* (*Terminalia chebula*), and *Neem* (*Azadirachta indica*) were instrumental due to their hepatoprotective, detoxifying, and immunomodulatory properties as explained through their *Rasapanchaka* characteristics. The *Ayurvedic* interventions appeared effective in improving liver function and quality of life in CLD, emphasizing *Ayurveda*'s potential as a complementary approach in chronic hepatic disorders.

**Keywords:** *Ayurveda*, chronic liver disease, hepatoprotection, liver fibrosis, *Panchkarma*, Fibro scan.

## INTRODUCTION

Liver cirrhosis is the end stage of many chronic liver diseases. It has compensatory and decompensatory phases. Compensated phase lasts for several years.<sup>[1]</sup> Decompensated cirrhosis leads to major complications including jaundice, variceal hemorrhage, ascites or encephalopathy.<sup>[2]</sup> Ascites is the most common presentation 50% of compensated cirrhosis develop ascites in 10 years.<sup>[3]</sup> Ascites treatment requires hospitalization, can lead to life-threatening complications, and needs liver transplantation. The development of ascites marks the onset of a worsened prognosis and increased mortality. Cirrhosis within the first year of diagnosis causes death in 15% and 40% will die in the first 60 months.<sup>[4]</sup> 10 years mortality is 34% to 66%. Alcohol consumption, viral hepatitis B & C, and metabolic syndrome related to obesity are the most common causes of cirrhosis. Around 1,472,000 deaths worldwide were attributed to liver cirrhosis in 2019, making up roughly 2.4% of all fatalities worldwide.<sup>[5]</sup> Liver disease frequency is increasing and a huge increase in the liver disease burden is expected. The global economic burden of liver cirrhosis is estimated to exceed 100 billion USD annually, including direct healthcare costs and productivity losses. Hepatic cirrhosis incidence in India could be high due to the high prevalence of Hepatitis B & C, fatty liver disease and even increasing trends in alcohol intake, including high prevalence of non-alcoholic disease even in children. The costs of hepatic cirrhosis on quality of life, loss of productivity and medical expenses are high.<sup>[6]</sup> Treatments are being tried to stop the progression from compensated to the decompensated stage. Liver transplantation is the only treatment for end-stage liver disease. Liver transplantation has high costs, high mortality and has scarcity of organ donors. In *Ayurveda*, liver is referred to as *Yakrit* (liver), governed primarily by *Ranjaka Pitta* (the subtype of *Pitta* responsible for coloring the blood), responsible for blood formation and metabolic transformation. Chronic liver disorders (*Yakrit Vikara*) are seen as the result of *Pitta Dushti* (vitiation of the *Pitta Dosha*), *Ama* accumulation (build-up of undigested toxins), and imbalance in *Rasa* and *Rakta Dhatus* (nutritive plasma and blood tissues, respectively). Classical texts like the *Charaka Samhita* and *Ashtanga Hridaya* describe conditions such as *Kamala* (jaundice), *Halimaka* (chronic jaundice with systemic complications) which correlate with modern liver diseases, including hepatitis and cirrhosis.<sup>[7]</sup> *Ayurvedic* management of *Yakrit Vikara* involves a holistic approach combining *Shodhana* (detoxification therapies), especially *Virechana* (therapeutic purgation), with *Shamana* (pacifying) therapies using hepatoprotective herbs like *Bhumyamalaki* (*Phyllanthus niruri*), *Kalmegh* (*Andrographis paniculata*), *Guduchi* (*Tinospora cordifolia*), and *Bhringraj* (*Eclipta alba*).<sup>[8]</sup> Formulations such as *Arogyavardhini Vati* and *Punarnavadi Mandura* are commonly used to restore *Agni* (digestive/metabolic fire), purify blood (*Rakta Shodhana*), and rejuvenate liver tissues (*Yakrit Rasayana*).

### Samprapti Ghataka of Yakrit Vikara in Ayurveda <sup>[9]</sup>

- **Dosha** - *Samaan Vata* (Subtype of *Vata*), *Pachak Pitta* (Subtype of *Pitta*).
- **Dushya** (*Pachakagni* (Digestive fire), *Ras* (Plasma) - *Rasdhatu* (Nutrient Fluid).
- **Adhisthaan (location of disease)** - *Amashaya* (Stomach), *Grahani* (Small intestine).
- **Strotas (Annavah)** - The disease involved *Amashaya*, *Grahani* and *Pakwashaya* (large intestine). *Srotas* seem to be the main concern but *Rasavah Strotas* (Plasma channels), which is the first *Ama* (toxin) produced due to *Agni* (digestive fire) may get involved.
- **Dushtiprakar (Type of Disease)** - *Sanga* (Obstruction)
- **Agni** (Digestive fire) - *Mandagni* (Weak Digestion)
- **Marga (Pathway):** *Abhyantra rogamarga* (Internal pathways of disease)

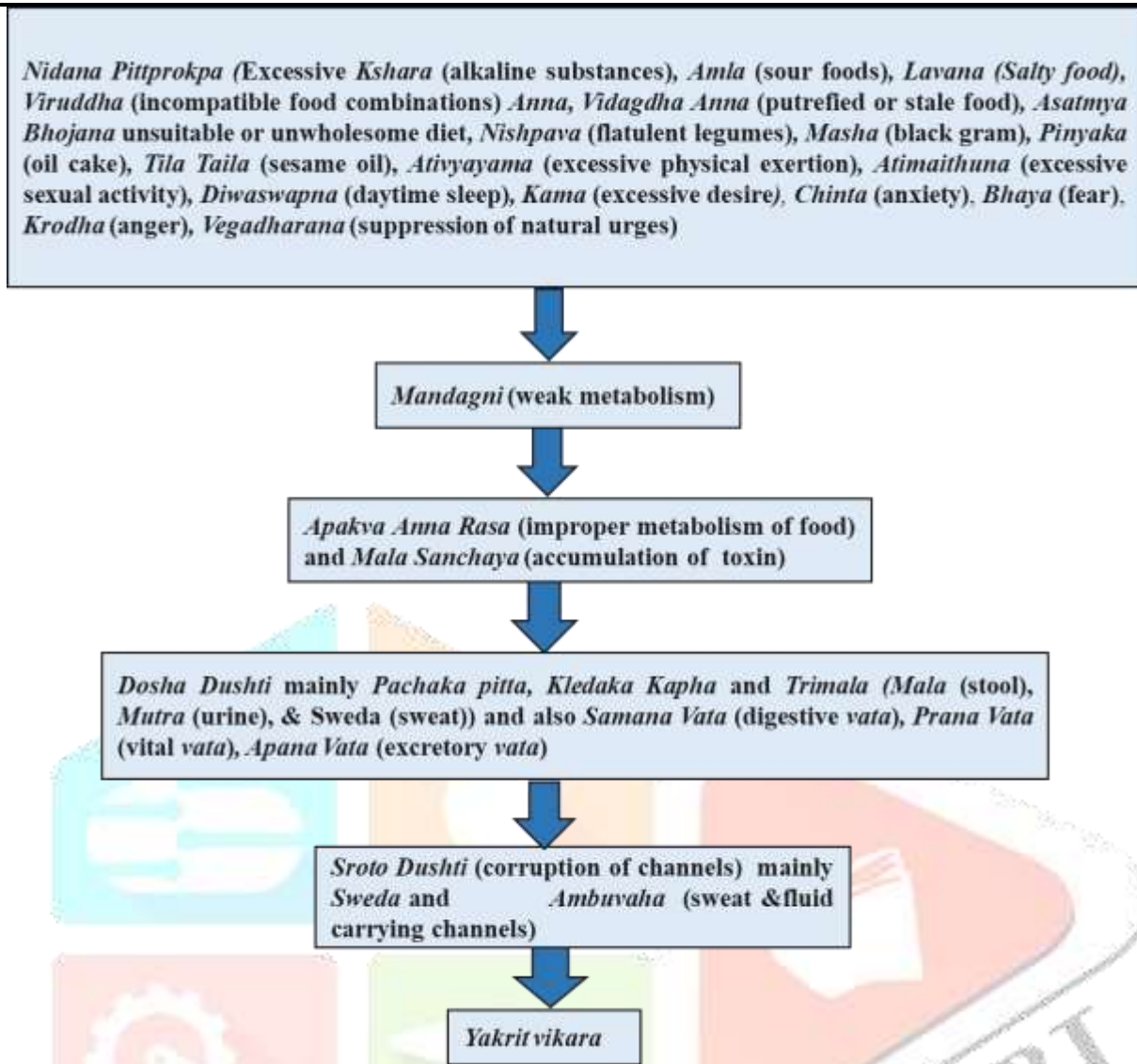


Figure 1: *Samprapti* of *Yakrit Vikara* in *Ayurveda*

## CASE REPORT

A 65-year-old male, a known case of chronic liver disease (CLD), hypertension, and coronary artery disease (CAD) for the past 11 years, visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, India, on 23/07/2023. The patient presented with complaints of weakness, knee pain, fatigue, dyspnea on exertion, pedal edema, indigestion, generalized itching, and disturbed sleep. He was admitted to the hospital from 24/07/2023 to 30/07/2023 for evaluation and management.

## Vitals on the initial visit

1. **Blood Pressure:** 130/70mmHg
2. **Pulse Rate:** 78/min
3. **Weight:** 73kg
4. **Height:** 5'7"



**Table 1: Asthvidha Priksha on the first-day visit of the patient**

Parameters	Findings
<i>Nadi (Pulse)</i>	<i>VataPittaj</i>
<i>Mala (Stool)</i>	<i>Abadh (loose)</i>
<i>Mutra (Urine)</i>	<i>Ishatpeeta (Normal)</i>
<i>Jiwha (Tongue)</i>	<i>Saam (Coated)</i>
<i>Shabda (Speech)</i>	<i>Spashta (Clear)</i>
<i>Sparsha (Touch)</i>	<i>Anushna Sheeta (Normal temp.)</i>
<i>Drika (Eyesight)</i>	<i>Avikrit (Normal)</i>
<i>Akriti (Body shape)</i>	<i>Madhyam (Normal)</i>

## INTERVENTIONS

### Treatment Plan

**I Ahara Krama:** The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital included the following:

**a. Do's and Don'ts:**

1. Avoid eating after 8 PM.
2. Take a small bite of solid food and chew it 32 times to aid proper digestion and nutrient absorption.
3. Do not consume wheat, refined food, milk, milk products, coffee, tea, and packed food.

**b. Jala Sevan (Water intake):**

1. Take small sips of water.
2. Drink about 250ml of alkaline water 3 to 4 times a day.
3. Consume Herbal tea 300ml twice daily. To prepare 300 ml of Herbal tea, combine 2 cloves (*Trifolium pratense*), 2 cardamom pods, 10 black pepper seeds (*Piper nigrum*), 5 gm cinnamon sticks (*Cinnamomum verum*), and a half tea spoon of fennel seeds (*Foeniculum vulgare*) with hot water.
4. Drink Red juice made up Beetroot, Pomegranate and Carrot (100-150 ml).
5. Green juice composed of *Neem (Azadirachta indica)*, *Tulsi (Ocimum tenuiflorum)*, *Paan (Piper betle)*, *Karela (Momordica charantia)*, *Jamun (Syzygium cumini)*, *Sadabahar (Vinca rosea)* taken in quantities of 10 gm each, 200 ml water added, ground in a mixer grinder, filtered, and consumed in a quantity of (100-150 ml).
6. Living water: The approach involves a three-tiered filtration system using clay pots, each serving a specific purpose to purify and energize the water: Top Pot: Fill this pot with a mixture of small and large river stones, followed by charcoal made from burning wood. This layer acts as an initial filter, removing larger impurities. Middle Pot: Place a similar mix of stones here. Additionally, add *Moringa* seed powder (also known as drumstick or "*Sahjan*" powder), a silver vessel, a copper vessel, and *Rudraksha (Elaeocarpus angustifolium)*. *Moringa* seeds are known for their natural water-purifying properties,

while silver and copper are believed to enhance the quality of water. Bottom Pot: This pot remains unaltered and serves as the collection chamber for the purified water. Advised to drink as per the need.

7. Boil 2 liters of water to reduce it to 1 liter and consume.

**c. Aim to drink 1 liter of alkaline water daily (Procedure as follow):**

1. Setup the Glass Jug: Fill a clean jug with fresh drinking water.
2. Add Copper Vessel: Place a copper vessel or glass inside the jug.
3. Infuse Flavors: Add slices of carrot, cucumber, and lemon to the water.
4. Add Herbs: Include ginger slices, mint leaves, and coriander leaves.
5. Optional Spice: Add a slice of green chili for added flavor.
6. Let it Sit: Allow the mixture to sit for 12 hours.
7. Add *Amalaki* (*Emblica officinalis*) and Basil (*Ocimum tenuiflorum*): After 6 hours, add 3–4 pieces of *Amalaki* and a handful of Basil leaves. Let it infuse for 6 hours.
8. Ready to Drink: 3 to 4 times a day in divided portions

**d. Shooka Dhanya Sevan:**

1. Incorporate five types of millet into diet: (*Priyāṅava*) Foxtail (*Setaria italica*), (*Śyāmākā*) Barnyard (*Echinochloa esculenta*), (*Kodrava*) (*Paspalum scrobiculatum*) and Browntop (*Urochloa ramosa*).
2. Use only steel cookware for preparing the millets. Cook the millets only using mustard oil.

**e. Ayurvedic and Disciplined & intelligent Person's diet (DIP) includes:**

Time	Meal	Items Included
5:45 AM	Early Morning	Herbal tea, curry leaves (1 leaf per minute, up to 5 leaves), raw ginger, turmeric
9:00 – 10:00 AM	Breakfast	Steamed seasonal fruits (weight × 10 grams), <i>mugda yusha</i> , fermented millet shake (4–5 types)
11:00 AM	Morning Snack	Red juice (150 ml), ingredients include Carrot ( <i>Daucus carota</i> ), Beetroot ( <i>Beta vulgaris</i> )
12:30 – 2:00 PM	Lunch	Plate 1: Steamed salad (weight × 5 grams) Plate 2: Millet recipe
4:00 – 4:20 PM	Evening Snack	Green juice (100–150 ml), ingredients include Coriander leaves ( <i>Coriandrum sativum</i> ), Mint leaves ( <i>Mentha spicata</i> ), Spinach leaves ( <i>Spinacia oleracea</i> ), Curry leaves ( <i>Murraya koenigii</i> ), Tulsi leaves ( <i>Ocimum tenuiflorum</i> )

6:15 – 7:30 PM	Dinner	Plate 1: Steamed salad (weight × 5 grams), chutney, soup Plate 2: Millet khichdi
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#### f. Fasting:

1. One-day fasting per week.

#### g. Special Instructions:

1. Express gratitude to the divine before consuming food or drinks.
2. Sit in *Vajrasana* (a yoga posture) after each meal.
3. 10-minute slow walk after every meal.

#### h. Diet Types:

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

#### II. Jeevana Vidhi:



#### Panchkarma Therapy

Panchkarma therapies were administered to patients from 24/7/23 to 30/7/23

##### 1. Matra Basti with Punarnava and Brahmi Oil <sup>[11]</sup>

**Procedure:** Warm *Punarnava* and *Brahmi* oil was administered rectally in a 90ml dose, with retention for enhanced absorption.

##### 2. Udar lepan <sup>[12]</sup>

**Procedure:** After the patient was in a comfortable supine position, the abdomen was evenly covered with a warm paste. Depending on the purpose of the treatment, the paste was either left to dry entirely or partially. The paste was carefully removed after 30 minutes, then a warm water rinse was performed. To maximize the effects, it was advised to rest and eat a light, easily digested diet after therapy.

##### 3. Shirodhara with Brahmi oil <sup>[13]</sup>

**Procedure:** The procedure began with the patient lying in a supine position, followed by the continuous pouring of warm *Brahmi* oil over the forehead from a *Shirodhara* pot from height of 6 inches. The oil flowed in a rhythmic stream over the *Ajna* (third eye) *chakra* for 45 minutes. This procedure was administered on alternate days, using 1 litre of oil maintained at 40°C.

#### 4. Udar Basti with Punarnava oil <sup>[14]</sup>

**Procedure:** The patient lay comfortably in the supine position, 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 could hold the oil in place. The warmed *Punarnava* oil, maintained at 45°C, was then gently poured into the dough reservoir and retained for 15–30 minutes.

**Table 3: Medications Administered During Treatment**

Medicine Name	Ingredients	Therapeutic Effects as per ayurvedic literature
<b>Yakrit Shoth Har vati</b>	<b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Kali mirch</b> ( <i>Piper nigrum</i> ), <b>Pippali</b> ( <i>Piper longum</i> ), <b>Vidang</b> ( <i>Embelia ribes</i> ), <b>Devdaru</b> ( <i>Cedrus deodara</i> ), <b>Haldi</b> ( <i>Curcuma longa</i> ), <b>Chitrak</b> ( <i>Plumbago zeylanica</i> ), <b>Vibhitaka</b> ( <i>Terminalia bellirica</i> ), <b>Amalaki</b> ( <i>Emblica officinalis</i> ), <b>Danti</b> ( <i>Baliospermum montanum</i> ), <b>Chavya</b> ( <i>Piper retrofractum</i> ), <b>Indrayava</b> ( <i>Holarrhena antidysenterica</i> ), <b>Black cumin</b> ( <i>Nigella sativa</i> ), <b>Kaiphali</b> ( <i>Myrica esculenta</i> ), <b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Nishoth</b> ( <i>Operculina turpethum</i> ), <b>Saunth</b> ( <i>Zingiber officinale</i> ), <b>KakadSinghi</b> ( <i>Pistacia integerrima</i> ), <b>Ajwain</b> ( <i>Trachyspermum ammi</i> )	Supports <i>Yakrit Vikar Shaman</i> , (Liver Disorder Pacification) aids in <i>Pliha Vikar Nivarana</i> (Relief from spleen disorders), possesses <i>Shothahar Guna</i> (anti-inflammatory property), assists in <i>Vrikk Vikar Shaman</i> (alleviation or management of kidney disorders), helps in <i>Kamala Rog Shaman</i> (alleviation of jaundice), supports <i>Yakrit Kshaya Nivarana</i> (management of liver degeneration), acts as a <i>Mutral</i> , diuretic aids in <i>Shoth Shaman</i> (anti-inflammatory action), balances <i>Pandu Rog</i> (Anemia)
<b>Amal Pitt Har Powder</b>	<b>Mulethi</b> ( <i>Glycyrrhiza glabra</i> ), <b>Mentha</b> ( <i>Mentha piperita</i> ), <b>Hing</b> ( <i>Ferula asa-foetida</i> )	Enhances <i>Agni Deepan</i> (Digestive fire stimulation) provides <i>Shaman</i> (Alleviation), and supports <i>Sukha Prapti</i> (Attainment of well-being)
<b>Arogya Vati</b>	<b>Loh Bhasm</b> (Iron Ash), <b>Abhrak Bhasm</b> (Mica Ash), <b>Tamra Bhasm</b> (Copper Ash), <b>Amalaki</b> ( <i>Emblica officinalis</i> ), <b>Vibhitak</b> ( <i>Terminalia bellirica</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Chitrak</b> ( <i>Plumbago zeylanica</i> ), <b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Nimbu Patra</b> ( <i>Citrus limon leaves</i> )	Promotes Cell Regeneration acts as a <i>Rasayan</i> (Rejuvenation) and enhances <i>Vyadhikshamatva</i> (Immunity)
<b>GE-LIV Forte syrup</b>	<b>Bhringraj</b> ( <i>Eclipta prostrata</i> ), <b>Kachri</b> ( <i>Hedychium spicatum</i> ), <b>Kalmegh</b> ( <i>Andrographis paniculata</i> ), <b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Vidanga</b> ( <i>Embelia ribes</i> ), <b>Nishoth</b> ( <i>Operculina turpethum</i> ), <b>Daruharidra</b> ( <i>Berberis aristata</i> ), <b>Chitrak mool</b> ( <i>Plumbago zeylanica</i> ), <b>Amalaki</b> ( <i>Emblica officinalis</i> ), <b>Sudarshan</b> ( <i>Crinum latifolium</i> )	Supports <i>Yakrit Vikar Shaman</i> , enhances <i>Vyadhikshamatva</i> (Immunity), aids in <i>Annavah Srotas Poshana</i> (Nourishment of the Digestive Channel), helps in <i>Amla Pitta Shaman</i> (Alleviation of Hyperacidity)
<b>Udar vikar Janya Rog Churan</b>	<b>Amalaki</b> ( <i>Emblica officinalis</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Bhumi Amla</b> ( <i>Kaempferia rotunda</i> ), <b>Sarpunkha</b> ( <i>Tephrosia</i>	Supports <i>Udara Rog Shaman</i> (Treatment of Abdominal Disorders), aids in <i>Shool</i>



	<i>purpurea</i> ), <b>Vibhitak</b> ( <i>Terminalia bellirica</i> ), <b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> )	<i>Nivarana</i> (Pain Relief), enhances <i>Agni Deepan</i> (Digestive stimulant), helps in <i>Aadhmaan Shaman</i> (Relief from abdominal distension) and balances <i>Amla Pitta</i>
<b>Blood Purifier Syrup</b>	<b>Khadiraristha</b> , <b>Mahamajisthadi</b> <b>Kwath</b> , <b>Devdarvyadi</b> , <b>Takraristha</b>	Boosts <i>Vyadhikshamatva</i> (Immunity) and supports <i>Twak Poshana</i> (Skin nourishment)
<b>LIV-DS Capsule</b>	<b>Bhumi Amla</b> ( <i>Kaempferia rotunda</i> ), <b>Kasani</b> ( <i>Cichorium intybus</i> ), <b>Himsra</b> ( <i>Capparis spinosa</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Kakmachi</b> ( <i>Solanum nigrum</i> Linn.), <b>Arjun</b> ( <i>Terminalia arjuna</i> ), <b>Biranjaspaha</b> ( <i>Achillea millefolium</i> ), <b>Kasamard</b> ( <i>Cassia occidentalis</i> Linn), <b>Vidang</b> ( <i>Embelia ribes</i> ), <b>Chitrak</b> ( <i>Plumbago zeylanica</i> ), <b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Bhringraj</b> ( <i>Eclipta prostrata</i> )	Boosts <i>Agni Deepan</i> and promotes <i>Pakvashaya Poshana</i> (Large intestine nourishment)
<b>Rakt stambhan vati</b>	<b>Shudh Parad</b> (Purified Mercury), <b>Shudh Gandhak</b> (Purified Sulphur), <b>Hiradokhi</b> ( <i>Daemonorops draco</i> ), <b>Semal</b> ( <i>Bombax ceiba</i> )	Use for management of <i>Arsha</i> (hemorrhoids), <i>Raktameha</i> (hematuria), <i>Vidradhi</i> (abscess), <i>Urdhva Raktapitta</i> (hemoptysis), and <i>Asrigdara</i> (menorrhagia) due to its styptic, wound-healing, and anti-inflammatory properties
<b>JS-PLATOJEE Cap</b>	<b>Papaya</b> ( <i>Carica papaya</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Sudarshan</b> ( <i>Crinum latifolium</i> ), <b>Arogyavardhini</b> , <b>Amalaki Rasayan</b> classical ayurvedic medicine, <b>Neem</b> ( <i>Azadirachta indica</i> )	Supports <i>Jwara Shaman</i> (Fever Reduction), aids <i>Vridhi</i> (Growth/Enhancement), enhances <i>Vyadhikshamatva</i> (Immunity), helps in <i>Krimi Rog Nivarana</i> (Parasitic Infection Control), and promotes <i>Agni Deepan</i> (Digestive Fire Stimulation)
<b>Vish Har Ras Syrup</b>	<b>Neem</b> ( <i>Azadirachta indica</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Kalmegh</b> ( <i>Andrographis paniculata</i> ), <b>Papaya</b> ( <i>Carica papaya</i> ), <b>Wheatgrass</b> ( <i>Triticum aestivum</i> Linn.), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> )	Supports <i>Shwasa Rog Shaman</i> (Respiratory Disorder Management), aids in <i>Prakritik Shodhan</i> (Natural Detoxification), and boosts <i>Vyadhikshamatva</i> (Immunity)
<b>Sama vati</b>	<b>Gokshura</b> ( <i>Tribulus Terrestris</i> ), <b>Shatavari</b> ( <i>Asparagus racemosus</i> ), <b>Kaunch</b> ( <i>Mucuna pruriens</i> ), <b>Amalaki</b> ( <i>Emblia officinalis</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> ), <b>Jaiphal</b> ( <i>Myristica fragrans</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Vidarikand</b> ( <i>Pueraria tuberosa</i> ), <b>Beej band lal</b> ( <i>Sida cordifolia</i> ), <b>Akarkara</b> ( <i>Anacyclus pyrethrum</i> ), <b>Talmakhana</b>	Supports <i>Yakrit Vikar Shaman</i> (Liver Disorder Management), enhances <i>Agni Deepan-Pachan</i> (Appetite and Digestion Stimulation), aids in <i>Vibandh Nivarana</i> (Constipation Relief), boosts <i>Vyadhikshamatva</i> (Immunity),

	( <i>Asteracantha longifolia</i> ), <b>Musli</b> ( <i>Chlorophytum borivillianum</i> ), <b>Swarn makshik</b> , <b>Shilajit</b> ( <i>Asphaltum punjabicum</i> )	and helps in <i>Aruchi Shaman</i> (Loss of Appetite Management)
<b>Sanjeevani capsule</b>	<b>Sanjeevani vati</b> classical ayurvedic medicine , <b>Bhumiamla</b> ( <i>Phyllanthus niruri</i> ), <b>Ajwain</b> ( <i>Trachyspermum ammi</i> )	Supports <i>Jwara Shaman</i> (Fever Reduction), aids in <i>Yakrit Poshana</i> (Liver Nourishment), and helps in <i>Krimi Rog Nivarana</i> (Parasitic Disease Prevention)
<b>Divya Shakti Powder</b>	<b>Trikatu</b> ( <i>Zingiber officinale</i> , <i>Piper nigrum</i> , <i>Piper longum</i> ), <b>Triphala</b> ( <i>Phyllanthus emblica</i> , <i>Terminalia chebula</i> , <i>Terminalia bellirica</i> ), <b>Nagarmotha</b> ( <i>Cyperus rotundus</i> ), <b>VayVidang</b> ( <i>Embelia ribes</i> ), <b>Chhoti Elaichi</b> ( <i>Elettaria cardamomum</i> ), <b>TejPatta</b> ( <i>Cinnamomum tamala</i> ), <b>Laung</b> ( <i>Syzygium aromaticum</i> ), <b>Nisoth</b> ( <i>Operculina turpethum</i> ), <b>Sendha Namak</b> , <b>Dhaniya</b> ( <i>Coriandrum sativum</i> ), <b>Pipla Mool</b> ( <i>Piper longum</i> root), <b>Jeera</b> ( <i>Cuminum cyminum</i> ), <b>Nagkesar</b> ( <i>Mesua ferrea</i> ), <b>Amarvati</b> classical ayurvedic medicine, <b>Anardana</b> ( <i>Punica granatum</i> ), <b>Badi Elaichi</b> ( <i>Amomum subulatum</i> ), <b>Hing</b> ( <i>Ferula asafoetida</i> ), <b>Kachnar</b> ( <i>Bauhinia variegata</i> ), <b>Ajmod</b> ( <i>Trachyspermum ammi</i> ), <b>Sazzikhar</b> ( <i>Seidlitzia stocksi</i> ), <b>Pushkarmool</b> ( <i>Inula racemosa</i> ), <b>Mishri</b> ( <i>Saccharum officinarum</i> ).	Boosts <i>Ojas</i> (vitality) and energy levels and <i>Daurbalya</i> (weakness).
<b>Puroderm-G syrup</b>	<b>Neem</b> ( <i>Azadirachta indica</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Manjistha</b> ( <i>Rubia cordifolia</i> ), <b>Sariva</b> ( <i>Hemidesmus indicus</i> ), <b>Khadir</b> ( <i>Acacia catechu</i> ), <b>Chopchini</b> ( <i>Smilax china</i> ), <b>Bakuchi</b> ( <i>Psoralea corylifolia</i> )	Supports Blood Purification <i>Rakta Shodhana</i> (Blood Purification).
<b>Maha charam Rog Har vati</b>	<b>Gandhak</b> (Sulphur), <b>Elaichi</b> ( <i>Amomum subulatum</i> ), <b>Dalchini</b> ( <i>Cinnamomum verum</i> ), <b>Tejpatra</b> ( <i>Cinnamomum tamala</i> ), <b>Nagkesar</b> ( <i>Mesua ferrea</i> ), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Vibhitak</b> ( <i>Terminalia bellirica</i> ), <b>Amalaki</b> ( <i>Emblica officinalis</i> ), <b>Bhangara</b> ( <i>Eclipta alba</i> ), <b>Shunthi</b> ( <i>Zingiber officinale</i> )	Promotes <i>Vrana Ropana</i> (Wound Healing), acts as a <i>Rakta Shodhak</i> (Blood Purifier), aids in <i>Vidradhi Shaman</i> (Abscess Management), supports <i>Shothahar</i> (Anti-inflammatory action), helps in <i>Sandhi Shool Nivarana</i> (Joint Pain Relief), and balances <i>Vatarakta</i> (Gout and Rheumatism)
<b>Cirro Care Capsule</b>	<b>Kutki</b> ( <i>Picrorhiza kurroa</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Makoy</b> ( <i>Solanum nigrum</i> ), <b>Patol</b> ( <i>Trichosanthes dioica</i> ), <b>Ajwain</b> ( <i>Trachyspermum ammi</i> ), <b>Sounf</b> ( <i>Foeniculum vulgare</i> ), <b>Pudina</b> ( <i>Mentha spicata</i> ), <b>Nisoth</b> ( <i>Operculina turpethum</i> ) <b>Kampillak</b> ( <i>Mallotus philippinensis</i> ), <b>Gokhru</b> ( <i>Tribulus terrestris</i> ), <b>Draksha</b> ( <i>Vitis vinifera</i> ), <b>Arjuna</b> ( <i>Terminalia arjuna</i> ), <b>Aloe vera</b> , and <b>Rohitak</b> ( <i>Tecoma undulata</i> )	Beneficial in <i>Yakrit Vikara</i> (liver disorders) by supporting <i>Yakrit Shuddhi</i> (liver detoxification), enhancing <i>Agnideepana</i> (metabolism), and promoting <i>Ama pachana</i> (toxin elimination) for improved liver and digestive health.

<b>LIV Capsule</b>	<b>Balance</b>	<b>Bhumi Amla</b> ( <i>Phyllanthus niruri</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Makoy</b> ( <i>Solanum nigrum</i> ), <b>Mandoor bhasam</b> (iron ash), <b>Guduchi</b> ( <i>Tinospora cordifolia</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Bhringraj</b> ( <i>Eclipta prostrata</i> ), <b>Kasani</b> ( <i>Cichorium intybus</i> ), <b>Dhania</b> ( <i>Coriandrum sativum</i> )	Supports <i>Yakrit Vikar Shaman</i> (Liver Disorder Relief), enhances <i>Annavah Srotas Poshana</i> (Nourishment of Digestive Channels), aids in <i>Yakrit Vriddhi Shaman</i> (Liver Enlargement Management), helps in <i>Medorog Nivarana</i> (Obesity Control), supports <i>Agnisandhukshana</i> (Improvement of Digestive Fire), and aids in <i>Pitta Ashmari Shaman</i> (Relief from Pitta-related Urinary Stones)
<b>KanthSudhar Vati</b>		<b>khairsar</b> ( <i>Senegalia catechu</i> ), <b>Kapoor</b> ( <i>Cinnamomum camphora</i> ), <b>Supari</b> ( <i>Areca catechu</i> ), <b>Jaiphal</b> ( <i>Myristica fragrans</i> ), <b>Sheetalmirch</b> ( <i>Piper cubeba</i> ), <b>Elaichi</b> ( <i>Amomum subulatum</i> )	Supports <i>Mukh Pak Shaman</i> (Oral Ulcer Relief), aids in <i>Durgandhata Nivarana</i> (Bad Odor Removal), promotes <i>Mukh Rog Shamana</i> (Oral Disease Management), helps in <i>Vrana Ropana</i> (Wound Healing), and balances <i>Tundikeri Shaman</i> (Cold Sensation Relief)

Table 4: Medicine advised after discharge (30/7/23)

Medicine	Dosage with <i>Anupaan</i>
<b>Arogyavati Tablet</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> ) (After meal with Lukewarm water)
<b>LIV-DS Capsule</b>	2 Cap. BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>Divya Shakti powder</b>	Half a teaspoon HS ( <i>Nishikala</i> with <i>koshna jala</i> ) (At bed time with lukewarm water)

Table 5: Follow-up Medicine's (23/8/23) to (15/10/23)

Medicine (23/8/23)	Dosage with <i>Anupaan</i>	Medicine (15/10/23)	Dosage with <i>Anupaan</i>
<b>Arogyavati Tablet</b>	1 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Arogya vati Tablet</b>	1 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>GE-LIV Forte syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>sam matra kosha jala</i> )	<b>GE-LIV Forte syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>sam matra kosha jala</i> )
<b>Udar vikar Janya Rog Churan</b>	One teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>LIV-DS Capsule</b>	1 Cap. BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>LIV-DS Capsule</b>	1 Cap. BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>JS-PLATOJEE Cap</b>	1 Cap BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>Yakrit Shoth Har vati</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Amal Pitt Har Powder</b>	One teaspoon BD ( <i>Pragbhakta</i> with <i>koshna jala</i> )

<b>Amal Pitt Har Powder</b>	One teaspoon BD (Pragbhakta with koshna jala)		
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**Table 6: Follow-up Medicine's (11/11/23) to (12/1/24)**

Medicine (11/11/23)	Dosage with Anupaan	Medicine (12/1/24)	Dosage with Anupaan
<b>Arogyavati Tablet</b>	2 Tablet BD (Adhobhakta with koshna jala)	<b>Arogyavati Tablet</b>	2 Tablet BD (Adhobhakta with koshna jala)
<b>Puroderm-G syrup</b>	20ml BD (Adhobhakta with sam matra koshna jala)	<b>Puroderm-G syrup</b>	15ml TDS (Adhobhakta with sam matra koshna jala)
<b>JS-PLATOJEE Cap</b>	2 Cap BD (Adhobhakta with koshna jala)	<b>JS-PLATOJEE Cap</b>	2 Cap BD (Adhobhakta with koshna jala)
<b>Divya Shakti powder</b>	Half a teaspoon HS (Nishikala with koshna jala)	<b>Kanth Sudhar vati</b>	1 Tablet QID
<b>Maha charma roghar vati</b>	2 Tablet BD (Adhobhakta with koshna jala)	<b>Sanjeevani capsule</b>	1 Tablet BD (Adhobhakta with koshna jala)
		<b>GE-LIV Forte syrup</b>	20ml BD (Pragbhakta with sama matra koshna jala)

**Table 7: Follow-up Medicine's (19/2/24) to (17/3/24)**

Medicine (19/2/24)	Dosage with Anupaan	Medicine (17/3/24)	Dosage with Anupaan
<b>Arogyavati Tablet</b>	2 Tablet BD (Adhobhakta with koshna jala)	<b>Arogyavati Tablet</b>	2 Tablet BD (Adhobhakta with koshna jala)
<b>Puroderm-G syrup</b>	20ml BD (Pragbhakta with sam matra koshna jala)	<b>LIV Balance Capsule</b>	1 Cap. BD (Adhobhakta with koshna jala)
<b>LIV-DS Capsule</b>	1 Cap. BD (Adhobhakta with koshna jala)	<b>GE-LIV Forte syrup</b>	20ml BD (Pragbhakta with sam matra koshna jala)
<b>Sanjeevani capsule</b>	1 Cap. TDS (Adhobhakta with koshna jala)	<b>Amal Pitt Har Powder</b>	One teaspoon BD (Pragbhakta with koshna jala)
<b>Yakrit Shoth Har vati</b>	2 Tablet BD (Adhobhakta with koshna jala)	<b>Grahni Har Vati</b>	2 Tablet BD (Pragbhakta with koshna jala)
<b>Amal Pitt Har Powder</b>	One teaspoon BD (Pragbhakta with koshna jala)		



**Table 8: Follow-up Medicine's (16/4/24) to (30/5/24)**

Medicine (16/4/24)	Dosage with <i>Anupaan</i>	Medicine (30/5/24)	Dosage with <i>Anupaan</i>
<b>Arogya vati Tablet</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Arogya vati Tablet</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>Sama vati</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>JS-PLATOJEE Cap</b>	2 Cap BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>GE-LIV Forte syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Divya Shakti powder</b>	Half a teaspoon HS ( <i>Nishikala</i> with <i>koshna jala</i> )
<b>Blood Purifier Syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>sam matra koshna jala</i> )	<b>Cirro Care Capsule</b>	2 Cap. BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
		<b>Rakt Stambhak Vati</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )

**Table 9: Follow-up Medicine (18/7/24) to (24/8/24)**

Medicine (18/7/24)	Dosage with <i>Anupaan</i>	Medicine (24/8/24)	Dosage with <i>Anupaan</i>
<b>Arogya vati Tablet</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Arogyavati Tablet</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>JS-PLATOJEE Cap</b>	2 Cap BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>GE-LIV Forte syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>sam matra koshna jala</i> )
<b>Syrup Blood Purifier</b>	20ml BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Udar vikar Janya Rog Churan</b>	Half a teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>LIV DS Capsule</b>	2 Cap. BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )	<b>Yakrit Shoth Har vati</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>Vish Har Ras Syrup</b>	20ml BD ( <i>Adhobhakta</i> with <i>sama matra koshna jala</i> )	<b>Amal Pitt Har Powder</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
<b>Sama vati</b>	2 Tablet BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )		

## RESULTS

- The patient, a 65-year-old man with chronic liver disease (CLD), hypertension, and coronary artery disease (CAD), reported significant improvement in his general health following the *Ayurvedic* treatment plan. Over time, there was a notable decrease in the frequency and intensity of symptoms such as weakness, knee pain, fatigue, dyspnea on exertion, pedal edema, gastric issues, generalized itching, and disturbed sleep. These improvements were observed after the implementation of dietary and lifestyle modifications, along with *Panchkarma* therapy. Following the treatment, the patient's weight decreased from 73 kg to 66 kg.

- **Pedal edema Scale –**
  1. (1°: 2mm depression, barely detectable – Immediate rebound)
  2. (2°: 4mm deep pit – A few seconds to rebound)
  3. (3°: 6mm deep pit – 10 to 12 sec to rebound)
  4. (4°: 8mm very deep pit – >20 sec to rebound)
- **Pain Scoring Scale - (0 – No pain & 10 – Unimaginable pain)**
- **Fatigue Scoring Scale (0-10)-**
  1. 0- No Fatigue
  2. 1-3: Mild fatigue
  3. 4-6: Moderate fatigue (affects daily functioning)
  4. 7-8 Severe fatigue
  5. 9-10 Extreme fatigue (disabling, persistent exhaustion)
- **Itching Scoring Scale - (0 – No itch & 10 – Worst itch)**
- **Sleep Scoring Scale -**
  1. (0 – 2: Very bad)
  2. (3 – 4: Bad)
  3. (5 – 6: Disturbed sleep)
  4. (7 – 8: Good – 5 to 6 hrs. sleep)
  5. (9 – 10: Very good – 7 to 8 hrs. sleep)

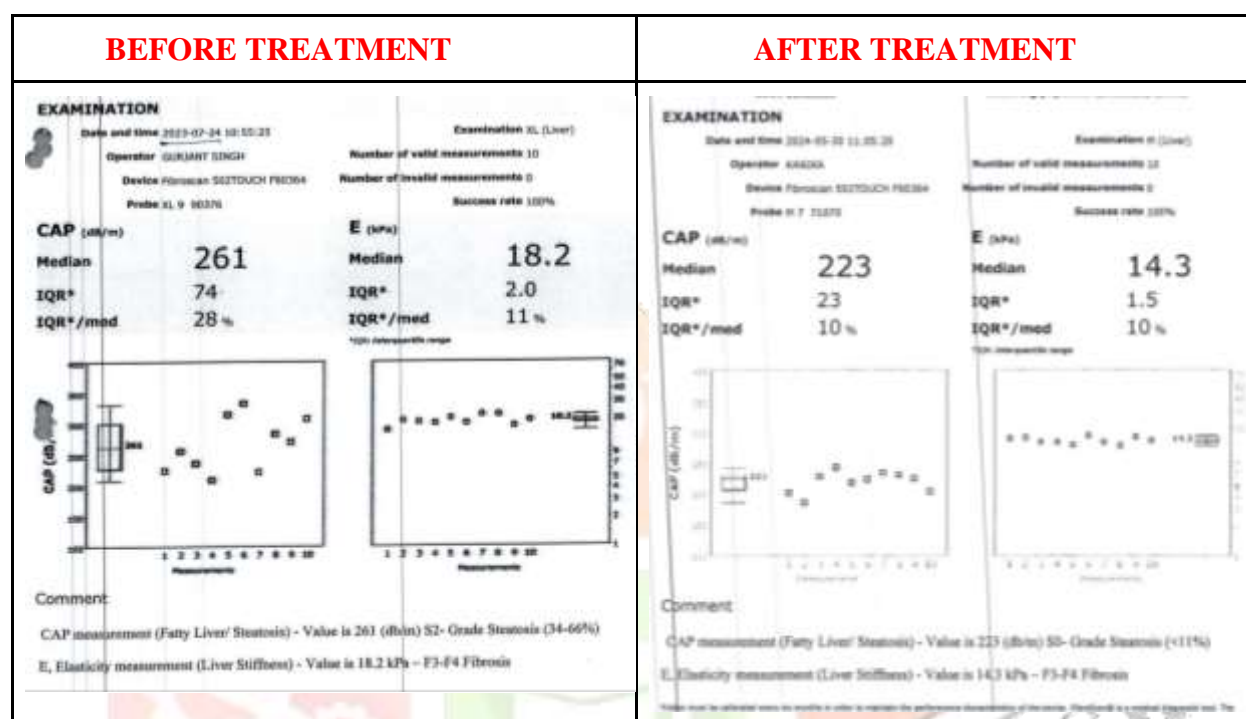
Condition	At Admission (24/7/23)	After 7 Days (30/7/23)
Generalized weakness	4/10	Relief (0/10)
Fatigue	5/10	Relief (0/10)
Dyspnoea on exertion	3/10	Relief (0/10)
Pedal oedema	2 <sup>0</sup>	Relief (0/10)
Gastric issues	4/10	Relief (0/10)
Itching over body	6/10	Relief (0/10)
Pain in knee	3/10	Relief (0/10)
Disturbed sleep	4/10	Relief (7/10)

**Table 10: Comparison of Fibro Scan before and after treatment**

Parameter	Findings Values	Normal Range
	<b>24/07/2023</b>	
<b>CAP (dB/m)</b>	261	< 238 dB/m (No steatosis)
<b>E (kPa)</b>	18.2	< 6.0 kPa (Normal liver stiffness)
	<b>30/05/2024</b>	

<b>CAP (dB/m)</b>	223	< 238 dB/m (No steatosis)
<b>E (kPa)</b>	14.3	< 6.0 kPa (Normal liver stiffness)

The Fibro Scan results show changes in CAP (Controlled Attenuation Parameter) and liver stiffness (E[kPa]) over time, indicating the liver's response to treatment. CAP, which reflects liver fat content, decreased from 261 to 223 by May, 2024 suggesting improvement. Liver stiffness (E[kPa]), a measure of fibrosis, decreased from 18.2 to 14.3 indicating a reduction in liver fibrosis and potential treatment effectiveness.



## DISCUSSION

In *Ayurveda*, eight types of *Udar Roga* are mentioned out of which *Yakrit Udar* represent liver disorder (*Yakrit Vikara*) arise mainly from the vitiation of *Pitta dosha*, especially *Ranjaka Pitta* (responsible for blood coloration and metabolism).<sup>[21]</sup> Key causative factors (*Nidana*) include excessive intake of sour, spicy, oily, and heavy foods consumption of alcohol (*Madya*), incompatible food combinations (*Viruddha Ahara*) and poor lifestyle practices like daytime sleep (*Divaswapna*), stress, and late night. These habits disturb *Agni* (digestive fire), leading to the formation of *Ama* (metabolic toxins), which accumulates in the *Yakrit* (liver). This disrupts *Rasa* (plasma) and *Rakta Dhatu* (blood), causing improper blood formation and liver dysfunction. The involved channels (*Srotas*) are *Raktavaha Srotas* (blood channels) and *Annavaha Srotas* (digestive channels), where obstruction (*Srotorodha*) leads to signs like jaundice (*Kamala*), chronic hepatitis (*Halimaka*), and liver cirrhosis (*Kumbha Kamala*). The disease progresses from localized *Pitta* aggravation to systemic involvement, impairing both *Jatharagni* (digestive fire) and *Dhatvagni* (tissue metabolism). Thus, the *Ayurvedic* pathogenesis (*Samprapti*) of liver disorders involves *Pitta* imbalance, *Ama* formation, *Dhatu dushti* (tissue vitiation), and *Srotas* blockage culminating in *Yakrit Vikara*. Fibro Scan results showed a decrease in CAP from 261 to 223 by May 2024, indicating initial fat reduction. Liver stiffness (E[kPa]) declined from 18.2 to 14.3 suggesting fibrosis reduction. These changes reflect the liver's response to treatment, showing initial progress with minor fluctuations. *Matra Basti* (including *Punarnava* and *Brahmi* oil) balanced *Vata dosha* by promoting intestinal lubrication, facilitating bowel movements, and allowing systemic absorption through colon. It supported the cleansing of liver by enhancing *Agni* and aiding in the elimination of *Ama*. Improved peripheral blood flow, decreased inflammation, and lymphatic drainage are all benefits of *Udar Lepam*, an external abdominal paste treatment. By soothing the muscles and nerves in the abdomen, improving digestion, and reducing bloating and

fluid retention, its skin absorption enables detoxification on a deeper level. Applying *Udar Basti* (including *Punarnava* oil) externally to the abdomen enhances lymphatic drainage, blood circulation, and digestive motility. It supports hepatic and renal processes indirectly by calming the digestive tract, controlling *Vata*, and aiding in the removal of excess fluid and pollutants.

**Table 11. Therapeutic effects according to the *Ras panchaka* of the ingredients**

<i>Ayurvedic Herbs</i> (Botanical Name)	Included Formulations	<i>Rasa</i> (Taste)	<i>Guna</i> (Qualities)	<i>Virya</i> (Potency)	<i>Vipaka</i> (Post-digestive Taste)	<i>Prabhava</i> (Unique Action)	Key Therapeutic Actions
<i>Amalaki</i> ( <i>Embolica officinalis</i> )	<i>Amal Pitt Har Powder, Arogya Vati, GE-LIV Forte Syrup, LIV-DS Capsule</i>	Sweet, Bitter, Pungent	Light, Dry	Cooling	Sweet	<i>Rasayana, Lekhana</i>	Rejuvenative, <i>Pitta</i> -balancing, liver detoxification, <i>Agni deepana</i> , immunity enhancement
<i>Guduchi</i> ( <i>Tinospora cordifolia</i> )	<i>Udar Vikar Janya Rog Churan, Maha Charma Roghar Vati</i>	Bitter, Pungent	Light, Unctuous	Hot	Sweet	<i>Tridosha-shamaka</i>	Immunomodulatory, antipyretic, blood detoxifier, supports liver function
<i>Punarnava</i> ( <i>Boerhavia diffusa</i> )	<i>Yakrit Shoth Har Vati, GE-LIV Forte Syrup, LIV Balance Capsule</i>	Bitter, Pungent	Light, Dry	Hot	Pungent	<i>Mutral, Shothahara</i>	Diuretic, anti-inflammatory, reduces edema, supports liver and kidney health
<i>Haritaki</i> ( <i>Terminalia chebula</i> )	<i>Arogya Vati, Maha Charma Roghar Vati</i>	Pungent, Bitter, Sweet	Light, Dry	Hot	Sweet	<i>Anulomana</i>	Laxative, digestive regulator, detoxification, enhances liver and gut health
<i>Neem</i> ( <i>Azadirachta indica</i> )	<i>Blood Purifier, Vish Har Ras Syrup, Puroderm-G Syrup</i>	Bitter, Astringent	Dry, Sharp	Hot	Pungent	<i>Krimi-Nashaka, Rakta-Shodhaka</i>	Antimicrobial, anti-inflammatory, blood purifier, manages skin and systemic infections

### NEED FOR FURTHER RESEARCH

1. **Lack of Clinical Evidence:** More robust clinical trials are needed to validate the efficacy of *Ayurvedic* formulations in chronic liver disease.
2. **Standardization Issues:** Herbal formulations require standardization to ensure safety, potency, and consistency.
3. **Mechanism of Action:** Scientific studies are needed to elucidate how key herbs like *Guduchi* and *Punarnava* exert hepatoprotective effects.
4. **Integration with Modern Medicine:** Research is required on combining *Ayurvedic* and allopathic treatments for better liver disease management.
5. **Long-Term Safety:** The long-term safety and possible herb-drug interactions of *Ayurvedic* treatments must be evaluated.



## CONCLUSION

A 65-year-old male patient with Chronic Liver Disease (CLD), Hypertension, and Coronary Artery Disease (CAD) presented with classical symptoms of *Yakrit Vikara*. Following just 7 days of *Ayurvedic* treatment, significant clinical improvement was observed across all parameters. Symptom scores showed marked reduction: generalized weakness improved from 4/10 to 0/10, fatigue from 5/10 to 0/10, dyspnea on exertion from 3/10 to 0/10, itching from 6/10 to 0/10, and disturbed sleep improved from 4/10 to 7/10. Additionally, pedal edema reduced from Grade 2° to 0, and other associated complaints such as gastric discomfort and joint pain resolved completely. These outcomes reflect the effectiveness of the integrative *Ayurvedic* intervention in delivering rapid and comprehensive symptomatic relief in a patient with multiple comorbidities. Vital signs were stable throughout treatment, though mild elevations in blood pressure and fatigue were noted initially. Diagnostic evaluation via FibroScan showed a CAP score (reflecting hepatic steatosis) initially at 261 to 223 over the course, indicating fat reduction. Liver stiffness (E[kPa]) 18.2 dropped to 14.3, suggesting a marked improvement in fibrosis and overall liver function. *Ayurvedic* management focused on correcting *Pitta Dushti*, *Agni Mandya*, and *Ama* accumulation, using *Panchkarma* therapies like *Matra Basti*, *Udar Lepam*, *Shirodhara*, and *Udar Basti* alongside potent formulations including *Yakrit Shoth Har Vati*, *Amal Pitt Har Powder*, and LIV-DS Capsule. *Ayurvedic* Herbs such as *Amalaki*, *Guduchi*, *Punarnava*, *Haritaki*, and *Neem* supported *Raktashodhana*, *Agni Deepana*, and *Yakrit Rasayana*, reflecting classical *Ayurvedic* principles.

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# Restoring Kidney Vitality: A Case Study On Integrated *Ayurvedic* Management Of Ckd With Hypertension And Type 2 Diabetes

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## ABSTRACT

Chronic kidney disease (CKD), type 2 diabetes mellitus (T2DM), and hypertension are interconnected disorders that adversely affect health and substantially raise the risk of cardiovascular disease. CKD often arises as a consequence of T2DM and hypertension, leading to progressive renal dysfunction. Conventional management includes pharmacological interventions, but alternative approaches, such as *Ayurveda*, offer promising complementary therapies. This case study evaluates the impact of *Ayurvedic* interventions on CKD with coexisting hypertension and T2DM in a 69-year-old male patient at Jeena Sikho Lifecare Limited Hospital, Derabassi, India. The patient, with a long-standing history of hypertension for 10 years and T2DM for 20 years, presented with symptomatology of CKD, including pedal oedema, burning sensation, general weakness, insomnia raised serum creatinine, and anemia. A 12-day inpatient *Ayurvedic* treatment regimen, including *Panchkarma* therapies and *Ayurvedic* formulations, resulted in significant symptom relief. Laboratory investigations revealed improvements in renal function, with reductions in serum creatinine and urea levels. These findings highlight the potential of *Ayurvedic* treatments in CKD management. However, further large-scale clinical trials are necessary to validate their efficacy and establish standardized protocols for integrated *Ayurvedic* care in CKD treatment.

**KEYWORDS:** *Ayurveda*, Chronic Kidney Disease, Hypertension, *Madhumeh*, *Panchkarma*, Type II Diabetes Mellitus, *Vataj Pandu*, *Mutraghata*

## INTRODUCTION

Chronic kidney disease (CKD), type 2 diabetes mellitus (T2DM) and hypertension are interrelated conditions that significantly impact patient health outcomes. The interplay among these diseases exacerbates their progression and increases the risk of cardiovascular complications, making their combined effects a crucial area of focus for effective management and treatment strategies <sup>[1]</sup>. CKD often develops as a complication of T2DM and hypertension, with diabetes being a leading cause of end-stage renal disease (ESRD) <sup>[2]</sup>. Stage V CKD, also known as end-stage kidney disease (ESKD), is the most severe stage, where kidney function declines to less than 15% of normal capacity. This results in the inability to effectively filter waste and excess fluids from blood, leading to toxin accumulation in the body. Moreover, the coexistence of hypertension and diabetes mellitus significantly raises the risk of CKD, with studies indicating a detrimental effect on patient's health <sup>[3]</sup>. Patients with these comorbidities also face a heightened risk of cardiovascular disease, the leading cause of mortality in CKD patients <sup>[4]</sup>.

Previous studies have explored the complex relationship between CKD, T2DM and hypertension. Research indicates that diabetes and high blood pressure are the most significant contributors to CKD progression, with diabetic nephropathy being a major driver of kidney failure. Studies have shown that individuals with both conditions are at a substantially higher risk of developing CKD compared to those with either condition alone <sup>[3]</sup>. Additionally, early detection through monitoring estimated glomerular filtration rate (eGFR) is essential for timely intervention <sup>[4]</sup>.

From a modern medical perspective, the management of CKD with coexisting diabetes and hypertension requires an integrated treatment approach. Controlling blood pressure and glucose levels is crucial, and medications such as SGLT-2 inhibitors and ACE inhibitors have demonstrated benefits in slowing CKD progression <sup>[2,5]</sup>. Despite advancements in pharmacological treatments, managing CKD remains a complex challenge that requires personalized and interdisciplinary approaches to improve patient outcomes and reduce disease burden.

The *Ayurvedic* perspective being more observational evaluates diseases differently. Various symptoms of anemia arising from degenerative disorders, for example are categorized as *Vataj pandu* <sup>[6]</sup>. This is how we can review a CKD case with anemia due to lowered erythropoietin levels. At the same time impaired eGFR resulting in oliguria/anuria can be likened to *mutraghata* <sup>[7]</sup>. The *Ayurvedic* approach to manage CKD alongside T2DM and hypertension emphasizes upon holistic treatment strategies that address underlying imbalances while promoting renal health. This approach integrates various *Ayurvedic* formulations and therapies aimed at improving kidney function, regulating blood sugar levels and managing blood pressure. *Ayurvedic* interventions for CKD include *Shodhan* and *Shaman Chikitsa*, where techniques like *Basti* (therapeutic enema) and *Ayurvedic* herbo-mineral formulations have shown reno-protective effects by improving hematological parameters in CKD patients <sup>[8]</sup>. Specific *Ayurvedic* formulations, are utilized for their diuretic, anti-inflammatory and detoxifying properties, supporting kidney function and alleviating symptoms <sup>[9,10]</sup>. Case studies indicate significant improvements in serum creatinine and urea levels, as well as symptom relief in patients with CKD and associated conditions <sup>[11,12]</sup>.



**Samprapti (Pathogenesis) and Chikitsa (Treatment) from Ayurvedic perspective**

<b>Ghataka</b>	<b>Details</b>
<b>Dosha (Bodily Humors or Three Energies of Body)</b>	Predominantly <i>Vata</i> -type <i>Tridosha</i> imbalance ( <i>Vata</i> > <i>Kapha</i> , <i>Pitta</i> in later stages)
<b>Dushya (Tissues)</b>	Plasma ( <i>Rasa</i> ), Blood ( <i>Rakta</i> ), Muscle ( <i>Mamsa</i> ), Fat ( <i>Meda</i> ), Bone marrow ( <i>Majja</i> ), Reproductive tissue ( <i>Shukra</i> ), Urinary tract ( <i>Mutravaha srotas</i> )
<b>Srotas (Affected channels)</b>	Urinary ( <i>Mutravaha</i> ), Blood ( <i>Raktavaha</i> ), Fat ( <i>Medovaha</i> ), Plasma ( <i>Rasavaha</i> ), Water regulation ( <i>Udakavaha</i> )
<b>Srotodushti (Channel pathology)</b>	Obstruction ( <i>Sanga</i> ), Abnormal pathways ( <i>Vimarga gamana</i> ), Nodular formations ( <i>Granthi</i> )
<b>Udbhava Sthana (Origin site of disease)</b>	Digestive tract ( <i>Amashaya</i> )
<b>Agni (Impaired digestion/metabolism)</b>	Weak digestive fire ( <i>Jatharagni mandya</i> ), Tissue metabolic disturbance ( <i>Dhatvagni dushti</i> ), especially of <i>Rasa</i> and <i>Meda dhatus</i>
<b>Ama (Toxins)</b>	<i>Present</i> (especially in early/ <i>sama</i> stages)
<b>Adhisthana (Site of disease manifestation)</b>	<i>Vrikka</i> (Urinary tract)
<b>Vyadhi Swabhava (Nature of disease)</b>	Palliable but not fully curable ( <i>Yapya</i> ), Difficult to cure ( <i>Krichchhra sadhya</i> )

Ayurvedic treatments along with ongoing essential western medications focus on controlling blood sugar and blood pressure through dietary modifications and specific treatment, which can help to mitigate CKD progression <sup>[10,12]</sup>. The Ayurvedic perspective considers the balance of *Doshas* and the elimination of *Ama*, which is crucial for overall health and the effective management of chronic conditions <sup>[1]</sup>.

**OBJECTIVE**

To assess the impact of Ayurvedic interventions integrated with ongoing modern medicine management for *Vrikki Rog* (CKD) with hypertension and T2DM.

**CASE REPORT**

One 69-year-old male with the history of hypertension for 10 years and Type 2 diabetes mellitus for 20 years visited Jeena Sikho Lifecare Limited Hospital in Derabassi, India, on February 06, 2025. The patient was a known case of CKD stage IV. A comprehensive medical history, family history, physical examination and diagnostic evaluations were included in the clinical evaluation. He experienced insomnia, burning sensation over feet, mild pedal oedema, general weakness and dryness of mouth and throat. The vital signs during the treatment are mentioned in **Table 1** and *Asthvidha Pariksha* (Eight-fold examination) report during the treatment are detailed in **Table 2**. The laboratory investigation reports during the treatment period are mentioned in **Table 3**. The hypertension chart during the IPD is mentioned in **Table 4**.

**Table 1 Vitals during the treatment period**

<b>Parameter</b>	<b>Findings</b>		
<b>Date</b>	<b>06-02-2025</b>	<b>09-02-2025</b>	<b>20-02-2025</b>
Blood Pressure	140/90 mm of Hg	150/90 mm of Hg	140/90 mm of Hg
Pulse Rate	88/min	72/min	66/min
Weight	61 Kg	61 Kg	60 Kg
Blood Sugar	R-201 mg/dl	R-152 mg/dl	R-150 mg/dl

**Table 2 Asthvidha Pariksha (examination) report during the treatment period**

Parameter	Findings		
Date	06-02-2025	09-02-2025	20-02-2025
Naadi (Pulse)	Vataj pittaj	Vataj Pittaj	Vataj Pittaj
Mutra (Urine)	Safena (Frothy)	Safena (Frothy)	Avikrit (Normal)
Mala (Stool)	Saam (Mucus mixed)	Avikrit (Normal)	Avikrit (Normal)
Jiwha (Tongue)	Saam (Coated)	Saam (Coated)	Niram (Normal)
Shabda (Voice)	Spashta (Normal)	Spashta (Normal)	Spashta (Normal)
Sparsh (Touch)	Anushna Sheeta (Normal)	Anushna Sheeta (Normal)	Anushna Sheeta (Normal)
Drik (Eye)	Avikrit (Normal)	Avikrit (Normal)	Avikrit (Normal)
Akriti (Physique)	Madhyam	Madhyam	Madhyam

**Table 3. The laboratory investigation reports during the treatment period (Fig 1)**

Parameter	Findings		
Date	09-02-2025	14-02-2025	18-02-2025
Hemoglobin	7.0 gm/dl	6.3 gm/dl	6.1 gm/dl
Blood urea	154.29 mg/dL	150.36 mg/dL	125.35 mg/dL
Serum creatinine	7.15 mg/dL	7.0 mg/dL	6.22 mg/dL
BUN	72 mg/dl	70.17 mg/dl	58.50 mg/dl

**Table 4. The hypertension chart during the IPD during 8 AM**

Date	Blood pressure (mmHg)
10-02-2025	150/80 mmHg
11-02-2025	150/80 mmHg
12-02-2025	170/80 mmHg
13-02-2025	170/90 mmHg
14-02-2025	160/80 mmHg
15-02-2025	150/80 mmHg
16-02-2025	170/80 mmHg
17-02-2025	150/80 mmHg
18-02-2025	130/70 mmHg
19-02-2025	120/70 mmHg
20-02-2025	120/80 mmHg

The patient was admitted for IPD on February 09, 2025 with the complaints of dyspnea on exertion, loss of appetite, constipation, B/L pedal oedema, burning sensation on soles and insomnia. The patient was already taking previously prescribed necessary allopathic medicines. The patient underwent consolidated *Panchkarma* therapies like *Awagah Swedan*, *Punarnava* and *Gokshur Tail (Anuvasan)* *Basti*, *Punarnava* and *Gokshur Kashay (Niruha)* *Basti* and *Shirodhara* with *Brahmi* oil during the IPD. The patient was discharged after 12 days of IPD on February 20, 2025.

A Disciplined & Intelligent Person's (DIP) Diet and *Ayurvedic* Diet were provided to the patient to complement the *Ayurvedic* treatments administered for CKD [13,14,19].

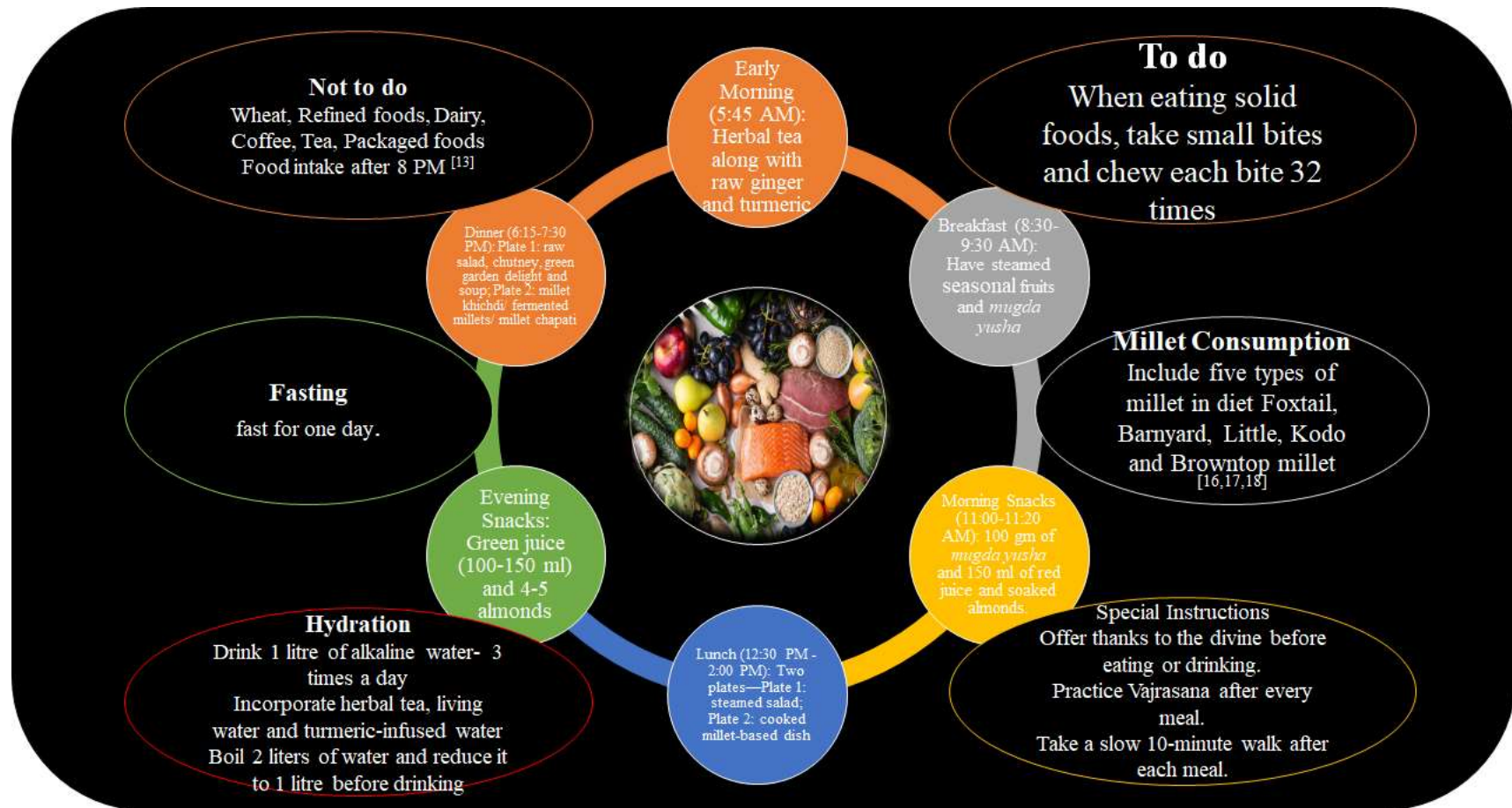
## Treatment Plan

### I. Diet Plan:

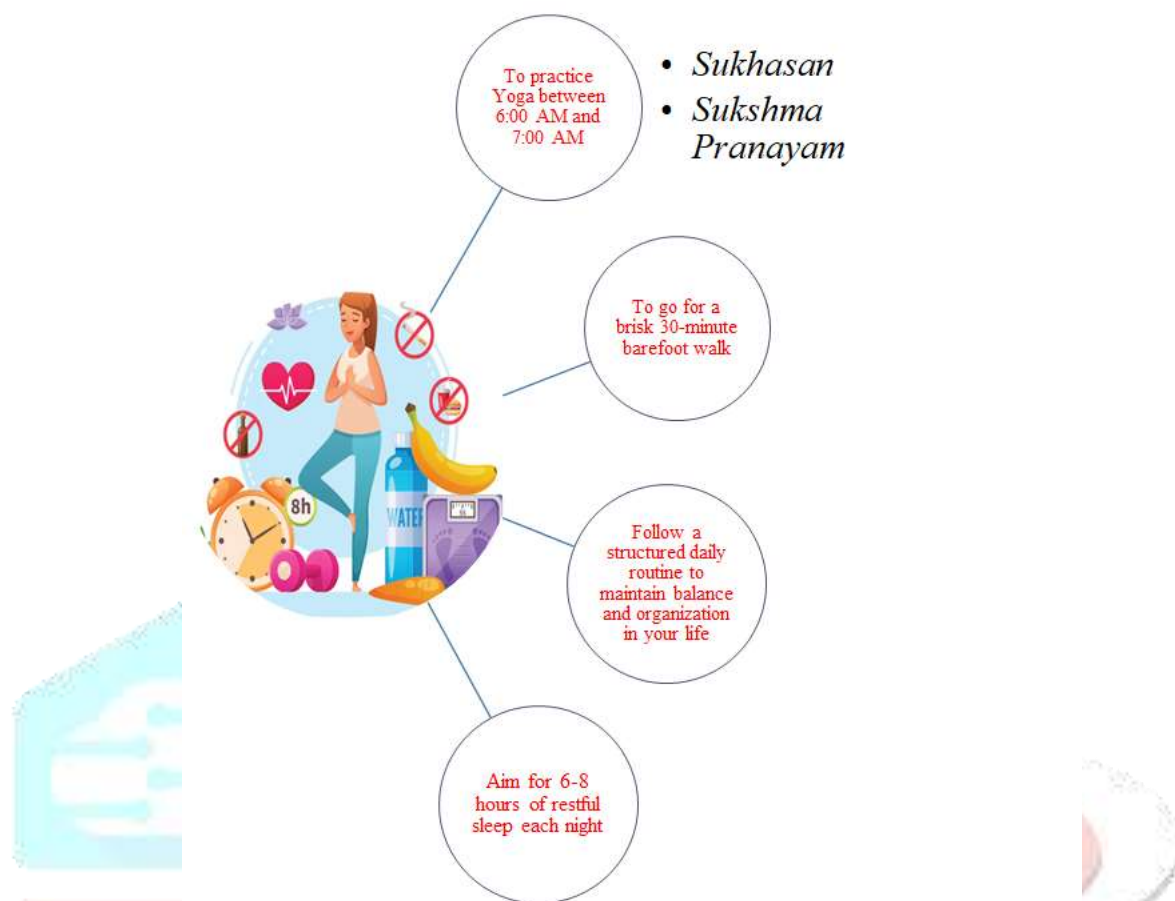
#### Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

The dietary recommendations advised for the patient with CKD are depicted in **Fig 2**. The life style recommendations are illustrated in **Fig 3**.

Fig 2 The dietary recommendations



## II Fig 3 Lifestyle Recommendations



## III. Panchkarma procedures administered to the patient

### 1. *Awagah Swedan* <sup>[14]</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.

### 2. *Punarnava Gokshuru Basti plan*

- a. *Punarnava Gokshuru Anuvasan* (oil) *Basti* on days 1, 2, 4, 6, 8 <sup>[20,21]</sup>

**Quantity:** 80 ml *Punarnava Gokshuru* oil

**Procedure:** *Abhyanga swedana* given for 1 hour followed by a small meal, followed by *Anuvasan Basti*

- b. *Punarnava Gokshuru Niruha* (decoction) *Basti* given on days 3, 5 and 7. <sup>[22]</sup>

**Quantity and composition:** *Punarnava Gokshuru* oil 30 ml, *Sendha* salt 10 grams, honey 30 ml and decoction of *Punarnava* and *Gokshuru* 250 ml

**Procedure:** 30 grams each of the roots of *Punarnava* and *Gokshuru* were taken and boiled in 1 litre of water, reduced to 250 ml. This was filtered and 30 ml *Punarnava Gokshuru* oil mixed. In mortar and pestle, 30 ml of honey was mixed with 10 grams of rock salt for 5 minutes to obtain a frothy whitish mixture. The honey-salt combination was mixed in the decoction-oil combination and mixed well. The



patient was given *Abhyanga* and *Swedana* for an hour, empty stomach followed by administration of *Punarnava Gokshuru Niruha Basti*.

The patient was instructed to retain both the *Basti*'s as long as possible. The average expulsion time for the *Anuvasan Basti* in this patient was 8 hours and for the *Niruha Basti* the retaining time was 10 minutes. The patient was instructed to stay indoors, away from cold wind and water for 30 minutes.

### 3. *Shirodhara with Brahmi oil* <sup>[23,24]</sup>

- The patient laid down supine on the *Abhyanga* table.
- Warm (45°C) *Brahmi oil* (1 liter) was poured as continuous stream over the forehead, for 30 minutes while the patient relaxed.
- After completing the therapy, the patient's forehead and scalp were gently wiped.
- The patient rested for a 30 minutes before being given a warm water bath, using green gram powder to remove excess oil
- A light diet and rest were advised, with instructions to avoid cold exposure or exertion.

## Medicinal Interventions

### 1. *Ayurvedic medications*

The *Ayurvedic* treatment employed in this case included Divya Shakti Powder, Dr. CKD Tablet, GFR Powder, Mutavardhak vati, Renal Support Syrup, Dr.Sukoon tablet, Fe-Capsule, Blood purifier syrup, Kidney Shuddhi ark, Dr BP Tablet and CKD Syrup, along with *Panchkarma* therapies. The *Ayurvedic* medications advised during the treatment period is mentioned in **Table 5**. The details of the medicines are described in **Table 6**.

### 2. *Allopathic interventions*

The patient was previously taking Erythropoietin subcutaneously weekly, and amlodipine 5 mg BD which he continued during treatment.

**Table 5 The *Ayurvedic* medications advised during the treatment period**

Date	Medicines	Dosage with <i>Anupana</i>
06-02-2025	GFR Powder	A teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> - After food with lukewarm water)
	Dr. CKD Tablet	1 TAB TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	CKD Syrup	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )
	Divya Shakti Powder	Half a teaspoon HS ( <i>Nishikal</i> with <i>koshna jala</i> - At night with lukewarm water)
	Mutravardhak vati	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Renal support syrup	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> - After food with equal amount of lukewarm water)
09-02-2025 (IPD)	GFR Powder	A teaspoon BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	CKD Syrup	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )
	Dr. CKD Tablet	1 TAB TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Divya Shakti Powder	Half a teaspoon HS ( <i>Nishikal</i> with <i>koshna jala</i> )
	Mutravardhak vati	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Renal support syrup	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> )
	DR. Sukoon Tablet	2 TAB HS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Fe-Capsule	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
20-02-2025	Blood purifier syrup	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> ) for 3 days
	Dr. CKD Tablet	1 TAB TDS ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Mutravardhak vati	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Fe-Capsule	2 CAP BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )
	Kidney Shuddhi Ark	15 ml BD ( <i>Adhobhakta</i> with <i>sama matra kosha jala</i> ) for 3 days
	Dr. BP	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )

Table 6 The details of the medicines advised during the treatment period

Medicine name	Ingredients	Therapeutic Effects
<b>Dr. CKD Tablet</b>	<b>Apamarg</b> ( <i>Achyranthes aspera</i> ), <b>Gokshur</b> ( <i>Tribulus terrestris</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Varun Chhaal</b> ( <i>Crataeva nurvala</i> ), <b>Mulethi</b> ( <i>Glycyrrhiza glabra</i> ), <b>Sheetal Chini</b> ( <i>Stevia rebaudiana</i> ).	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Lekhana</i> (Scraping), <i>Balya</i> (Tonic), <i>Ojavardhaka</i> (Immunomodulator), <i>Deepan</i> (Appetizer), <i>Pachan</i> (Digestive)
<b>GFR Powder</b>	<b>Bhoomi Amla</b> ( <i>Phyllanthus niruri</i> ), <b>Badi Harad</b> ( <i>Terminalia chebula</i> ), <b>Bahera</b> ( <i>Terminalia bellirica</i> ), <b>Kasni</b> ( <i>Cichorium intybus</i> ), <b>Makoy</b> ( <i>Zea mays</i> ), <b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Gokshur</b> ( <i>Tribulus terrestris</i> ).	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Lekhana</i> (Scraping), <i>Balya</i> (Tonic), <i>Deepan-pachan</i> (Appetizer and Digestive)
<b>Divya Shakti Powder</b>	<b>Trikatu</b> ( <i>Piper nigrum</i> , <i>Piper longum</i> , <i>Zingiber officinale</i> ), <b>Triphala</b> ( <i>Phyllanthus emblica</i> , <i>Terminalia chebula</i> , <i>Terminalia bellerica</i> ), <b>Nagarmotha</b> ( <i>Cyperus rotundus</i> ), <b>Vaya Vidang</b> ( <i>Embelia ribes</i> ), <b>Chhoti Elaichi</b> ( <i>Elettaria cardamomum</i> ), <b>Tej Patta</b> ( <i>Cinnamomum tamala</i> ), <b>Laung</b> ( <i>Syzygium aromaticum</i> ), <b>Nishoth</b> ( <i>Operculina turpethum</i> ), <b>Sendha Namak</b> , <b>Dhaniya</b> ( <i>Coriandrum sativum</i> ), <b>Pipla Mool</b> ( <i>Piper longum</i> root), <b>Jeera</b> ( <i>Cuminum cyminum</i> ), <b>Nagkesar</b> ( <i>Mesua ferrea</i> ), <b>Amarvati</b> ( <i>Achyranthes aspera</i> ), <b>Anardana</b> ( <i>Punica granatum</i> ), <b>Badi Elaichi</b> ( <i>Amomum subulatum</i> ), <b>Hing</b> ( <i>Ferula assa-foetida</i> ), <b>Kachnar</b> ( <i>Bauhinia variegata</i> ), <b>Ajmod</b> ( <i>Trachyspermum ammi</i> ), <b>Sajjikshar</b> , <b>Pushkarmool</b> ( <i>Inula racemosa</i> ), <b>Mishri</b> ( <i>Saccharum officinarum</i> )	<i>Medhya</i> (Nootropic), <i>Rasayana</i> (Rejuvenator), <i>Ojavardhaka</i> (Immunomodulator), <i>Vata shamaka</i> ( <i>Vata</i> -pacifying), <i>Deepan</i> (Appetizer), <i>Pachan</i> (Digestive)
<b>CKD Syrup</b>	<b>Kasani</b> ( <i>Cichorium intybus</i> ), <b>Gokshur</b> ( <i>Tribulus terrestris</i> ), <b>Shatavari</b> ( <i>Asparagus racemosus</i> ), <b>Giloy</b> ( <i>Tinospora cordifolia</i> ), <b>Sorbitol</b> , and <b>Shuddh Shilajeet</b> ( <i>Asphaltum punjabianum</i> )	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Rasayana</i> (Rejuvenator), <i>Balya</i> (Tonic), <i>Lekhana</i> (Scraping), <i>Deepan-Pachan</i> (Appetizer and Digestive)
<b>Mutra Vardhak Vati</b>	<b>Gokshur</b> ( <i>Tribulus terrestris</i> ), <b>Guggul</b> ( <i>Commiphora wightii</i> ), <b>Sounth</b> ( <i>Zingiber officinale</i> ), <b>Kalimirch</b> ( <i>Piper nigrum</i> ), <b>Pippali</b> ( <i>Piper longum</i> ), <b>Bahera</b> ( <i>Terminalia bellerica</i> ), <b>Harad</b> ( <i>Terminalia chebula</i> ), <b>Amla</b> ( <i>Phyllanthus emblica</i> ), <b>Motha</b> ( <i>Cyperus rotundus</i> )	<i>Mutrasangrahani</i> (Urinary Retention), <i>Mutravardhaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Rasayana</i> (Rejuvenator), <i>Deepan-Pachan</i> (Appetizer and Digestive)
<b>Renal Support Syrup</b>	<b>Nimb</b> ( <i>Azadirachta indica</i> ), <b>Arjun</b> ( <i>Terminalia arjuna</i> ), <b>Gokshur</b> ( <i>Tribulus terrestris</i> ), <b>Hareetaki</b> ( <i>Terminalia chebula</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Karanj</b> ( <i>Pongamia pinnata</i> ), <b>Chiraita</b> ( <i>Swertia chirayita</i> ).	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Agnivardhaka</i> (Digestive Stimulant), <i>Rasayana</i> (Rejuvenator), <i>Balya</i> (Tonic), <i>Amapachana</i> (Ama Detoxifier)

<b>Dr. Sukoon Tablet</b>	<b>Apamarg</b> ( <i>Achyranthes aspera</i> ), <b>Shatavari</b> ( <i>Asparagus racemosus</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Brahmi</b> ( <i>Bacopa monnieri</i> ), <b>Vacha</b> ( <i>Acorus calamus</i> ), <b>Shankhpushpi</b> ( <i>Convolvulus pluricaulis</i> ), <b>Calcium</b> ( <i>Calcium carbonate - CaCO<sub>3</sub></i> ).	<i>Manas Shamak</i> (Mental Calming), <i>Nidrajanana</i> (Sleep Inducer), <i>Vata Shamaka</i> (Vata-Pacifying), <i>Medhya Rasayana</i> (Nootropic Rejuvenator)
<b>FE Capsule</b>	<b>Makoy</b> ( <i>Solanum nigrum</i> ), <b>Shilajeet</b> , <b>Yashad Bhasm</b> , <b>Loh Bhasm</b> , <b>Swarn Makshik Bhasm</b> , <b>Mukta Shukti Pishti</b> .	<i>Raktavardhaka</i> (Blood-Enhancing), <i>Rasayana</i> (Rejuvenator), <i>Balya</i> (Tonic), <i>Deepan</i> (Appetizer), <i>Pachan</i> (Digestive)
<b>Blood Purifier Syrup</b>	<b>Khair Chhaal</b> ( <i>Acacia catechu</i> ), <b>Babchi</b> ( <i>Psoralea corylifolia</i> ), <b>Devdaru</b> ( <i>Cedrus deodara</i> ), <b>Daru Haldi</b> ( <i>Curcuma aromatica</i> ), <b>Haritaki</b> ( <i>Terminalia chebula</i> ), <b>Bahera</b> ( <i>Terminalia bellerica</i> ), <b>Amla</b> ( <i>Phyllanthus emblica</i> ), <b>Mahamajishtha</b> ( <i>Rubia cordifolia</i> ), <b>Dhamasa</b> ( <i>Gmelina arborea</i> ), <b>Sariva</b> ( <i>Hemidesmus indicus</i> ), <b>Amba Haldi</b> ( <i>Curcuma amada</i> ), <b>Kutaki</b> ( <i>Picrorhiza kurroa</i> ), <b>Chiraita</b> ( <i>Swertia chirata</i> ), <b>Rasont</b> ( <i>Ruta graveolens</i> ), <b>Satyanashi</b> ( <i>Cissampelos pareira</i> ), <b>Madhu</b> (Honey), and <b>Sharkara</b> ( <i>Saccharum officinarum</i> )	<i>Raktashodhaka</i> (Blood Purifier), <i>Pitta Shamana</i> (Pitta-Pacifying), <i>Krimighna</i> (Anthelmintic), <i>Shothahara</i> (Anti-inflammatory), <i>Rasayana</i> (Rejuvenator)
<b>Kidney Shuddhi Ark</b>	<b>Punarnava</b> ( <i>Boerhavia diffusa</i> ), <b>Gokshur</b> ( <i>Tribulus terrestris</i> ), <b>Varuna</b> ( <i>Crataeva nurvala</i> ), <b>Bhumyamalaki</b> ( <i>Phyllanthus niruri</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Amla</b> ( <i>Emblica officinalis</i> ), <b>Shatavari</b> ( <i>Asparagus racemosus</i> ), <b>Turmeric</b> ( <i>Curcuma longa</i> ), <b>Saffron</b> .	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Lekhana</i> (Scraping), <i>Rasayana</i> (Rejuvenator), <i>Balya</i> (Tonic)
<b>Dr. BP cure</b>	<b>Shankhpushpi</b> ( <i>Convolvulus pluricaulis</i> ), <b>Shatavari</b> ( <i>Asparagus racemosus</i> ), <b>Ashwagandha</b> ( <i>Withania somnifera</i> ), <b>Brahmi</b> ( <i>Bacopa monnieri</i> ), <b>Vacha</b> ( <i>Acorus calamus</i> ), <b>Sarpagandha</b> ( <i>Rauvolfia serpentina</i> ), <b>Jeera</b> ( <i>Cuminum cyminum</i> ), <b>Giloy</b> ( <i>Tinospora cordifolia</i> ), <b>Malabar Nut</b> ( <i>Justicia adhatoda</i> ), <b>Jatamansi</b> ( <i>Nardostachys jatamansi</i> ), <b>Mukta Pishti</b> (Purified Pearl Calcium - CaCO <sub>3</sub> ).	<i>Raktashodhaka</i> (Blood Purifier), <i>Hridya</i> (Cardiac Tonic), <i>Vata Shamana</i> (Vata-Pacifying), <i>Deepana</i> (Appetizer), <i>Rasayana</i> (Rejuvenator)

## RESULT

The patient underwent IPD treatment for 12 days, after the treatment he 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 pedal oedema, burning sensation, insomnia, loss of appetite and constipation which shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The conditions during the admission and discharge are mentioned in **Table 7**. The DTPA scan before treatment is attached as **Fig 4**.

**Table 7 The conditions during the admission and discharge**

Conditions	During Admission	During Discharge
<b>Dyspnea</b>	5/10	1/10
<b>Pedal oedema</b>	4°	1°
<b>Sleep score</b>	2/10	08/10
<b>Pain score</b>	1/10	0/10
<b>Burning sensation</b>	3+	1+



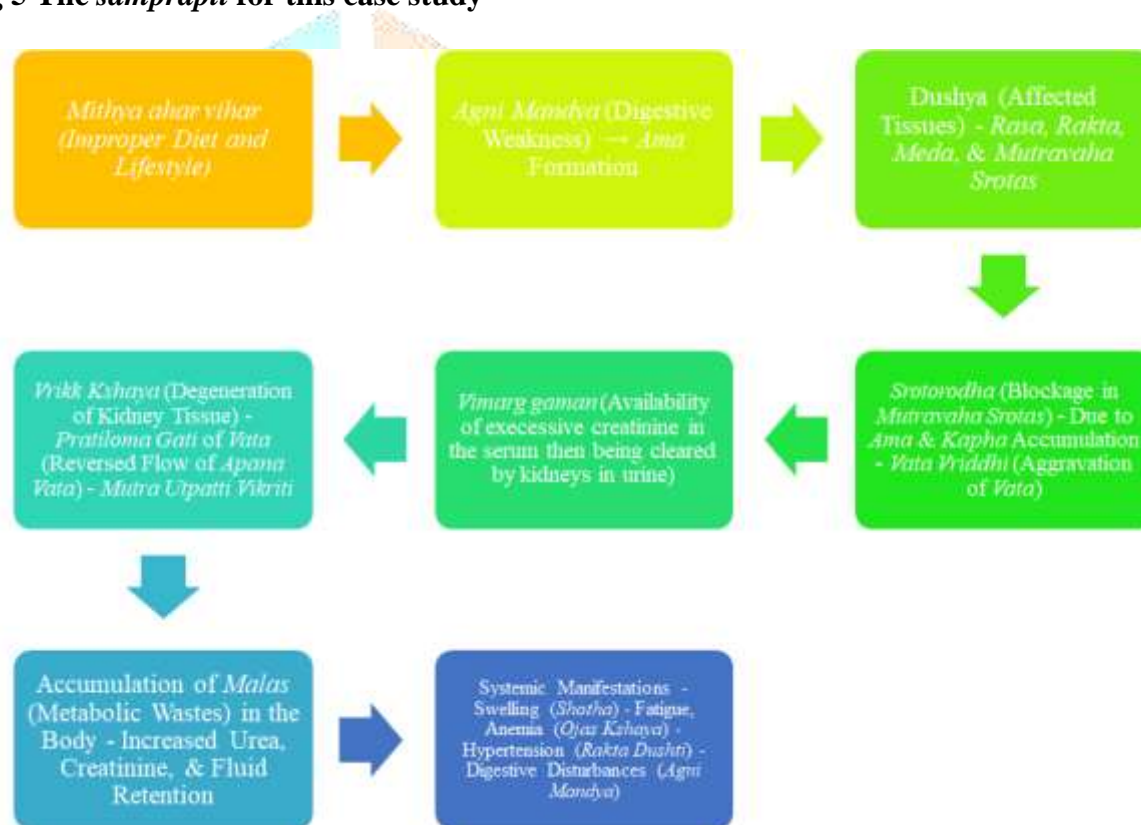
## Implications for Future Research

The present study examined a CKD stage IV patient with hypertension and T2DM, yielding promising results. However, due to the limited sample size of a single case, a more comprehensive evaluation is required. Future research should incorporate randomized controlled trials with larger sample sizes to validate the safety, efficacy and reliability of integrated *Ayurvedic* treatments. Such studies will be crucial in establishing standardized therapeutic guidelines and protocols.

## DISCUSSION

*Ayurvedic* treatment integration for CKD stage IV offers a significant support for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 69-year-old male who had been diagnosed with CKD with history of T2DM for 20 years and Hypertension for 10 years. The patient's symptoms including pedal oedema, burning sensation, insomnia, loss of appetite and constipation got relieved. The *samprapti* <sup>[25,26,27,28]</sup> for this case study is depicted in **Fig 5**.

**Fig 5 The *samprapti* for this case study**



### 1. *Samprapti*

The *Ayurvedic Samprapti* model of *Vataj Pandu*, and *Mutraghata* jointly reflect renal disorders. In *Vataj Pandu* and *Mutraghata*, the patient experiences pallor of skin, eyes, and nails due to *Rakta Dhatu Kshaya* (blood tissue depletion), along with fatigue, weakness, breathlessness, and palpitations. *Vata* dominance leads to *Angamarda* (body ache), *Manodaurbalya* (mental weakness), and lethargy, beginning with *Mithya Ahara-Vihara* (improper diet and lifestyle), which lead to *Agni Mandya* (improper metabolism) and the formation of *Ama* (toxins) <sup>[29,30]</sup>. This *Ama* vitiates *Dushyas*, specifically *Rasa*, *Rakta*, *Meda*, and *Mutravaha Srotas* (urinary channels), resulting in *Srotorodha* due to accumulated *Ama* and *Kapha*, ultimately causing *Vata Vriddhi*. The vitiated *Vata*, particularly *Apana Vata*, undergoes *Pratiloma Gati* (reversed flow), leading to *Vrikk Kshaya* and *Mutra Utpatti Vikriti* (abnormal urine formation and excretion). This dysfunction causes the accumulation of *Malas* (metabolic wastes) such as urea and creatinine, along with fluid retention. These pathological changes manifest systemically as *Shotha* (swelling), fatigue, anemia, hypertension (*Rakta Dushati*), and digestive disturbances (*Agni Mandya*).

*Dushti*), and further digestive disturbances, perpetuating a vicious cycle. This integrated model highlights the complex interplay of *doshas*, *dhatu*s, *malas*, and *srotas*, illustrating the chronic and progressive nature of renal pathology from an *Ayurvedic* perspective.

## 2. *Nidan*

The *Nidan* (etiology) of this renal disorder, as depicted in the diagram, primarily stems from *Mithya Ahara-Vihara* (inappropriate dietary habits and lifestyle choices), that disturb the balance of the body's internal systems<sup>[31]</sup>. Consuming heavy, oily, incompatible, or processed foods, along with sedentary behavior, stress, and irregular routines, weakens the digestive fire (*Agni*) and leads to the formation of *Ama*<sup>[32]</sup>. This *Ama* becomes the root cause of systemic imbalance, obstructing the normal functioning of *Srotas* (body channels), particularly the *Mutravaha Srotas* (urinary system)<sup>[33]</sup>. Additionally, the excessive intake of *Guru* (heavy), *Snigdha* (unctuous), and *Kapha*-provoking substances contributes to *Kapha Dushti*, while lifestyle patterns that aggravate *Vata*, such as suppression of natural urges, late nights, or excessive travel, lead to *Vata Prakopa*<sup>[34]</sup>. Together, these causative factors initiate a cascade of pathological changes affecting *Rasa*, *Rakta*, *Meda*, and *Mutra*, ultimately compromising renal function and setting the foundation for *Vrikk Kshaya*. Thus, improper diet and lifestyle are key *Nidanas* that trigger and perpetuate the progression of this disease.

## 3. *Ayurvedic* medications

The *Ayurvedic* regimen, consisting of Divya Shakti Powder, Dr. CKD Tablet, GFR Powder, Mutra Vardhak Vati, Renal Support Syrup, Dr. Sukoon Tablet, Fe-Capsule, Blood Purifier Syrup, Kidney Shuddhi Ark, Dr. BP and CKD Syrup, and complemented by *Panchakarma* therapies, effectively addresses the *Samprapti* of CKD, T2DM, and Hypertension. These formulations work to streamline the renal functions by *Srotoshodhana*. They reduce *Ama* accumulation and *Avarana* (Obstruction) in the *Srotas*, while alleviating *Utklesha* (Agitation). Dr. CKD Tablet and GFR Powder nourish the kidneys by enhancing *Mutra Vahini Srotas* and *Shukra Dhatu* (Reproductive Tissue). Mutra Vardhak Vati and Renal Support Syrup promote *Mutravirechana*, helping eliminate toxins and excess fluids, while Divya Shakti Powder and Dr. Sukoon Tablet enhance *Ojas*, pacify *Vata* and *Pitta*, and improve *Dhi* (Intellect) and *Smriti* (Memory). *Panchakarma* therapies aid in *Ama Pachana*, *Raktashodhana*, and the rejuvenation of *Dhatu*s, improving microcirculation and strengthening *Sattva*. This holistic approach restores homeostasis by strengthening immunity, balancing the *Doshas*, and promoting long-term kidney and metabolic health.

**Table 8. Therapeutic effects according to the *Ras panchaka* of the ingredients**

Ingredient	Ras Panchaka	Therapeutic Effects	Medicines Present In
<b>Gokshur</b>	<i>Tikta, Madhura Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka</i> (Diuretic), <i>Shothahara</i> (Anti-inflammatory), <i>Lekhana, Balya</i> (Tonic)	Dr. CKD Tablet, GFR Powder, CKD Syrup, Mutra Vardhak Vati, Renal Support Syrup, Kidney Shuddhi Ark
<b>Punarnava</b>	<i>Tikta, Madhura Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Shothahara, Lekhana, Rasayana, Balya</i>	Dr. CKD Tablet, GFR Powder, Kidney Shuddhi Ark
<b>Apamarg</b>	<i>Tikta, Kashaya Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Shothahara, Lekhana, Balya, Ojovardhaka, Deepan, Pachan</i>	Dr. CKD Tablet, Divya Shakti Powder, Dr. Sukoon Tablet
<b>Shatavari</b>	<i>Madhura Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Rasayana, Balya, Medhya, Nidrajanana</i>	CKD Syrup, Dr. Sukoon Tablet, Kidney Shuddhi Ark, Dr. BP Cure
<b>Ashwagandha</b>	<i>Katu, Tikta Rasa; Ushna Virya; Katu Vipaka</i>	<i>Rasayana, Balya, Medhya, Vata Shamaka, Nidrajanana</i>	Renal Support Syrup, Dr. Sukoon Tablet, Kidney Shuddhi Ark, Dr. BP Cure
<b>Bahera</b>	<i>Tikta, Kashaya Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Shothahara, Raktashodhaka, Pitta Shamana</i>	GFR Powder, Mutra Vardhak Vati, Blood Purifier Syrup
<b>Harad</b>	<i>Tikta, Kashaya Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Shothahara, Rasayana</i>	GFR Powder, Mutra Vardhak Vati
<b>Amla</b>	<i>Madhura, Tikta Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Rasayana, Balya, Raktavardhaka, Shothahara</i>	Mutra Vardhak Vati, Blood Purifier Syrup, Kidney Shuddhi Ark
<b>Kasni</b>	<i>Tikta, Kashaya Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Mutravirechaka, Shothahara, Deepan-Pachan</i>	GFR Powder, CKD Syrup
<b>Shilajeet</b>	<i>Tikta, Katu Rasa; Ushna Virya; Katu Vipaka</i>	<i>Rasayana, Balya, Deepan, Pachan</i>	CKD Syrup, FE Capsule
<b>Brahmi</b>	<i>Madhura, Tikta Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Medhya</i> (Nootropic), <i>Rasayana, Manas Shamak</i>	Dr. Sukoon Tablet, Dr. BP Cure
<b>Vacha</b>	<i>Katu, Tikta Rasa; Ushna Virya; Katu Vipaka</i>	<i>Medhya, Vata Shamaka, Nidrajanana</i>	Dr. Sukoon Tablet, Dr. BP Cure
<b>Shankhpushpi</b>	<i>Madhura, Tikta Rasa; Sheeta Virya; Madhura Vipaka</i>	<i>Medhya, Nidrajanana, Vata Shamaka</i>	Dr. Sukoon Tablet, Dr. BP Cure
<b>Giloy</b>	<i>Tikta, Katu Rasa; Ushna Virya; Katu Vipaka</i>	<i>Mutravirechaka, Shothahara, Rasayana</i>	CKD Syrup, Dr. BP Cure
<b>Jeera</b>	<i>Katu, Tikta Rasa; Ushna Virya; Katu Vipaka</i>	<i>Deepan, Pachan, Hridya</i>	Divya Shakti Powder, Dr. BP Cure

Several common ingredients recur in multiple kidney-supportive Ayurvedic formulations, each characterized by specific *Ras Panchaka* and *Karma* (therapeutic actions). *Gokshur*, possessing *Tikta-Madhura Rasa*, *Sheeta Virya*, and *Madhura Vipaka*, is widely used for its *Mutravirechaka*, *Shothahara*, *Lekhana* (scraping), and *Balya* (tonic) properties <sup>[35]</sup>. *Punarnava*, with similar *Rasa* and *Virya*, acts as a potent *Mutravirechaka* and *Rasayana* (rejuvenator) <sup>[36]</sup>. *Apamarg*, known for *Mutravirechaka*, *Shothahara*, *Ojavardhaka* (immunomodulator), and *Deepan-Pachan* (appetizer-digestive) effects <sup>[37]</sup>. *Shatavari*, with *Madhura Rasa* and *Sheeta Virya*, offers *Balya*, *Medhya* (nootropic), and *Nidrajanana* (sleep-inducing) effects <sup>[38]</sup>. *Ashwagandha*, possessing *Katu Rasa* and *Ushna Virya*, provides *Rasayana*, *Vata Shamaka*, and *Balya* actions in multiple formulations <sup>[39]</sup>. Terminalia species, *Bahera* and *Harad*, serve as *Mutravirechaka* and *Raktashodhaka* (blood purifiers), while *Amla* acts as a potent *Rasayana*, *Shothahara*, and *Balya* <sup>[40]</sup>. Ingredients like *Kasni*, *Shilajeet*, *Brahmi*, *Vacha*, and *Giloy* further enhance *Deepan-Pachan*, *Medhya*, and



*Rasayana* effects <sup>[41,42,43,44]</sup>. Collectively, these herbs synergize to balance *Doshas*, promote *Agni* (digestive fire), and support kidney function through multifaceted *Ayurvedic* actions.

#### 4. Effects of *Ahara-Vihara*

The holistic routine provided supports CKD management through both diet and lifestyle interventions. Starting the day with herbal tea and raw ginger-turmeric reduces inflammation and boosts metabolism <sup>[45]</sup>. Meals include steamed fruits, *mudga yusha*, red juice, almonds, and millet-based dishes that are easy to digest, anti-inflammatory, and kidney-friendly. Fermented millets support gut health, reducing toxin buildup, while green juice and alkaline water aid hydration and pH balance <sup>[16,17,18]</sup>. Lifestyle practices enhance these effects, early rising, yoga, and a brisk barefoot walk improve circulation and lymphatic drainage. Practicing *Vajrasana* and walking after meals support digestion. A structured daily routine and 6–8 hours of restful sleep help regulate stress and hormonal balance, both vital in CKD. Avoiding refined foods, wheat, dairy, caffeine, and late-night meals minimizes renal burden <sup>[46,47,48,49,50]</sup>. Collectively, this integrative plan aligns with *Ayurvedic* and modern principles, supporting gut-kidney health, reducing disease progression, and improving overall well-being.

#### 5. *Panchkarma* therapies

During his 12 days IPD admission, He underwent *Panchkarma* treatments as part of the *Ayurvedic* therapy regimen. CKD, T2DM and Hypertension share a common pathology of *Vata-Pitta-Kapha* imbalance, *Rakta Dushti*, *Srotorodh*, and *Agni Mandya*. The following therapies help in breaking this pathological cycle: The treatment protocol involving *Awagah Swedan*, *Punarnava* and *Gokshur Tail Basti* and *Shirodhara* with *Brahmi* Oil, works synergistically to address kidney and cardiovascular health, as well as stress-induced hypertension. *Awagah Swedan* induces Vasodilation, promotes *Swedana* (sweating), eliminates *Ama*, and activates the Parasympathetic Nervous System, helping lower *Rakta Vata* and reduce *Vata*-driven systemic inflammation. This is why some scholars agree skin to be the third kidney <sup>[51]</sup>. *Punarnava* and *Gokshur Tail (Anuvasan)* *Basti* pacify *Apana Vata*, enhance *Mutravirechana*, reduce *Shotha* in the kidneys, and improve *Prakriti*, facilitating kidney nourishment and supporting *Mutra Vahini Srotas* <sup>[20,21]</sup>. The lipid-soluble compounds in the oils are absorbed directly, nourishing *Shukra Dhatu* and promoting Urinary function. *Punarnava* and *Gokshur Kwath (Niruha)* *Basti* detoxifies the *Mutra Vahini Srotas*, enhances GFR, regulates Sodium-Potassium balance, and excess *Raktashodhaka*, which helps delay the progression of chronic kidney disease (*Vikriti*) <sup>[22]</sup>. *Shirodhara* with *Brahmi* Oil calms the nervous system by balancing *Prana Vata*, reducing cortisol levels, and regulating the HPA axis, preventing stress-induced hypertension and metabolic dysfunction <sup>[23,24]</sup>. This therapeutic approach enhances cerebral circulation and improves cognitive function (*Dhi*, *Smriti*), while promoting restful sleep (*Nidra*). It also indirectly supports kidney and cardiovascular health by pacifying *Vata* and promoting overall *Sattva*. These combined treatments focus on *Srotoshodhana*, *Dosha* balancing, *Shothahara*, enhancing kidney function, and promoting overall vitality and *Ojas*.

This case study underscores the potential of *Ayurvedic* treatments along with previously prescribed allopathic medicines in managing CKD. By addressing the root cause of imbalances, these therapies help to enhance renal function while simultaneously managing associated conditions like diabetes and hypertension. Additionally, *Ayurveda* provides a cost-effective and holistic approach to kidney health. However, further research is essential to validate its efficacy and safety in CKD management.

#### CONCLUSION

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

**Symptoms:** During the period of admission, the patient presented with burning sensation over feet, general weakness, dryness of mouth and throat, dyspnea on exertion, loss of appetite, constipation, pedal oedema, and insomnia. After IPD *Ayurvedic* treatment, significant improvements were observed. The patient reported relief



from pedal oedema, burning sensation, insomnia, loss of appetite and constipation with no new symptoms emerging, suggesting a marked improvement in kidney function and overall health.

**Investigations:** Laboratory tests conducted during the treatment showed significant improvements in renal function. Serum urea levels decreased gradually from 154.29 mg/dL to 125.35 mg/dL, indicating enhanced kidney function. Similarly, serum creatinine levels reduced from 7.15 mg/dL to 6.22 mg/dL. These results underscore the potential efficacy of *Ayurvedic* treatment in managing CKD.

The *Ayurvedic* treatment along with previously prescribed allopathic medicines for CKD yielded positive outcomes, reflected in improved laboratory parameters, vital signs and symptoms over span of 12 days. *Ayurvedic* interventions aimed to restore balance and correct underlying imbalances, thereby supporting renal health. However, further clinical trials are necessary to validate these findings and develop standardized treatment protocols for CKD management.

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Fig 1 The laboratory investigation reports of the patient

**WELLCARE PATH LAB**  
 SCO-80, Shri Bala Ji Complex, Old Ambala Road, Dhakoli, Zirakpur (Pb) -160104, Contact No.: +91 98729 96010  
 Email : wellcarepathlab.pvt.ltd@gmail.com

We are enrolled with CMC EQAS & AIIMS EQAS External Quality Assurance, We are running CMC EQAS & AIIMS Quality Controls daily a day

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 NABL (MEL)T LABS  
 NABL-M[EL]T-02754  
 CERTIFICATE No.: QMS-WCL-2209152

**LABORATORY REPORT**

Patient Name: [Redacted]  
 Age / Sex : 69 years / Male  
 UID No : 23472

Reference : Dr. JEENA SIKHO LIFECARE LTD  
 Organization : WELLCARE PATH LAB PVT.LTD  
 Org ID : WELLCARE PATH LAB

Registered On : FEB 09, 2025, 02:04 P.M.  
 Collected On : FEB 09, 2025, 02:04 P.M.  
 Reported On : FEB 09, 2025, 03:03 P.M.

Barcode: 45451

Test Description	Value(s)	Reference Range	
<b>Complete Blood Count(CBC)</b>			
Hemoglobin (HB) Method : Cynmeth Photometric Measurement	7.0	13.0 - 17.0	g/dL
Total Leucocytes Count (TLC) Method : Electrical Impedance	6400	4000 - 11000	/cmm
<b>DIFFERENTIAL COUNT</b>			
Neutrophils Method : VCSn Technology	72	40 - 75	%
Lymphocytes Method : VCSn Technology	21	20 - 45	%
Monocytes Method : VCSn Technology	04	2 - 10	%
Eosinophils Method : VCSn Technology	03	1 - 6	%
Basophils	00	0 - 1	%
Total RBC Count Method : Electrical Impedance	2.29	3.50 - 6.50	Mill/Cumm
Platelet Count Method : VCSn Technology	1.88	1.50 - 4.50	Lacs/Cumm
PCV/HCT Method : Calculated	22.2	35.0 - 47.0	%
Red cell distribution width (RDW) Method : Electrical Impedance	14.6	13.0 - 18.0	%
Mean corpuscular volume (MCV) Method : Electrical Impedance	96.9	76.0 - 96.0	f
Mean Corpuscular Hemoglobin (MCH) Method : Calculated	30.6	27.0 - 32.0	pg
Mean Corpuscular Hemoglobin Concentration(MCHC) Method : Calculated	31.5	30.0 - 35.0	%
Microscopy, Fully Automated Hematology Analyser alfa avelab double chamber 3 Part			
<b>Liver Function Test (LFT)</b>			
Total Bilirubin Method : Vanadate : oxidation	0.43	0.20 - 1.00	mg/dL
Direct Bilirubin Method : Vanadate : oxidation	0.21	0.00 - 0.80	mg/dL
Indirect Bilirubin Method : Derived	0.22	0.00 - 0.80	mg/dL





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NABL-M(EL)T-02764



CERTIFICATE No.:  
QMS-WCL-2209152

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### LABORATORY REPORT

Patient  
Name



Age / Sex : 69 years / Male

UID No : 23472

Reference : Dr. JEENA SIKHO LIFECARE LTD

Organization : WELLCARE PATH LAB PVT.LTD

Org ID : WELLCARE PATH LAB

Registered

On : FEB 09, 2025, 02:04 P.M.

Collected On : FEB 09, 2025, 02:04 P.M.

Reported On : FEB 09, 2025, 03:03 P.M.



45451

Test Description	Value(s)	Reference Range	
AST (SGOT) Method : IFCC* Without Pyridoxal Phosphate Activation	17.23	< 40.0	IU/L
ALT (SGPT) Method : IFCC* Without Pyridoxal Phosphate Activation	23.56	< 41.0	IU/L
Alkaline Phosphatase (ALP) Method : Modified IFCC	81.51	0.00 - 150.0	U/L
Total Protein Method : Biuret Method	6.00	6.4 - 8.2	g/dL
Albumin Method : Albumin Bogt	2.85	3.4 - 5.0	g/dL
Globulin Method : Derived	3.15	1.8 - 3.8	g/dL
A/G Ratio	0.90	0.9 - 1.8	

#### Interpretation:

Enhanced liver fibrosis (ELF) test is used to evaluate liver fibrosis in patients with suspected chronic liver disease due to Viral Hepatitis B & C, Alcoholic liver disease and Non alcoholic fatty liver disease

#### RENAL FUNCTION TEST (RFT)

BLOOD UREA Method : Urease/ UV	154.29	15.0 - 46.0	mg/dl
BLOOD UREA NITROGEN (BUN) Method : Kinetic UV Assay	72.00	7.0 - 25.0	mg/dl
CREATININE - SERUM Method : Modified jaffe method	7.15	0.70 - 1.40	mg/dl
BLOOD UREA NITROGEN / CREATININE RATIO Method : Derived	10.07	9.1 - 23.1	Ratio
URIC ACID Method : Uricase/ Peroxidase	8.87	3.0 - 7.2	mg/dL

#### Note:

Please correlate with clinical conditions.

#### Electrolytes

Sodium (NA+) Method : Method: ISE Direct	139.3	136.0 - 146.0	mEq/L
Potassium (K+) Method : Method: ISE Direct	4.75	3.50 - 5.50	mEq/L
Chloride (CL) Method : Method: ISE Direct	104.6	96.0 - 108.0	mEq/L

#### Method:

ISE Indirect

#### CONDITIONS OF LABORATORY TESTING & REPORTING

The reporting result are for the information and for interpretation of the referring doctor only. • If the result of the test (s) are alarming or unexpected, the patient is advised to contact the laboratory immediately for possible remedial advice. • This report is not valid for medico-legal purposes. • Wellcare Path Lab not its employees assume any liability to for any loss or damage that may be incurred by any person as a result of procuring the meaning or contents of the report. • It is Presumed that the tests performed on the specimen belong to the patient; names or identified. • Results of tests may vary from laboratory to laboratory and also in some parameter from time to time for the same patient. Only such medical professional who understand reporting units, reference ranges and limitations or technologies should interpret result. • Reports valid until stamped by labs authorized signatory.

**NOT VALID FOR MEDICO LEGAL PURPOSE | EMERGENCY 24 HOURS | TIMINGS : 8.00 AM TO 8.00 PM**



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### LABORATORY REPORT

Patient  
Name



Age / Sex : 69 years / Male

UID No : 23472

Reference : Dr. JEENA SIKHO LIFECARE LTD

Organization : WELLCARE PATH LAB PVT.LTD

Org ID : WELLCARE PATH LAB

Registered  
On : FEB 18, 2025, 10:02 A.M.

Collected On : FEB 18, 2025, 10:02 A.M.

Reported On : FEB 18, 2025, 10:03 A.M.



46472

Test Description	Value(s)	Reference Range	
<b>Complete Blood Count(CBC)</b>			
Hemoglobin (HB)	6.1	13.0 - 17.0	g/dL
Method : Cymeth Photometric Measurement			
Total Leucocytes Count (TLC)	5000	4000 - 11000	/cmm
Method : Electrical Impedance			
<b>DIFFERENTIAL COUNT</b>			
Neutrophils	63	40 - 75	%
Method : VCSn Technology			
Lymphocytes	30	20 - 45	%
Method : VCSn Technology			
Monocytes	04	2 - 10	%
Method : VCSn Technology			
Eosinophils	03	1 - 6	%
Method : VCSn Technology			
Basophils	00	0 - 1	%
Total RBC Count	1.81	3.50 - 6.50	Mill/Cumm
Method : Electrical Impedance			
Platelet Count	0.95	1.50 - 4.50	Lacs/Cumm
Method : VCSn Technology			
PCV/HCT	17.9	35.0 - 47.0	%
Method : Calculated			
Red cell distribution width (RDW)	14.7	13.0 - 18.0	%
Method : Electrical Impedance			
Mean corpuscular volume (MCV)	99.2	76.0 - 96.0	fL
Method : Electrical Impedance			
Mean Corpuscular Hemoglobin (MCH)	33.6	27.0 - 32.0	pg
Method : Calculated			
Mean Corpuscular Hemoglobin Concentration(MCHC)	33.9	30.0 - 35.0	%
Method : Calculated			

Microscopy Fully Automated Hematology Analyser alfa aida double chamber 3 Part


### RENAL FUNCTION TEST (RFT)

BLOOD UREA	125.35	15.0 - 46.0	mg/dl
Method : Uniaxial UV			
BLOOD UREA NITROGEN (BUN)	58.50	7.0 - 25.0	mg/dl
Method : Kinetic UV Assay			
CREATININE - SERUM	6.22	0.70 - 1.40	mg/dl
Method : Modified jaffe method			

#### INDICATIONS OF LABORATORY TESTING & REPORTING

We reporting result are for the information and for interpretation of the referring doctor only. • If the result of the test (s) are alarming or unexpected, the patient is advised to contact the laboratory immediately for advice remedial advice. • This report is not valid for medico-legal purposes. • Wellcare Path Lab not its employees assume any liability to for any loss or damage that may be incurred by any person as a result of presuming or contents of the report. • It is assumed that the tests performed on the specimen belong to the patient names or identified. • Results of tests may vary from laboratory to laboratory and also to some parameter from time to time for the same patient. Only such medical professional who understand reporting units, reference ranges and limitations or techniques should interpret result. • Reports valid until stamped by lab's authorized signatory.



**NOT VALID FOR MEDICO LEGAL PURPOSE | EMERGENCY 24 HOURS | TIMINGS : 8.00 AM TO 8.00 PM**



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### LABORATORY REPORT

<b>Patient Name</b> : <span style="border: 1px solid black; display: inline-block; width: 100px; height: 20px;"></span> <b>Age / Sex</b> : 69 years / Male <b>UID No</b> : 23472	<b>Reference</b> : Dr. JEENA SIKHO LIFECARE LTD <b>Organization</b> : WELLCARE PATH LAB PVT.LTD <b>Org ID</b> : WELLCARE PATH LAB	<b>Registered On</b> : FEB 18, 2025, 10:02 A.M. <b>Collected On</b> : FEB 18, 2025, 10:02 A.M. <b>Reported On</b> : FEB 18, 2025, 10:03 A.M. 
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Test Description	Value(s)	Reference Range	
BLOOD UREA NITROGEN / CREATININE RATIO Method : Derived	9.41	9.1 - 23.1	Ratio
URIC ACID Method : Urinase/ Peroxidase	9.51	3.0 - 7.2	mg/dL

**Note:**  
Please correlate with clinical conditions.

#### Electrolytes

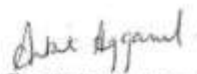
Sodium (NA <sup>+</sup> ) Method : Method: ISE Direct	140.9	136.0 - 146.0	mEq/L
Potassium (K <sup>+</sup> ) Method : Method: ISE Direct	4.77	3.50 - 5.50	mEq/L
Chloride (CL) Method : Method: ISE Direct	102.3	96.0 - 108.0	mEq/L

**Method:**  
ISE Indirect

#### Interpretation

Sodium measurements are used in the diagnosis and treatment of aldosteronism (excessive secretion of the hormone aldosterone), diabetes insipidus (chronic excretion of large amounts of dilute urine, accompanied by extreme thirst), adrenal hypertension, Addison's disease (caused by destruction of the adrenal glands), dehydration, inappropriate antidiuretic hormone secretion, or other diseases involving electrolyte imbalance. Potassium measurements are used to monitor electrolyte balance in the diagnosis and treatment of disease conditions characterized by low or high blood potassium levels. Chloride measurements are used in the diagnosis and treatment of electrolyte and metabolic disorders such as cystic fibrosis and diabetic acidosis

\*\*END OF REPORT\*\*

  
**Dr. Ankit Aggarwal**  
 (Consultant Pathologist)

**NOTIONS OF LABORATORY TESTING & REPORTING**

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**NOT VALID FOR MEDICO LEGAL PURPOSE | EMERGENCY 24 HOURS | TIMINGS : 8.00 AM TO 8.00 PM**

Fig 4 The DTPA scan before treatment

NAME :  AGE : 69 Y SEX : M DATE : 17/02/2025  
 REG. NO. : REN-169-25  
 ATTENDING HOSPITAL: HIIMS HOSPITAL DERABASSI  
 CLINICAL STATUS: To know functional status, Drainage pattern  
 AND differential function with GFR

#### DYNAMIC RENAL SCINTIGRAPHY

ISOTOPE: 99mTc-DTPA

DOSE: 5 mCi

	LEFT KIDNEY	RIGHT KIDNEY
<b>PERFUSION PHASE</b>		
VISUALISATION	poor	poor
RELATIVE PERFUSION	poor	poor
<b>UPTAKE PHASE</b>		
SIZE	shrunk	shrunk
SHAPE	normal	normal
POSITION	normal	normal
CONCENTRATION	poor	poor
CORTICALMARGIN DELINEATION	poorly defined	poorly defined
SPLIT FUNCTION	50 %	50 %
<b>EXCRETORY PHASE</b>		
COLLECTING SYSTEM	normal	normal
DRAINAGE PATTERN	normal	normal
DIURETIC RESPONSE	normal	normal
URETER	normal	normal
GFR	7.8 ml/min	7.8 ml/min

CONT ON PG 2



Page 2

**IMPRESSION:** PROVOCATIVE IMAGING WITH DIURETIC ADMINISTERED  
15 MINUTES BEFORE THE STUDY STARTED  
TO PRECIPITATE OBSTRUCTION, IF ANY, REVEALS :-

LEFT KIDNEY i) SHRUNK IN SIZE  
ii) SEVERELY COMPROMISED CORTICAL FUNCTION  
iii) NORMAL DRAINAGE

RIGHT KIDNEY i) SHRUNK IN SIZE  
ii) SEVERELY COMPROMISED CORTICAL FUNCTION  
iii) NORMAL DRAINAGE

- GLOBAL GFR = 15.6 ml/min/1.68 sq m BSA  
( normal range for BSA and age - 73 ml/min + - 17ml/min)

-SPLIT FUNCTION: LEFT KIDNEY = 50 %  
RIGHT KIDNEY = 50 %



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END OF REPORT



Received: 03/April/2025

AYUR: May-June, 2025; 1(3):07-16

Accepted: 17/May/2025

## ***Yakrit Dushti: An Ayurvedic Approach to Non-Alcoholic Fatty Liver Disease (NAFLD) Management—A Case Study***

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### **Abstract**

Non-Alcoholic Fatty Liver Disease (NAFLD) is a growing global health concern, primarily linked to metabolic disorders such as obesity, Type II Diabetes Mellitus, and dyslipidemia. *Ayurveda* correlates NAFLD with *Yakrit Roga* and *Medoroga*, where *Kapha-Pitta Medovaha Srotodushti*, *Agnimandya* (digestive fire impairment), and *Ama Utpatti* (toxin accumulation) play a central role in its pathogenesis. The disease originates from *Apathya Ahara-Vihara* (improper diet and lifestyle), leading to *Srotorodha* (blockage of metabolic pathways) and excessive *Meda Dhatu* (fat accumulation) in the liver. A clinical case study demonstrated the efficacy of *Ayurvedic* interventions in a 59-year-old male patient with NAFLD, treated with a combination of dietary modifications, lifestyle corrections, and *Ayurvedic* medicines. By restoring *Agni* (digestive fire), detoxifying the liver, and regulating *Meda Dhatu*, *Ayurveda* offers a preventive and curative approach to NAFLD. Early diagnosis, proper medicinal support, and a disciplined lifestyle are essential in preventing the progression to fibrosis, cirrhosis, and hepatocellular carcinoma, making *Ayurveda* a valuable system for NAFLD management.

**Keywords:** *Agnimandya*, *Ama*, *Ayurveda*, *Medoroga*, NAFLD, *Yakrit Roga*.

### **Introduction**

Non-Alcoholic Fatty Liver Disease (NAFLD) is a common liver condition characterized by excessive fat accumulation in the liver of individuals who consume little to no alcohol. It is a major global health concern, often associated with metabolic disorders such as obesity, type 2 diabetes, and dyslipidemia. NAFLD encompasses a spectrum of liver conditions ranging from simple fatty liver (steatosis), which is generally benign, to Non-Alcoholic Steatohepatitis (NASH), a more severe form that involves liver inflammation and can lead to fibrosis, cirrhosis, and even liver cancer. The primary risk factors for NAFLD include obesity, insulin resistance, high blood sugar, and abnormal cholesterol levels. It is often considered the hepatic manifestation of metabolic syndrome. Many individuals with NAFLD remain asymptomatic, making early detection difficult. Diagnosis is typically based on imaging studies, liver function tests, and sometimes liver biopsy. Management of NAFLD primarily involves lifestyle modifications such as weight loss, dietary changes, and increased physical activity. Currently, there are no specific medications approved for NAFLD, though ongoing research is exploring potential treatments. With the rising prevalence of obesity and metabolic disorders, NAFLD has become a

leading cause of chronic liver disease worldwide, emphasizing the need for increased awareness, early detection, and effective management strategies [3].

Modern research on NAFLD (Non-alcoholic fatty liver disease) is heavily focused on understanding its complex multi-systemic nature, exploring the role of genetics and gut microbiota in its development, identifying new biomarkers for disease progression, and investigating potential therapeutic options beyond lifestyle modifications, with a particular emphasis on the link between NAFLD and cardiovascular disease (CVD) as well as the emerging concept of "metabolic dysfunction-associated steatotic liver disease (MASLD)" as a more accurate descriptor of the condition [1]. Research is investigating how alterations in gut bacteria composition can contribute to NAFLD pathogenesis, potentially influencing inflammation and lipid metabolism in the liver [2]. Studies are increasingly highlighting the strong link between NAFLD and increased risk of cardiovascular events, investigating mechanisms like endothelial dysfunction and inflammation that contribute to this connection [4]. While lifestyle changes like weight loss, diet modification, and physical activity remain the cornerstone of NAFLD management, studies are refining dietary strategies to optimize liver health [5].

In *Ayurveda*, Non-Alcoholic Fatty Liver Disease (NAFLD) can be correlated with *Yakrit Roga* (Liver Disorders) and is often linked to *Medoroga* (Disorders of Fat Metabolism) and *Ama* (Toxic Buildup). The liver, known as *Yakrit*, plays a vital role in digestion, metabolism, and detoxification, aligning with the *Ayurvedic* principles of *Agni* (Digestive Fire) and *Pitta Dosha*. Causes (*Nidana*) of NAFLD in *Ayurveda*:

- **Dietary Factors (*Apathya Ahara*):** Consuming heavy, oily, and sweet foods can lead to *Kapha* accumulation and impaired digestion, resulting in fat buildup in the liver.
- **Lifestyle Factors (*Apathya Vihara*):** A sedentary lifestyle, overeating, and stress contribute to metabolic imbalances and fat accumulation.
- **Weak Digestive Fire (*Mandagni*):** Impaired *Agni* leads to the formation of *Ama* (toxins), which accumulate in the liver, disrupting its function <sup>[6]</sup>

*Ayurvedic* management of NAFLD include *Shodhana* (detoxification), *Pathya Ahara* (Dietary Recommendations), *Pathya Vihara* (Lifestyle Modifications). *Ayurveda* provides natural medicines that can effectively manage and potentially reverse non-alcoholic fatty liver disease (NAFLD). Medicinal plants, in particular, play a significant role in treating NAFLD. One notable herb is Milk Thistle (*Silybum marianum*), used for centuries in *Ayurveda* to protect and treat liver problems. Another beneficial *ayurvedic* herb is *Bhumyamalaki* (*Phyllanthus niruri*), known for its

hepatoprotective effects. Studies indicate that combining *Bhumyamalaki* with turmeric (*Curcuma longa*) can enhance its effectiveness in treating liver disorders. Turmeric possesses anti-inflammatory and antioxidant properties, addressing two crucial factors in the development of NAFLD—liver inflammation and oxidative stress. Furthermore, Andrographolide, a compound found in the herb *Andrographis paniculata*, has demonstrated hepatoprotective properties and may contribute to improved liver function. Other herbs like dandelion root, liquorice, and *kutki* also offer hepatoprotective effects and can be combined with other herbs to treat NAFLD <sup>[7]</sup>.

Case Report

A 59 year old male patient with history of mild hepatomegaly with grade II fatty liver disease visited Jeena Sikho Lifecare Limited Hospital, Ambala, Haryana, India on 18<sup>th</sup> of May, 2024. Table 1 shows the detailed analysis and diagnosis of the patient. Table 2 shows the initial vitals and *Ashtasthana pareeksha* of the patient taken on the day of first visit. The patient attended a follow-up visit each month for six months. His blood pressure and weight was carefully recorded all these days since these play a vital role in prescribing appropriate medicines and therapy. The investigations are tabulated in table 3. The clinical findings of the patient are mentioned in the table 4.

Table 1: Analysis details and Diagnosis

Analysis & Diagnosis	
Symptoms	Abdominal Pain
	High Cholesterol
	Enlarged lymph nodes
Medical History	Mild Hepatomegaly with Grade II Fatty Liver
	Type II Diabetic Mellitus
Family History	None
Diagnosis	Non-Alcoholic Fatty Liver Disease (NAFLD)

Table 2: Initial Vitals and *Ashtasthana Pareeksha* on first consult

Parameter	Values
Blood Pressure	140/90 mm Hg
Pulse Rate	99/min
Weight	90.50 Kg
Height	6' 10"
Body Mass Index	25.56
<i>Nadi</i>	<i>Vataj pittaj</i>
<i>Mala</i>	<i>Prakrit</i>
<i>Matra</i>	<i>Prakrit</i>
<i>Jiwha</i>	<i>Saam</i>
<i>Shabda</i>	<i>Spashta</i>
<i>Sparsha</i>	<i>Anushnasheet</i>
<i>Akriti</i>	<i>Sthool</i>
<i>Drikka</i>	<i>Prakrit</i>

Table 3: Daily blood pressure and weight records

Date	Blood Pressure (mm Hg)	Weight (Kg)
18-05-2024	140/90 mm Hg	90.50 Kg
17-06-2024	110/70 mm Hg	88.40 Kg

12-07-2024	120/70 mm Hg	88.1 Kg
20-08-2024	100/70 mm Hg	87.80 Kg
20-09-2024	120/65 mm Hg	86 Kg

**Table 4:** Clinical Findings

Parameters	Remarks
Body Constitution	Vata Kapha Prakriti
	Madhyam Koshtha
	Madhyam Bala
Electrocardiogram	Tachycardia
Jiwha (Tongue)	Saam (Coated)
Auscultation	Cardiovascular System Normal
	Central Nervous System Normal
Palpation	Pain at right hypochondrium
	Enlargement of post-auricular lymph nodes

In keeping all these facts, the patient was advised a combination of *Ayurvedic* treatments which covered a tailored therapeutic diet, lifestyle recommendations and *Shaman*

(*ayurvedic* medication). *Ayurvedic* medications taken during the course of treatment is shown in table 5. Medication schedule for each follow up is mentioned in table 6.

**Table 5:** Medicines taken throughout the treatment

Medicines	Ingredients	Therapeutic Effects
Prameh Rog Har Powder	Kutaki (Picrorhiza kuroa), Chiraita (Swertia chirata), Nam (Tadaricaria indica), Karela (Momordica charantia), Rasanth (Berberis aristata), bull Beej (Tama Indus indica), Sala Nantak, Giloy (Tinospora cordifolia), South (Zingiber officinale), Babool Chaal (Vachellia nilotica), Sarpagandha (Rauvolfia serpentina), Trivang Bhasam Yashad Bhasam, Revend Chinni (Rheum emodi), Sodhit Guggul (Commiphora mukul), Methi (Trigonella foenum-graecum), Stamm (Sylygium cumini), Babool Fruit (Vachellia nilotica), Karanj (Milletia pinnata), Shilajeet, Haldi (Curcuma longa), Hamel (Terminalia chebula), Inderjamt (Holanhena antidysenterica), Vanshlochan (Bambusa arundinacea), Bahera (Terminalia bellirica), Amla (Phyllanthus emblica), White Musli (Chlorophytum borivilianum), Gunnar (Gymnema sylvestre).	Ingredients like Amla, Jamttn, and Meth/assist in maintaining optimal blood glucose levels, making the formulation beneficial for diabetic patients.
Gadood sudharak vati	Kahn (Euphorbia hirta), Vann: (Crataeva nurvala), Gokshur (Tribulus terrestris), Khayarain (Acacia catechu), Shodhit Guggul (Commiphora wightii).	The combination of Gokshur and Varun assists in cleansing the liver, promoting the elimination of toxins, and supporting metabolic processes
YAM Shoth Har Vati	Punarnava (Boerhavia diffusa), Munch (Piper nigrum), Pippali (Piper longum), Vayavidanga (Embelia ribes), Devdaru (Cedars deodara), Kutha Haldi (Picrorhiza kurroa), Chitrak (Plumbago zeylanica), Herod Bahera (Terminalia chebula, Terminalia bellirica), Anda (Embelia officinalis), Danti (Baliospermum montanum), Chavya (Piper chaba), Indra Jon (Taraxacum officinale), Pippin Mool (Piper longum), Motha Kalajira (Nigella sativa), Kayphal (*rim esculenta), Kutaki (Picrorhiza kurroa), Nishoth (Operculina turpethum), South (Zingiber officinale), Kakad Singhi (Cucumis sativus), Sails (Trachyspermum ammi), Mandoor Bhasant	The formulation helps reduce inflammation of the liver, addressing conditions like hepatitis, fatty liver, cirrhosis and other inflammatory liver diseases.
Lis-Balance Capsule	Bh rani Ant& (Phyllanthus niruri), Punarnava (Boerhavia diffusa), and Makoy (Solanum nigrum).	Amla is rich in vitamin C and antioxidants, which help protect the liver from oxidative stress and support its overall function. Punarnava and Macon are known for its diuretic and anti-inflammatory properties, aiding in the detoxification process and promoting liver health
Sama vati	Gokshur (Tribulus terrestris), Kaunch (Mucuna pruriens), Shatawar (Asparagus racemosus), Ashwagandha (Withania somnifera), Vidarikand (Pueraria tuberosa), Beej Band Lal (Sida cordifolia), Akarkara (Anacythis pyrethrum), Talmakhana (Hygrophila atriculata), Musli (Chlorophytum borivilianum), Aawla (Embelia officinalis), South (Zingiber officinale), Jaiphal (Murraya koenigii), Swann Makshik (Chalcophyllum), Shilajeet Shuddh (Asphaltum punjabianum).	The formulation helps to ease digestive discomfort, promoting smoother digestion.
Lipi Capsule	Adult (Terminalia arjuna), Guggul (Commiphora wightii), Resine at (Resin Extract-source-specific), Haridra (Curcuma longa), Bhuntiantla	The combination of these herbs helps in regulating cholesterol levels, thereby



	(Phyllanthus Guduchi (Tinospora cordifolia), Amin (Embllica officinalis), Haritaki (Terminalia chebula), Vibhitaki (Terminalia bellirica), Shunthi (Zingiber officinale), Marich (Piper nigrum), Pippali (Piper longum), Mulethi (Glycyrrhiza glabra), Punarnava (Boerhavia diffusa), Jatanamsi (Nardostachys jatamansi), Lasuna (Allium sativum), Bulb Ext (Bulb Extract — source-specific), Akika Pishti (Agate Calx), Mukta Pishti (Pearl Calx), Abhrak Bhasm (Mica Calx), Shankha Bhasm (Conch Shell Calx).	reducing the risk of atherosclerosis and related cardiovascular diseases.
Liver Tonic	Lal Punantava (Boerhavia diffusa), Soled Punarnava (Boerhavia diffusa), Bala (Sida cordifolia), Atibala (Abutilon indicum), Patna (Cyclea peltata), Giloy (Tinospora cordifolia), Churak (Plumbago zeylanica), Kakoli (Lilium polyphyllum), Vasa (Adhatoda vasica), Nagannotha (Cypripedium rotundus), Ajwain (Trachyspermum ammi), South (Zingiber officinale), Marich (Piper nigrum), Long (Piper longum), Methi (Trigonella foenum-graecum), White teem (Cuminum cyminum), Roheda Chhal (Tecomella undulata), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Badi Elaichi (Amomum subulatum), Chotti Elaichi (Elettaria cardamomum), Jaiphal (Mistricala fragrans), Nagkesar (Mesita fetrea), Kankol (Piper cttbeba), Multhi (Goicyrrhiza glabra), Shekel (Balanites aegyptiaca), Manua (Madhucia longifolia).	Enhances the production of bile, which aids in digestion and fat breakdown. Shields liver cells from damage caused by toxins, alcohol, and infections. Aids in reducing fat accumulation in the liver, which helps prevent fatty liver disease.
Dr. Immune tablet	"Cesar (Crocus sativus), Shuddh Kuchler (Shychnos nrcx-vomica), Ashwagandha Ext. (Withania somnifera), Shatawari Ext. (Asparagus racemosus), Pipali (Piper longum), Tulsi (Ocimum sanctum), Laung (Syzygium aromaticum), Choti Elaichi (Elettaria cardamomum), South (Zingiber officinale), Haldi (Curcuma longa), Loh Bhasm (Forum), Swarn Makshik Bhasm (Chalcopyrite), Mukta Shukti Bhasm (Pinctada margaritifera).	Ingredients like Ashwagandha and Shatawari enhance vitality and energy, supporting an active lifestyle. Herbs such as Elaichi and Sonth improve digestion, contributing to overall comfort and wellness. Tulsi and Pipali help maintain respiratory wellness and clear airways.
Granthihar vati	Kanchanar Guggul, Antalaki (Phyllanthus emblica), Bibhitak (Terminalia bellirica), Haritaki (Terminalia chebula), Shunthi (Zingiber officinale), Marich (Piper nigrum), Pippali (Piper longum), Varuna (Crataeva nurvala), Twak (Cinnamomum zeylanica), Tantalpatra (Cinnamomum tamala)	Effective in treating glandular swellings, cysts, and fibroids, including thyroid nodules and lymphatic congestion.
Divya Shakti Powder	Trikatu (Zingiber officinale, Piper nigrum, Piper longum), Triphala (Embllica officinalis, Terminalia bellirica, Terminalia chebula), Nagarmotha (Cypripedium rotundus), Vay Vidang (Embelia ribes), Chhoti Elaichi (Elettaria cardamomum), Tej Patter (Cinnamomum tamala), Luting (Syzygium aromaticum), Nishoth (Operculina turpethum), Sendha Namak, Dhaniya (Coriandrum sativum), Pipla Mool (Piper longum root), Jeera (Cuminum cyminum), Nagkesar (Mesua ferrea), Amarvati (Achyranthes aspera), Anardana (Punica granatum), Badi Elaichi (Amomum subulatum), Hing (Fenugreek), Kachnar (Bauhinia variegata), Ajmod (Trachyspermum ammi), Sazzikhar, Pushkarntool (Inula racemosa), Mishri (Saccharum officinarum).	Appetite stimulation: digestion enhancement, and detoxification
JS Diab Cap	Karvellak (Momordica charantia), Gudmar (Gymnema sylvestre), Jambh. (Syzygium cumini), Methika (Trigonella foenum-graecum), Nimb (Azadirachta indica), Kahneg (Andrographis paniculata), Bilva (Aegle marmelos), Guduchi (Tinospora cordifolia), Mamejela (Enicostema littorale), Ttrak (Cinnamomum zeylanicum), Yashad Bhasm, Vang Bhasm	Herbal antioxidants help protect pancreatic p-cells from oxidative damage, delaying diabetic complications.
Kanchnar Guggul Tablet	Kachnar chhal (Bauhinia variegata), Haritaki (Terminalia chebula), Bibhitaki (Terminalia bellirica), Amalaki (Phyllanthus emblica), Shunthi (Zingiber officinale), Markh (Piper nigrum), Pippali (Piper longum), Varun ennu (Crataeva moveida), Ela (Elettaria cardamomum), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), and Shuddh Guggul (Commiphora wightii).	Improves digestion and gut health

Table 6: Medication Schedule

Visits	Date	Medicines	Dosage
1 <sup>st</sup>	18-05-2024	Prameh rog har powder	Half teaspoon BD <i>Adhobhakta with kosha jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta with kosha jala</i>
		Yakrit Shoth har Vati	1 TAB BD <i>Adhobhakta with kosha jala</i>
		Liv Balance	1 CAP BD <i>Adhobhakta with kosha jala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta with kosha jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta with kosha jala</i>
		Liver Tonic	15 ml BD <i>Adhobhakta with Samamatra kosha jala</i>
2 <sup>nd</sup>	17-06-2024	Prameh rog har powder	Half teaspoon BD <i>Adhobhakta with kosha jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta with kosha jala</i>
		Yakrit Shoth har Vati	1 TAB BD <i>Adhobhakta with kosha jala</i>

		Liv Balance	1 CAP BD <i>Adhobhakta</i> with <i>koshnajala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liver Tonic	15 nil BD <i>Adhobhakta</i> with <i>Samamatra koshna jala</i>
3 <sup>rd</sup>	12-07-2024	Prameh rog har powder	Half teaspoon BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liv Balance	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liver Tonic	15 ml BD <i>Adhobhakta</i> with <i>Samamatra koshna jala</i>
		Dr.Immune	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Granthi Har Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
4 <sup>th</sup>	20-08-2024	Prameh rog har powder	Half teaspoon BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liv Balance	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Dr.Immune	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liver Tonic	15 ml BD <i>Adhobhakta</i> with <i>Samamatra koshna jala</i>
		JS Diab Cap	1 TAB BD <i>Adhobhakta</i> with <i>koshnajala</i>
5 <sup>th</sup>	20-09-2024	Prameh rog har powder	Half teaspoon BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Divya Shalcti Powder	Half teaspoon HS <i>Nishikala</i> with <i>koshna jala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Dr.Immune	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		JS Diab Cap	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liv Balance	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
6 <sup>th</sup>	26-11-2024	Liver Tonic	15 ml BD <i>Adhobhakta</i> with <i>Samamatra koshna jala</i>
		Prameh rog har powder	Half teaspoon BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Sama Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Gadood Sudharak Vati	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Dr.Immune	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Lipi Cap	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		JS Diab Cap	1 TAB BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liv Balance	1 CAP BD <i>Adhobhakta</i> with <i>koshna jala</i>
		Liver Tonic	15 ml BD <i>Adhobhakta</i> with <i>Samamatra koshna jala</i>
		Kancluiar Guggul Tablet	2 TAB BD ( <i>Adhobhakta</i> with <i>koshna jala</i> )

## Treatment Plan

### i). Diet

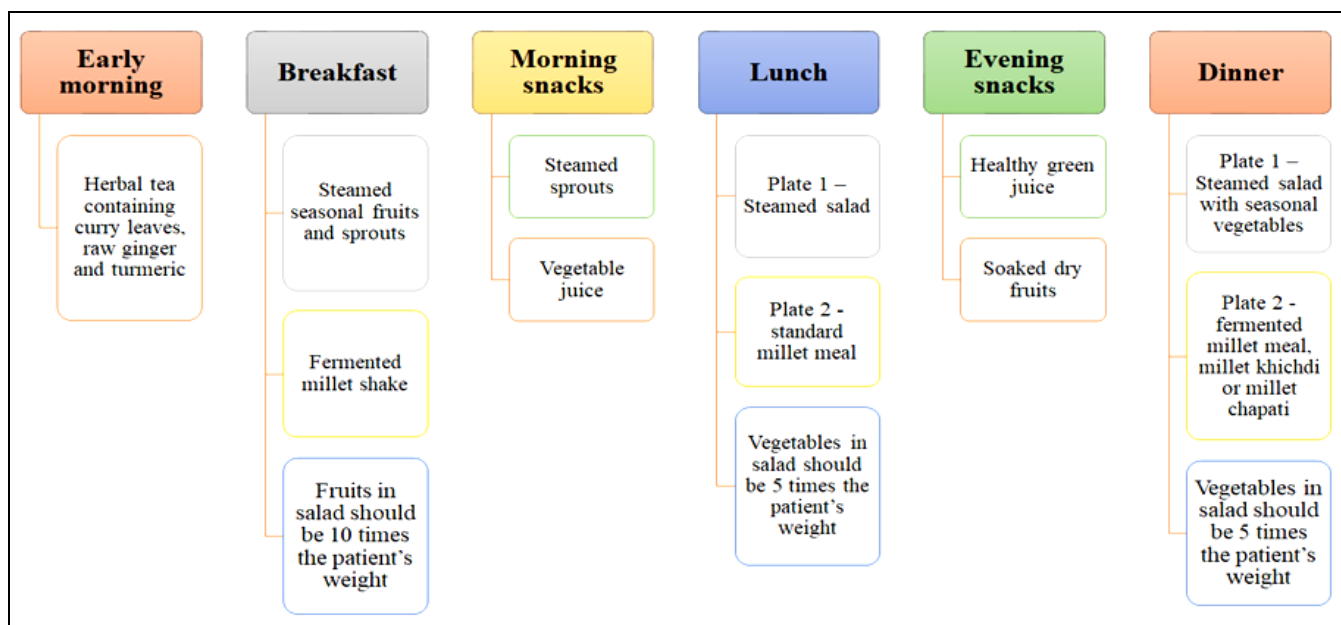
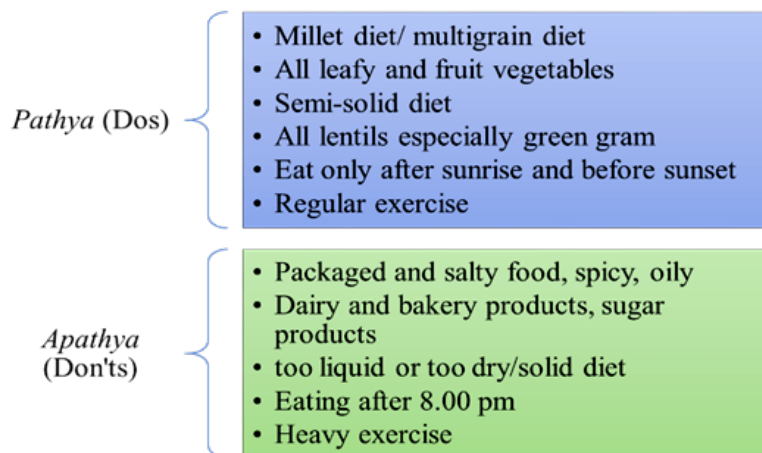
In *Ayurveda*, an ideal diet is a plant-based, easily digestible diet designed to detoxify the liver and improve digestion. For

Non-Alcoholic Fatty Liver Disease (NAFLD), the focus should be on reducing fat accumulation in the liver, improving metabolism, and balancing *Pitta* and *Kapha doshas*.

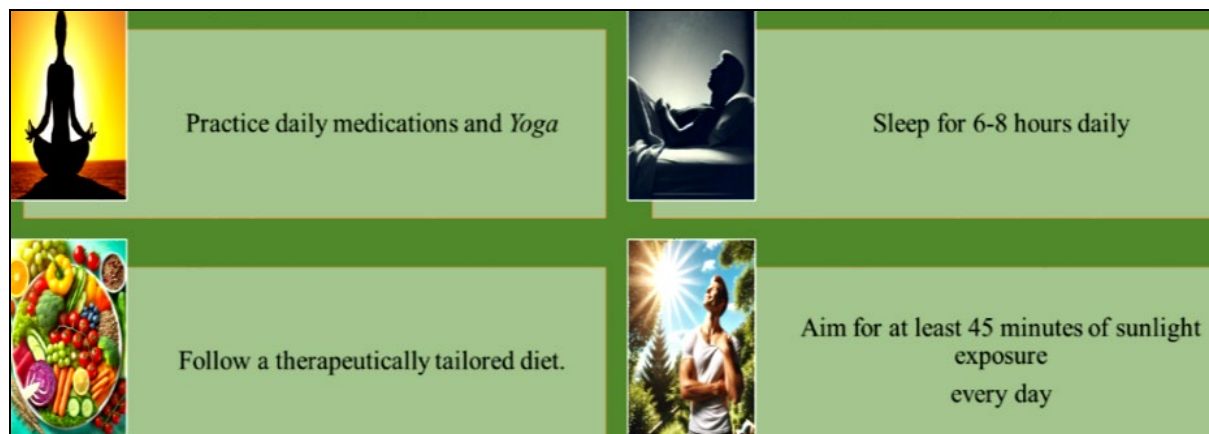
**Table 7:** Healthy Recommendations

Hydration
To ensure adequate water intake take slow sips at uniform time intervals
Drink 1 litre of alkaline water for 3-4 times a day
At proper intervals drink herbal tea, living water, turmeric water
Drink only boiled water
Millet Ingest
Foxtail ( <i>Setaria italica</i> )
Barnyard ( <i>Echinochloa esculenta</i> ),
Little ( <i>Panicum sumatrense</i> ),
Kodo ( <i>Paspalum scrobiculatum</i> ),

Browntop ( <i>Urochloa ramosa</i> )
Cook millets in a steel cookware using only mustard oil.
<b>Special Notes</b>
Intermittent fasting a day is recommended
A slow walk after dinner is recommended.
Practice Vajrasana and Sukhasana as this postures can help with digestion



## ii). Lifestyle Recommendations



## iii). Medicinal Interventions

The medicinal interventions included in this case were *Prameh rog har powder*, *Gadood Sudharak Vati*, *Yakrit*

*Shotha har Vati*, *Liv Balance*, *Sama Vati*, *Lipi Cap*, *Liver Tonic*, *Dr. Immune*, *Granthihara Vati*, *Divya Shakti Powder* and *JS Diab Cap*.

## Result

Throughout the treatment course, the patient exhibited steady clinical progress with marked improvements in both physical and emotional well-being, as reflected in quality of life assessments. Following six outpatient consultations, there was a notable reduction in symptoms, indicating the efficacy of the prescribed Ayurvedic regimen in managing Non-Alcoholic Fatty Liver Disease (NAFLD). The patient experienced relief from symptoms such as abdominal discomfort and elevated cholesterol levels. Symptom severity progressively decreased over the duration of treatment, and follow-up ultrasonography (USG) revealed significant improvement, with hepatomegaly and fatty liver grade reducing from Grade II to Grade I.

## Future Aspects

*Ayurveda* is gaining recognition in managing Non-Alcoholic Fatty Liver Disease (NAFLD) through *ayurvedic* medicine, detoxification (*Panchakarma*), dietary modifications, and lifestyle interventions. Future developments in *Ayurveda* for NAFLD focus on:

- **Integration of Ayurveda with Modern Diagnostics:** Combining *Ayurvedic dosha*-based diagnosis with modern imaging techniques like FibroScan & MRI-PDFF for accurate assessment Using biomarkers to validate *Ayurvedic* treatments impact on liver health.<sup>[8]</sup>
- **Personalized Ayurvedic Diet & Nutrigenomics:** *Ayurveda* will integrate with Nutrigenomics to provide diet plans based on one's *Prakriti* (body constitution) and genetic profile. Growing research supports whole foods, fiber-rich meals, and herbal tea in liver detox. Incorporating *Ayurvedic* herbs into daily foods like herbal tea, *chyawanprash*, and infused ghee for liver protection.<sup>[9]</sup>
- **Panchakarma & Ayurvedic Detox Therapies:** Customized detox therapies for NAFLD patients, including *Virechana* (Therapeutic Purgation), *Basti* (*Ayurvedic* medicinal Enema), *Udwartana* (*Ayurvedic* medicinal Powder Massage), *Nasya* Therapy.<sup>[10]</sup>
- **Yoga, Meditation & Mind-Body Healing :** Research supports *yoga* postures like Twisting *Asanas* (*Vakrasana*, *Ardha Matsyendrasana*) to stimulate liver function *Pranayama* (*Kapalbhati*, *Anulom-Vilom*) as a natural detox method.<sup>[11]</sup>

## Discussion

A 59-year-old male with a known history of Non-Alcoholic Fatty Liver Disease (NAFLD) presented to Jeena Sikho Lifecare Limited Hospital, Ambala, Haryana, India, on May

18, 2024. He underwent a total of six outpatient consultations. The primary complaint was mild abdominal discomfort, and he had a concurrent diagnosis of Type II Diabetes Mellitus for the past eight years. The treatment approach included a personalized Ayurvedic regimen comprising dietary modifications, lifestyle changes, and a comprehensive Shaman based medicinal protocol. The *Samprapti* and *Samprapti Ghatak* are illustrated in Figure 1.

During the course of treatment, the patient was prescribed a comprehensive Ayurvedic formulation comprising Prameh Rog har Powder, JS Diab Cap, Gadood Sudharak Vati, Yakrit Shoth har Vati, Liv Balance, Sama Vati, Lipi Cap, Liver Tonic, Dr. Immune, Granthi har Vati, and Divya Shakti Powder.

- Prameh Rog har Powder and JS Diab Cap were utilized to help regulate blood glucose levels, making them particularly effective for managing Type II Diabetes Mellitus.
- Gadood Sudharak Vati was aimed at balancing *Pitta* and *Kapha doshas*, supporting liver health, and aiding in conditions such as jaundice, hepatitis, and detoxification.
- *Yakrit Shoth har Vati* helped reduce hepatic inflammation, enhance bile secretion, and improve digestion, with applications in fatty liver, hepatitis, and cirrhosis.
- Liv Balance functioned as a liver detoxifier and metabolism enhancer, promoting bile flow and liver repair, while Liver Tonic supported liver enzyme function and protected against liver damage due to alcohol or medications.
- *Sama Vati* targeted *Ama* (toxins), impaired digestive fire (*Agnimandya*), and metabolic imbalances, proving useful in liver dysfunction and indigestion-related issues.
- Lipi Cap was prescribed for lipid regulation, aiding in the management of high cholesterol, NAFLD, and obesity by supporting healthy lipid metabolism and reducing fat accumulation.
- Dr. Immune worked as an immunity booster, enhancing *Ojas* and strengthening the body's natural defense mechanisms.
- *Granthi har Vati* was indicated for managing cysts, glandular swellings, and fibroid conditions.
- *Divya Shakti* Powder served to balance all three *doshas*—*Vata*, *Pitta*, and *Kapha*—thereby improving energy, strength, and overall vitality.

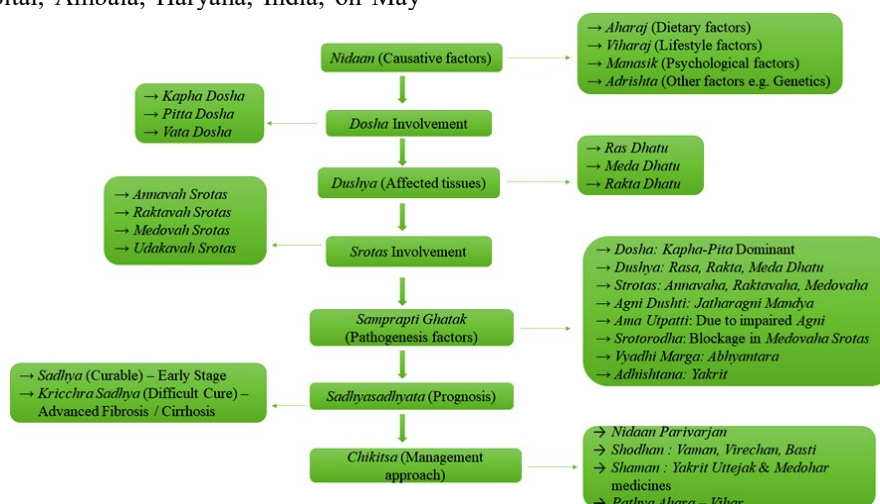



Fig 1: *Samprapti* and *Samprapti Ghatak* of this case



## Lab Reports

<b>ROTARY AMBALA CANCER AND GENERAL HOSPITAL (RACGH)</b>		<b>Dr. KARTIK MITTAL</b> MBBS, MD, PDCC(RADIO- DIAGNOSIS) CONSULTANT DIAGNOSTIC AND VASCULAR INTERVENTIONAL RADIOLOGIST
DOPPLER → CT SCAN → MRI SCAN → X-RAY → IVP → HSG → BARIUM STUDY → MAMMOGRAPHY VASCULAR INTERVENTION SURGERY → VASCULAR OPD/DAY CARE		
REF. BY: OTHER		AGE/SEX: 59/MALE
		DATE: 16/05/2024
<b><u>ULTRA-SONOGRAPHY OF THE ABDOMEN AND PELVIS</u></b>		
<p>The liver is Enlarged in size (16.3cm) and has smooth margins with raised echotexture. No focal/diffuse parenchymal hepatic lesion is seen. There is no intrahepatic biliary dilatation. Portal vein is normal in course and caliber.</p>		
<p>The gallbladder is well distended. There is no biliary calculi, mass lesion or wall thickening. No e/o cholecystitis or pericholecystic collection is seen. The CBD is not dilated.</p>		
<p>The pancreas has normal contours and echotexture. No focal or diffuse lesion is seen in the pancreas. Pancreatic duct is normal in course and caliber. IVC and aorta are normal.</p>		
<p>The spleen is not enlarged and no focal splenic lesion is observed.</p>		
<p>The right kidney measures 10.4 x 4.2cm and The left kidney measures 11 x 4.7cm. Both kidneys are normal in size, shape, and have smooth margins. Cortical echotexture is normal. Corticomedullary differentiation (CMD) is well maintained. There is no ascites or adenopathy.</p>		
<p>The urinary bladder is well distended and has normal contours. There is no bladder wall thickening or calculus disease seen.</p>		
<p>Prostate measures 36 cc and is enlarged in size.</p>		
<p><b><u>CONCLUSION: MILD HEPATOMEGALY WITH GRADE II FATTY LIVER.</u></b></p>		
<p><b><u>MILD PROSTATOMEGALY.</u></b></p>		
DR KARTIK MITTAL -MD RADIO-DIAGNOSIS (KEM HOSPITAL MUMBAI) FELLOW INTERVENTIONAL RADIOLOGY (INSTITUTE OF LIVER AND BILIARY SCIENCES, NEW DELHI) -EXCONSULTANT INTERVENTIONAL RADIOLOGY (ARTEMIS AND MEDANTA HOSPITAL, GURGAON)		DR JASMINE KAUR -MD DNB RADIODIAGNOSIS -FELLOW ONCO IMAGING -EX ASST PROFESSOR (GOVT MEDICAL COLLEGE, BIKANER)

This is only an opinion and not the final diagnosis. Clinical correlation is must. This report is not valid for

	<b>ROTARY AMBALA CANCER AND GENERAL HOSPITAL (RACGH)</b>	<b>DR. KARTIK MITTAL</b> MBBS, MD, PDCC(RADIO- DIAGNOSIS) CONSULTANT DIAGNOSTIC AND VASCULAR INTERVENTIONAL RADIOLOGIST
		→ULTRASOUND →DOPPLER →CT SCAN →MRI SCAN →X-RAY→ IVP →HSG→BARIUM STUDY →MAMMOGRAPHY →VASCULAR INTERVENTION SURGERY →FNAC→BIOPSY →VARICOSE VEIN ABLATION→VASCULAR OPD/DAY CARE
REF. BY: OTHER		AGE/SEX: 59/MALE DATE: 18/08/2024
<b><u>ULTRA-SONOGRAPHY OF THE ABDOMEN AND PELVIS</u></b>		
<p>The <b>liver</b> is normal in size (13.3cm) shape and has smooth margins with <b>raised echotexture</b>. No focal/diffuse parenchymal hepatic lesion is seen. There is no intrahepatic biliary dilatation. Portal vein is normal in course and caliber.</p>		
<p>The <b>gallbladder</b> is well distended. There is no biliary calculi, mass lesion or wall thickening. No e/o cholecystitis or pericholecystic collection is seen. The <b>CBD</b> is not dilated.</p>		
<p>The <b>pancreas</b> has normal contours and echotexture. No focal or diffuse lesion is seen in the pancreas. Pancreatic duct is normal in course and caliber. IVC and aorta are normal.</p>		
<p>The <b>spleen</b> is not enlarged and no focal splenic lesion is observed.</p>		
<p>The <b>right kidney</b> measures 10.2 x 4.4cm          The <b>left kidney</b> measures 11 x 4.9cm.  <b>Both kidneys are</b> normal in size, shape, and have smooth margins. Cortical echotexture is normal. Corticomedullary differentiation (CMD) is well maintained.          There is no ascites or adenopathy.</p>		
<p>The <b>urinary bladder</b> is well distended and has normal contours. There is no bladder wall thickening or calculus disease seen.</p>		
<p><b>Prostate</b> measures 35cc and is enlarged in size.</p>		
<p><b><u>CONCLUSION: GRADE I FATTY LIVER.</u></b></p>		
<p><b><u>MILD PROSTATOMEGALY WITH INSIGNIFICANT POST VOID RESIDUAL URINE.</u></b></p>		
DR KARTIK MITTAL MD RADIO-DIAGNOSIS (KEM HOSPITAL MUMBAI) FELLOW INTERVENTIONAL RADIOLOGY (INSTITUTE OF LIVER AND BILIARY SCIENCES, NEW DELHI) EXCONSULTANT INTERVENTIONAL RADIOLOGY (ARTEMIS AND MEDANTA HOSPITAL, GURGAON)		DR JASMINE KAUR MD DNB RADIODIAGNOSIS FELLOW ONCO IMAGING EX ASST PROFESSOR (GOVT MEDICAL COLLEGE, BIKANER)
This is only an opinion and not the final diagnosis. Clinical correlation is advised.		

### Conclusion

Non-Alcoholic Fatty Liver Disease (NAFLD) is understood in Ayurveda as a *Kapha-Pitta* predominant *Medovaha Srotodushti* condition, characterized by *Yakrit Dushti* (liver dysfunction), *Agnimandya* (diminished digestive fire), and

*Ama Utpatti* (toxin accumulation). The pathology often stems from improper dietary habits (consumption of heavy, oily, and sweet foods), sedentary lifestyle, and mental stress, leading to *Strotorodha* (obstruction of bodily channels) and excess *Meda Dhatu* (fat tissue) accumulation in the liver.

Ayurvedic management of NAFLD, especially when diagnosed early, involves a holistic and multi-faceted approach, which includes:

- *Nidan Parivarthan* (eliminating causative factors)
- *Agni Deepan* and *Ama Pachan* (stimulating digestion and removing toxins)
- *Shodhan Chikitsa* (purificatory therapies like *Vamam*, *Virechan*, and *Basti* for doshic balance)
- *Shaman Chikitsa* (use of hepatoprotective and fat-regulating herbs such as *Kutki*, *Bhumyamalaki*, *Guduchi*, and *Triphala*)
- *Pathya Ahar* and *Vihar* (a therapeutic diet and lifestyle including physical activity, yoga, and stress reduction)

By enhancing digestive strength, detoxifying the liver, and optimizing lipid metabolism, Ayurveda offers both preventive and therapeutic strategies to manage NAFLD and halt its progression to more severe conditions like fibrosis or cirrhosis. Sustainable outcomes require adherence to a disciplined lifestyle, appropriate herbal formulations, and periodic detoxification.

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Received: 11/April/2025

AYUR: May-June, 2025; 1(3):17-21

Accepted: 24/May/2025

## Role of Ayurveda in the Management of Infertility with PCOS and Diabetes Mellitus Type II

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### Abstract

Polycystic ovarian syndrome is a systemic endocrine and metabolic disorder and is highly prevalent among reproductive aged women worldwide. Hyperinsulinemia and hyperandrogenemia are responsible for oligo/amenorrhea, hirsutism, obesity, and enlarged ovaries with multiple small cysts and a thick tunica, resulting in anovulation. Insulin resistance is recognized as a fundamental underlying pathology of PCOD and is found in 50–70% of patients. It is associated with increased risk of various metabolic disorders like type 2 Diabetes mellitus, hypertension, dyslipidemia, cardiovascular diseases. Conditions such as *Vandhya*, *Arajaska*, *Nashtartava*, *Artavakshaya*, and *Pushpaghni jathaharini* exhibit symptoms similar to PCOS, but *pushpaghni Jataharini* described by Acharya Kashyap has got much resemblance. This case study is a 28 year old female diagnosed as Infertility with PCOS with Type II Diabetes mellitus – *Pushpaghni Jataharini*, treated with *Ayurveda* principals, considering *Vata*, *Kapha*, *medas*, *srotoshodhana*, *Shamanoushadhis*, Diet, lifestyle modification, which helped in insulin rebalancing, obstruction clearing, helped to treat PCOS and helped the patient conceive.

**Keywords:** Polycystic ovarian syndrome (PCOS), Infertility, Diabetes mellitus type II, Pushpaghni Jataharini, Shamanoushadhi.

### Introduction

Polycystic ovarian syndrome (PCOS), is a endocrine disorder in women of reproductive age and is characterized by irregular menstrual cycles, hyperandrogenism, and polycystic ovaries. 8-13% of reproductive-age women globally are affected with PCOS of which 70% remain undiagnosed [1]. Today's era has led to unhealthy lifestyles, poor nutrition, and mental stress, which contribute to both physical and mental health issues [2]. PCOS is associated with comorbidities such as obesity, insulin resistance, type 2 diabetes, cardiovascular diseases, and infertility [3, 4]. The most frequently observed symptoms of PCOD include menstrual irregularities and reproductive issues, often resulting in female infertility. In modern science, PCOS diagnosis is made on the modified Rotterdam criteria- if at least two of the following are present: clinical or biochemical hyperandrogenism, oligo-anovulation, or polycystic ovarian morphology on ultrasound, with other disorders excluded [5]. Insulin resistance, accompanied by compensatory hyperinsulinemia (elevated fasting blood insulin levels), is an important biochemical feature of PCOS. Hyperinsulinemia increases ovarian androgen production

(particularly testosterone and androstenedione) and decreases sex hormone-binding globulin (SHBG) concentrations. In the long term, around 20% of women with PCOS develop non-insulin-dependent diabetes mellitus (NIDDM). The *Ayurvedic* view of PCOS can be correlated with the blockage of *Vata* and *Pitta* by *Kapha*, which disrupts movement and inhibits the transformation process. Following dietary habits and activities that elevate *Kapha* leads to *Kapha* dominance in the body. *Kapha* being *Sheeta*, *Manda*, *Sthira*, *Guru* [6], diminish the *Jatharagni* [7] and starts impacting the metabolic function of *Dhatvagni* [8] *Kapha* and *Ama* blocks *Artavavaha Strotas* (*Artavaha Sroto Dushti*). This stagnation of *Apana Vayu* in the *Artavavaha Strotas* obstructs the flow of *Vata* in the ovarian cycle, leading to menstrual disturbances like oligomenorrhea and amenorrhea in PCOD. Accumulation of excess *Kledak Kapha* and *Ama* in the body also results in *Dhatvagni Mandya* [9]. Which impacts the *Meda Dhatvagni*. This impaired metabolism of the fat tissue leads to a contradictory state of fat metabolism (*Meda Viruddha*), ultimately contributing to diabetes and obesity.



**Case Report**

A 28-year-old female presented with irregular menses, nausea, decreased appetite, hyperacidity, and infertility at JEENA SIKHO Lifecare Limited Hospital, Jalandhar, Punjab, India.

She is a known case of PCOS and Type II Diabetes Mellitus, both under allopathic treatment.

She also has a history of pelvic inflammatory disease.

Her last menstrual period (LMP) was on 14/10/2024, with a history of irregular menstruation.

**Family History:** Both father and mother have Type II Diabetes Mellitus.

**Addictions:** No known addictions.

**Allergies:** No known food or drug allergies.

**USG Whole Abdomen (Dated 07/10/2024):** Revealed fatty liver, bilateral renal concretions, and a right ovarian cyst measuring 28 mm × 20 mm.

**Blood Sugar Level (Random, Dated 25/10/2024):** 237 mg/dL.

**Table 1:** Examination

<b>Personal history</b>
Diet- Veg
Appetite- decreased
Bowel- Regular
Micturition- 4-5 times/day
Sleep-Normal
Habits-nothing specific
<b>Menstrual History</b>
Irregular
Clots- Absent
Dysmenorrhea – Absent
Foul smell- Absent
<b>General Examination</b>
Pulse Rate: 72/min
Blood Pressure (BP): 120/80 mmHg
Weight: 78 kg
Height: 5'4"
Respiratory Rate: 18/min
Temperature: 98°F
<b>Ashta sthana pareeksha</b>
Nadi- Vatapittaja
Mala- Niram
Mutra- Pita Varna
Jihwa- Saam
Shabda- Spashta
Sparsha- AnushnaSheeta
Drik-Avikrita
Akriti- Sthula
<b>Systemic examination</b>
CVS: S1 and S2 heard; no murmur
NS: Conscious, oriented
RS: Air entry bilaterally equal (AEBE)
P/A: Soft, non-tender, no organomegaly
<b>Samprapti Ghataka</b>
Dosha- Kapha Pradhana Tridosha
Dushya-Dhatu- Rasa, Rakta
Upadhatu- Artava
Srotas- Rasavaha, Artavavaha
Srotodushti- Atipravritti, Sanga
Ama- Jatharagni, Dhatvagni janya
Udbhava Sthana- Amashaya
Sanchara Sthana- Garbhashaya
Vyakta Sthana- Garbhashaya, Beeja Granthi

## Investigations

**USG Whole Abdomen (dated 07/10/2024):** Revealed fatty liver, bilateral renal concretions, and a right ovarian cyst measuring 28 mm × 20 mm.

**Blood Sugar Level (Random, dated 25/10/2024):** 237 mg/dL.

## Treatment

### 1. Shaman Chikitsa: Dated - 25/10/2024:

- Relivon powder ½ tsf HS. (*Nishikala* with *Koshna jala*)
- Granthi har Vati 1BD (*Adhobhakta* with *Koshna jala*)
- Yakrit shotha har Vati 1BD (*Adhobhakta* with *Koshna jala*)
- SHE cap 1BD (*Adhobhakta* with *Koshna jala*)
- Ladies Tonic 10ml BD (*Adhobhakta* with *Sama matra Koshna jala*)
- Prameha har powder ½ tsf BD (*Adhobhakta* with *Koshna jala*)
- Alokik shakti 1BD (*Adhobhakta* with *Koshna jala*)
- Cap Liv DS 1BD (*Adhobhakta* with *Koshna jala*)

### 2. Dietary Recommendations

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital, Jalandhar, Punjab, India, include the following key recommendations:

**Diet Advised Was:** Incorporate a diet rich in fiber and antioxidants, fresh seasonal fruits and vegetables like leafy greens like spinach, dry fruits like black resins, almonds, walnuts, ginger, turmeric, whole grain, brown rice, oats, legumes, lentils, beans.

#### Foods to Avoid:

- Reduce intake of sweetened and processed packaged food,
- Avoid salty spicy fried junk food.
- Avoid the combination of foods which are incompatible like milk with food, curd with fish, milk with fruits etc.
- Eliminate wheat, refined products, coffee, and tea.
- Avoid eating after 8 PM to support better digestion and metabolic function.

#### Hydration

- Drink alkaline water 3-4 times daily, along with herbal tea, "living" water, and turmeric water.

## Observations

- Almond milk, coconut water & coconut milk.

## Millet Inclusion

- Incorporate five varieties of millets into your diet: Foxtail, Barnyard, Little, Kodo, and Browntop.
- Ensure that millets are cooked using only steel utensils to preserve their nutritional properties.

## Meal Timing & Structure

- Breakfast (9:00 - 10:00 AM):** Seasonal Fruits (equal to patient's weight × 10 in grams) and steamed sprouts.
- Lunch (12:30 - 2:00 PM):** Steamed salad (equal to patient's weight × 5 in grams) and cooked millets.
- Evening Snacks (4:00 - 4:20 PM):** Light, nutritious snacks.
- Dinner (6:15 - 7:30 PM):** Same as lunch.

## Special Practices

- Offer gratitude before meals to cultivate positive energy.
- Sit in *Vajrasana* after eating to improve digestion and circulation.

## 3. Lifestyle Recommendations

**Sungazing:** Spend 30 minutes in direct sunlight each morning to absorb vitamin D and boost overall health and vitality.

**Yoga:** Practice yoga daily from 6:00 to 7:00 AM, focusing on flexibility, strength, and mental clarity to improve hormonal balance and overall well-being.

**Meditation:** Incorporate meditation into your daily routine to reduce stress, promote mental clarity, and enhance emotional well-being.

**Barefoot Walking:** Walk briskly for 30 minutes daily, preferably barefoot on natural surfaces like grass, to improve circulation and foster a deeper connection with nature.

**Sleep:** Aim for 6-8 hours of restful sleep each night to support physical and mental recovery, ensuring the body's systems function optimally.

**Consistent Daily Routine:** Follow a balanced and structured daily routine that supports equilibrium between meals, physical activity, and rest, helping to promote long-term health and vitality.

Table 2: Investigations on Follow ups

07/10/2024	25/10/2024	19/12/2024	25/12/2024	26/12/2024
USG Whole Abdomen – fatty liver with bilateral renal concentrations with Right Ovarian cyst measuring 28mm x 20mm in size.	BSL Random 237mg/dl.	BSL Random 187 mg/dl.	Renal Function test: WNL LFT's WNL, TFT's – WNL Electrolytes- Normal, CBC – WNL, Lipid profile – Sr. LDL Cholesterol 114.04mg/dl, Non HDL Cholesterol 141.30 mg/dl, HbA1c 6.50%, UPT- Positive, USG Obstetrics: Single viable foetus of mean gestation age 6 weeks 0 days.	BSL Random 160 mg/dl.

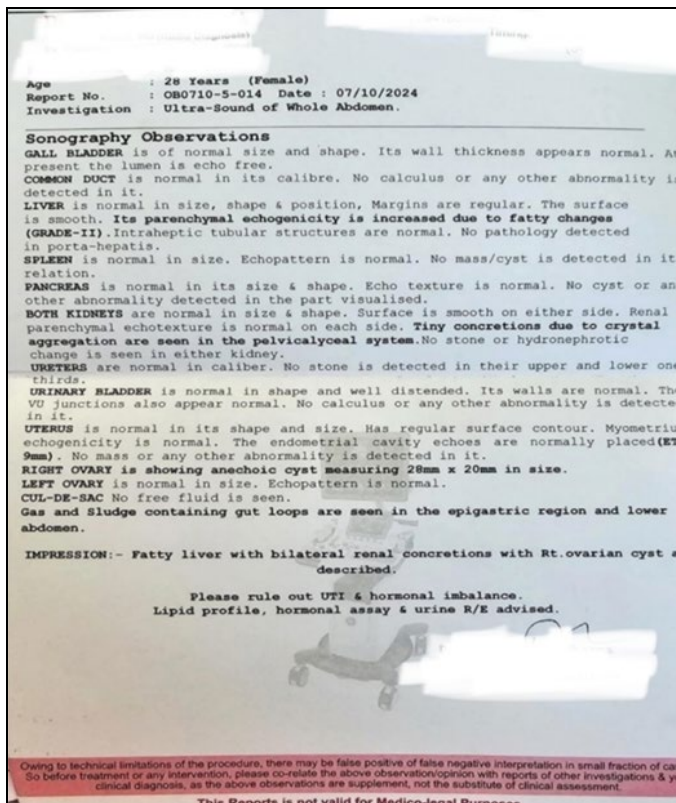


Fig 1: USG Whole Abdomen- Before treatment

Table 3: Examination on Follow-ups

	Blood Pressure	Weight
25/10/2024	120/80 mm of hg	78 kgs
19/12/2024	130/90 mm of hg	74.45 kgs
26/10/2024	120/80 mm of hg	75.20 kgs

## Discussion

In present era, sedentary lifestyle and stress has lead to various diseases, health challenges like PCOS. According to *Ayurveda*, the pathogenesis of PCOS is *Agni* dysfunction, reduced *Jatharagni* function impacts *Dhatwagni*, ultimately leading to the onset of the condition.

PCOS arises from *Kapha* imbalance, resulting in *Artavavaha Srotorodha* and eventually leading to *Vatavaigunya*. *Pitta* represents the molecular functions involved in bodily transformations, including enzymatic activities, protein synthesis, and hormonal regulation crucial for digestion, assimilation, tissue formation, and overall metabolism. *Vata*, being the primary *Dosha*, regulates the functioning of other *Doshas*. When it is imbalanced, it disrupts the normal physiology of the reproductive system. Vitiated *Kapha* leads to indigestion, triggering the formation of *Ama* and causing blockages in the channels (*Srotorodha*). Additionally, *Kapha* aggravation contributes to the aggravation of *Vata* by obstructing its normal flow through the channels (*Margavarodha*).

The *Shamanushadhis* used in this patient were *Doshashamaka* (*Vata*, *Pitta* and *Kapha*), *Srotoshodhana*, *Agnivardhaka*, *Deepana*, *Pachana*.

- Relivon Powder:** Contains *Swarna Patri*, *Misreya*, *Sendha Namak*, *Sonth*, *Jang Harar*, *Erand oil*. It helps in indigestion, relieves constipation, removes undigested metabolic waste.
- Granthi Har Vati:** supports overall health and well-being. It contains key ingredients like *Guggulu* [10], *Kanchanar* [11], *Amalaki* which help improve digestion,

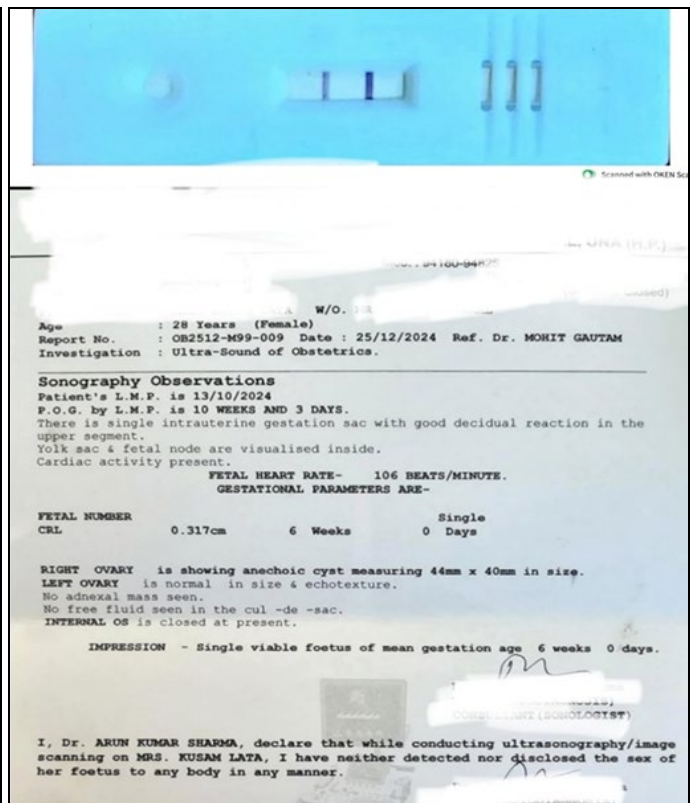


Fig 2: UPT – Positive and USG of Obstetrics- After treatment

possess anti-inflammatory properties, and support weight management. *Guggulu* is *Vataghna* due to *Ushna virya* and *Kaphaghna* due to its *Tikta Kashay* rasa. It has properties such as *Kledashoshaka*, *Jantughna*, *Rasayana* and *Vrishya*. It acts on *Vikrut meda*. *Kanchanar* possesses *Kashaya rasa*, *Laghu* and *Ruksha guna*, and is therefore *Kaphaghna*.

- Yakrit Shotha Har Vati:** Contains *Punarnava*, *Kalimirch*, *Pippali*, *Vidanga*, *Devadaru*, *Haridra*, *Chitrak*, *Haritaki*, *Amalaki*, *Danti*, *Chavya*, *Pippalimula*, *Kutaki*, *Nishoth*, *Shunthi*, *Ajwain*, *Mandoor Bhasma*. Helps in liver dysfunction, diuretic, anemia, oedema.
- SHE Cap:** contains *Ashwagandha*, *Ulatkambal*, *Ashok*, *Supari*, *Bhumi Amla*, *Lodhra*, *Shatapushpa*, *Ashwatha*, *Bala*, *Naagakesar*, *Jiwanti*. It is indicated in hormonal dysfunction, infertility, menstrual disorders, PCOS, fibroids, anemia, blood purification.
- Ladies Tonic:** contains key ingredients like *Aloe Vera*, *Sonth*, *Kali Mirch*. *Aloe vera*. It helps in hormonal balance – regulating menstrual cycle, improving fertility, reduces stress.
- Prameha Har Powder:** contains *Kutki*, *Chirata*, *Neem Karela*, *Rasonth*, *Imli Beej*, *Kala Namak*, *Giloy*, *Sonth*, *Babool Chaal*, *Sarpagandha*, *Trivang Bhasma*, *Yashad Bhasma*, *Revend Chinni*, *Shodhit Guggulu*, *Methi*, *Jamun*, *Babool Fruit*, *Karanj*, *Shilajit*, *Haldi*, *Harad*, *Vanshlochan*, *Baheda*, *Amla*, *Gudmar*. Helpful in diabetes, urinary problems, high blood sugar, strengthen immunity, hyperglycemia, diabetic neuropathy, retinopathy.
- Alokik Shakti:** contains *Kesar*, *Loh Bhasma*, *Shudh Kuchla*, *Swarn Makshik Bhasma*, *Ashwagandha Ext.*, *Mukta Shukti Bhasma*, *Shatawari Ext.*, *Shankhpushpi*, *Pipal*, *Papita Sat*, *Tulsi*, *Pudina*, *Laung*, *Dalchini*, *Choti Elaichi*, *Tej Patta*, *Sonth*, *Badi Elaichi*, *Haldi*, *Ajwain*. Helps in increasing immunity, *medhya* and *dhatu kshay*.

viii). **Cap Liv DS:** contains *Bhumiamla* Ext., *Kasani* Ext., *Himsra*, *Punarnava* Ext., *Guduchi* Ext., *Kakamachi*, *Arjuna*, *Biranjaisipha*, *Kasamarda* *Jhavuka*, *Vidanga*, *Chitraka*, *Kutki*, *Haritaki*, *Bhringraj*. It is useful in liver disease and helps improve appetite.

11. Dr. A.P. Deshpande, Dr. Javalgekar, Dr. Subhash Ranade, Dravyaguna Vigyan, 5<sup>th</sup> Edition, M.D. Nandurkar Anmol Prakashan, Pune, 2004, 438.

## Conclusion

- Polycystic Ovarian Syndrome (PCOS), a systemic endocrine and metabolic disorder highly prevalent among reproductive-aged women worldwide, has insulin resistance as a fundamental underlying pathology. *Pushpaghni Jataharini*, mentioned in *Ayurvedic* classics, presents with symptoms similar to those of PCOS. *Ayurveda* offers a holistic approach in managing this condition, focusing on the vitiated *Doshas*—*Vata*, *Kapha*, and *Medas*—and incorporating *Srotoshodhana*. The use of *Shamanoushadhis*, along with diet and lifestyle modifications, in this patient significantly enhanced fertility and helped in controlling elevated blood sugar levels.
- Before treatment, USG (Whole Abdomen) revealed fatty liver, bilateral renal concretions, and a right ovarian cyst measuring 28 mm × 20 mm. Following treatment, the urine pregnancy test (UPT) was positive. Subsequent obstetric ultrasonography confirmed a single viable fetus with a mean gestational age of 6 weeks and 0 days.
- These findings suggest that *Ayurvedic* management not only helped in correcting the underlying pathology but also successfully restored fertility. However, further clinical trials with larger sample sizes are necessary to establish the efficacy and reproducibility of this treatment approach.

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Received: 19/April/2025

AYUR: May-June, 2025; 1(3):22-25

Accepted: 02/June/2025

## Integrative Management of Chronic Kidney Disease: A Case Report on *Ayurvedic* and Conventional Approaches

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### Abstract

**Background:** Chronic Kidney Disease (CKD) is a significant global health concern, characterized by persistent structural or functional kidney abnormalities lasting over three months, with serious health implications. Integrative approaches, including *Ayurveda*, have shown potential in improving renal function and patient outcomes.

**Case Presentation:** A 49-year-old male presented with complaints of fatigue, lumbar discomfort, pedal oedema, and foamy urine. Clinical investigations revealed elevated serum creatinine and a decreased estimated glomerular filtration rate (eGFR), indicative of impaired kidney function. The patient was managed with a holistic treatment approach combining *Ayurvedic* medicines, dietary modifications, and lifestyle adjustments.

**Outcome:** Following the integrative regimen, the patient's symptoms resolved, serum creatinine levels showed a notable decline, and eGFR demonstrated significant improvement. This case highlights the potential role of *Ayurveda* in complementing conventional CKD management and enhancing renal health.

**Conclusion:** This case report underscores the effectiveness of *Ayurveda*-based interventions in improving renal function and symptom relief in CKD patients. A well-structured integrative approach may serve as a valuable adjunct to standard medical care in managing chronic kidney disease.

**Keywords:** Chronic Kidney Disease (CKD), *Ayurveda*, Renal Function, Serum Creatinine, eGFR Improvement, *Mutraghata*, *Mutrakshaya*.

### Introduction

Chronic Kidney Disease (CKD) is a significant contributor to early mortality and illness worldwide. While global health initiatives have primarily focused on non-communicable diseases (NCDs) such as cardiovascular ailments, cancer, diabetes, and chronic respiratory conditions, CKD has garnered increasing attention due to its rising impact [1]. Since 1990, the Global Burden of Disease (GBD) study has recognized CKD as a critical public health issue, closely associated with other major NCDs like diabetes, hypertension, and cardiovascular diseases. Notably, CKD patients face an eight to tenfold increase in cardiovascular mortality, acting as a risk multiplier in individuals with diabetes and hypertension [2].

In 2015, kidney diseases ranked as the 12th leading cause of death globally, accounting for approximately 1.1 million fatalities. Over the past decade, CKD-related mortality has surged by 31.7%, marking it as one of the fastest-growing

major causes of death. Recent estimates suggest that more than 1 in 7 U.S. adults—about 35.5 million people, or 14%—are affected by CKD [3].

From an *Ayurvedic* perspective, the urinary system is referred to as "*Basti*," considered one of the body's vital organs (*Marma*). Imbalances in *doshas*, particularly *Vata*, can significantly impact this system, leading to conditions resembling CKD. Although CKD is not explicitly mentioned in classical *Ayurvedic* texts, disorders such as *Mutraghata* (obstructive uropathies), *Mutrakrichha* (dysuria), *Mutrashmari* (urinary calculi), and *Prameha* (a group of urinary disorders including diabetes) share similarities with CKD. Specifically, *Mutraghata* and *Mutrakshaya* exhibit clinical features akin to CKD, and the manifestations of *Basti Marma* injury closely parallel CKD symptoms [4].

This case report explores the successful management of a CKD patient through an *ayurvedic* approach, combining *Ayurvedic* treatments, dietary and lifestyle modifications. The

outcomes suggest potential benefits of incorporating *Ayurvedic* principles in CKD management, warranting further investigation.

### Case Report

A 49-year-old male, diagnosed with Chronic Kidney Disease (CKD) for the past 1.5 years, presented to JEENA SIKHO Lifecare Limited. Hospital, Goa, on November 11, 2024. He reported symptoms including constipation, fatigue, lower back pain, pedal edema, and frothy urine. The patient has no history of diabetes mellitus (DM) or hypertension (HTN) and does not consume alcohol or smoke. The patient has a history of COVID-19 infection, which occurred four years ago. The ultrasound (USG) report dated September 4, 2024, indicates the following findings:

- **Right Kidney:** Measures  $9.0 \times 4.1$  cm, with a simple cortical cyst in the lower pole measuring  $1.6 \times 1.3$  cm.
- **Bilateral Kidneys:** Show increased cortical echotexture.

These findings suggest underlying renal parenchymal changes.

The findings from the initial clinical assessment conducted on the day of admission are summarized in Table 1.

**Table 1:** Examination Findings

Parameter	Findings
Blood Pressure	110/70 mm of Hg
Pulse Rate	55/min
Weight	45.64 kg
Height	5'7"
CNS	Conscious, Oriented to time, place and person.
Nadi	Vata Predominant tridoshaja
Mala	Malavashtambha (constipation)
Mutra	Prakrit
Jivha	Saam (coated)
Shabda	Spashta
Sparsha	Anushna Sheeta
Akruti	Madhyam
Drik	Prakrit
Kshudha	Alpa
Agni	Mandya
Nidra	Khandita

The patient underwent a comprehensive diagnostic evaluation, including a Complete Blood Count (CBC), urinalysis, Renal Function Test (RFT), and estimated Glomerular Filtration Rate (eGFR) assessment.

### Medicinal Intervention

The *Ayurvedic* treatment approach for this patient followed a comprehensive regimen incorporating a combination of *Ayurvedic* formulations, including:

- **GFR Powder:** ½ tsp TDS (*Adhobhakta with Koshna Jal*)
- **CKD Tablet:** 1 BD (*Adhobhakta with Koshna Jal*)
- **Nephron Plus Capsule:** 1 BD (*Adhobhakta with Koshna Jal*)
- **Vrikcare Tonic:** 2 tsp BD (*Adhobhakta with Sama matra Koshna Jal*)
- **Syp. Blood Purifier:** 2 tsp BD (*Adhobhakta with Sama matra Koshna Jal*)
- **Syp. Renal Support:** 2 tsp BD (*Adhobhakta with Sama*

*matra Koshna Jal*)

Table 2 provides a detailed overview of these *Ayurvedic* medications, outlining their key ingredients, and specific therapeutic benefits. These formulations are intended to support renal function, enhance detoxification, and promote overall well-being.

**Table 2:** *Ayurvedic* Medications, Ingredients, and Therapeutic Benefits in the Management of CKD.

Medicine Name	Ingredients	Therapeutic Effects
GFR Powder	Bhumi Amla ( <i>Phyllanthus Fraternus</i> ), Haritaki ( <i>Terminalia Chebula</i> ), Vibhitaki ( <i>Terminalia Belerica</i> ), Kasni ( <i>Cichorium Lendivia</i> ), Makoy ( <i>Solanus Nigrum</i> ), Punarnava ( <i>Boerhaavia diffusa</i> ), Gokshur ( <i>Tribulus Terrestris</i> )	Supports kidney function and reduces inflammation, helping with renal symptoms.
CKD TAB	Apamarg ( <i>Achyranthes aspera</i> ), Gokshur ( <i>Tribulus terrestris</i> ), Punarnava ( <i>Boerhavia diffusa</i> ), Varuna ( <i>Crateva nurvala</i> ), Mulethi ( <i>Glycyrrhiza glabra</i> ), Sheetal chini ( <i>Piper cubeba</i> ), Bhumi Amla ( <i>Phyllanthus niruri</i> ), Haldi ( <i>Curcuma Longa</i> ), Charila ( <i>Parmelia perlata</i> ), Kulthi ( <i>Macrotyloma uniflorum</i> ), Haritaki ( <i>Terminalia chebula</i> ), Mulikshar ( <i>Raphanus sativus</i> ), Yava kshar ( <i>Hordeum vulgare</i> ), Sajjikhhar, Anantmool ( <i>Hemidesmus indicus</i> ), Pashanbhed ( <i>Saxifraga ligulata</i> )	Supporting renal function, reducing inflammation, promoting diuresis, aiding detoxification, balancing electrolyte levels
Nephron Plus	Hajrul Yahood bhasma powder, Chandra Prabha powder, Pashanbhed, Mulakkshar powder, Yavakshar powder, Amalaki Rasayan powder ( <i>Phyllanthus niruri</i> ), Trivikrum Ras powder, Navasar powder, Nimbu Stava powder, Gokshur ( <i>Tribulus terrestris</i> ), Shila Pushpa, Black Salt powder, Hing powder ( <i>Ferula asafoetida</i> )	Beneficial in managing kidney diseases, alleviating symptoms of burning micturition, treating urinary tract infections (UTIs), and supporting patients with bladder cancer.
Blood Purifier	Khair Chaal ( <i>Acacia catechu</i> ), Bakuchi ( <i>Psoralea corylifolia</i> ), Devdaru ( <i>Cedrus deodara</i> ), Daru Haldi ( <i>Berberis aristata</i> ), Haritaki ( <i>Terminalia chebula</i> ), Vibhitaki ( <i>Terminalia Belerica</i> ), Amalaki ( <i>Emblca officinalis</i> ), Mahamajishtha ( <i>Rubia cordifolia</i> ), Dhamasa ( <i>Fagonia cretica</i> ), Sariva ( <i>Hemidesmus indicus</i> ), Amba Haldi ( <i>Curcuma amada</i> ), Kutki ( <i>Picrorhiza kurrooa</i> ), Chiraita ( <i>Swertia chirata</i> ), Rasont ( <i>Berberis aristata</i> ), Satyanashi ( <i>Argemone Mexicana</i> ) Madhu (Honey), Shaker	Effective in managing various skin disorders, including acne, itching, rashes, and sensitive skin.
Renal Support	Nimb ( <i>Azadirachta indica</i> ), Arjun ( <i>Terminalia arjuna</i> ), Gokshur ( <i>Tribulus terrestris</i> ), Haritaki ( <i>Terminalia chebula</i> ), Ashwagandha ( <i>Withania somnifera</i> ), Karanj ( <i>Pongamia pinnata</i> ), Chirayata ( <i>Swertia chirayita</i> )	Helps in managing kidney disorders, urinary tract infections.

## Results

Following the implementation of the integrative management approach, significant improvements were observed in the health status of the patient with Chronic Kidney Disease (CKD). The treatment regimen, which combined *Ayurvedic* medications, dietary changes, and lifestyle modifications, resulted in notable clinical outcomes.

Table 3 presents vital assessments reflecting the impact of the integrative management on the patient's health status.

**Table 3:** Vital Assessments Reflecting the Impact of Integrative Management on Patient's Health

Date	Blood Pressure	Pulse Rate	Temperature	Weight
08/11/24	120/70 mm of Hg	64/min	94°F	67.25 Kg
09/12/24	110/80 mm of Hg	56/min	94°F	67.80 kg
07/01/25	120/80 mm of Hg	56/min	95°F	68.55 kg

Table 4. Presents before and after treatment results. Notably, the serum creatinine levels demonstrated a considerable decline from initial readings, indicating improved renal function. The estimated Glomerular Filtration Rate (eGFR) exhibited significant enhancement, moving from a pre-treatment value indicative of renal impairment to a level suggestive of improved nephron function.

**Table 4:** Before and After Treatment

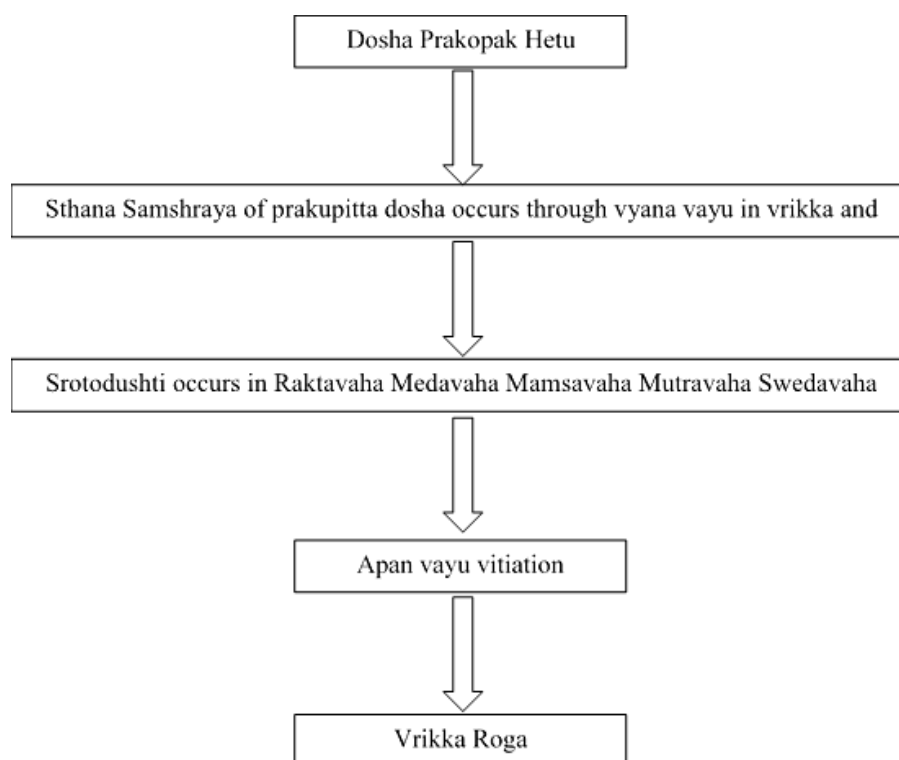
Investigation	Before treatment (02/11/24)	After treatment (07/12/24)
Sr. Creatinine	1.54 mg/dl	1.36 mg/dl
eGFR	55ml/min/1.73 sq.m.	64 ml/min/1.73 sq.m.

Clinical symptoms, including fatigue, lumbar discomfort, pedal edema, and foamy urine, were notably alleviated. The patient's quality of life improved, as evidenced by regular follow-up assessments and patient-reported outcomes. Moreover, the patient experienced an overall enhancement in well-being, as reflected by improved dietary habits and lifestyle adjustments adopted during the treatment period.

## Discussion

Chronic Kidney Disease (CKD) poses a significant global health challenge, contributing to substantial morbidity and mortality rates worldwide. Traditional management primarily focuses on prevention and the management of underlying causes; however, integrating complementary therapies, such as *Ayurveda*, may enhance patient outcomes and quality of life.

In *Ayurveda*, the urinary system is referred to as "*Basti*," recognized as one of the body's vital organs (*Marma*). Imbalances in *doshas*, particularly *Vata*, can adversely affect this system, leading to conditions resembling Chronic Kidney Disease (CKD). While CKD is not explicitly mentioned in classical *Ayurvedic* texts, conditions such as *Mutraghata*<sup>5</sup> (obstructive uropathies), *Mutrakrichha* (dysuria), *Mutrashmari* (urinary calculi), and *Prameha* (a group of urinary disorders, including diabetes) share clinical similarities with CKD, with *Mutraghata* and *Mutrakshaya* exhibiting features closely resembling its presentation.<sup>6</sup> The *Samprapti* of the disease in this patient can be articulated as follows:



The successful application of an integrative approach in this case highlights the importance of considering holistic treatment strategies for CKD. The *Ayurvedic* treatments administered—namely GFR Powder, CKD Tablet, and other *Ayurvedic* formulations—leveraged the synergistic properties of various herbs known for their nephroprotective effects.

Ingredients such as *Bhoomi Amla*, *Punarnava*, and *Gokshura* are recognized in *Ayurvedic* practice for their ability to improve renal function, enhance diuresis, and support detoxification processes. The pharmacological actions of these herbs may parallel and complement conventional medications by addressing both symptoms and root causes of

CKD.

### Benefits of Ayurvedic Medicines in CKD Management

- i). **GFR Powder:** Benefits: This formulation is geared towards enhancing glomerular filtration rate by supporting kidney function and improving overall renal health. The blend of ingredients such as *Bhoomi Amla* and *Punarnava* is known for their diuretic and anti-inflammatory properties, which facilitate detoxification and help in reducing renal symptoms associated with CKD.
- ii). **CKD Tablet:** Benefits: Formulated to support renal function, these tablets reduce inflammation and promote diuresis. The presence of *Pashanbhed* and *Varun* aids in urinary tract health and supports the removal of toxins, while components like *Shilajit* contribute to energy restoration and metabolic function.
- iii). **Nephron Plus Capsule:** Benefits: This formulation targets various kidney diseases by alleviating symptoms of burning micturition and treating urinary tract infections (UTIs). The medicinal ingredients work synergistically to support kidney health, enhance urinary flow, and manage associated complications effectively.
- iv). **Syp. Blood Purifier:** Benefits: This formulation aids in detoxifying the blood, which is crucial for CKD management. It addresses skin disorders and systemic inflammation by enhancing the body's natural filtration processes. Its potent ingredients support the liver and renal functions, helping to maintain optimal metabolic processes.
- v). **Syp. Renal Support:** Benefits: This blend is particularly effective in managing kidney disorders and urinary tract infections. The synergistic action of *Gokshura* and *Arjuna* promotes kidney function, while *Ashwagandha* serves to bolster overall vitality and reduce stress, further supporting renal health.

The incorporation of these *Ayurvedic* formulations into the treatment regimen for CKD patients not only targets renal dysfunction but also addresses overall health through holistic mechanisms. This multifaceted approach enhances the effectiveness of conventional treatments, thereby improving patient outcomes and quality of life.

The observed decline in serum creatinine and the increase in eGFR following the treatment underscores the potential effectiveness of this integrative strategy. As mentioned in the case report, renal function deterioration is often coupled with systemic complications, particularly in CKD patients. Therefore, employing a multifaceted treatment approach that includes lifestyle modifications alongside pharmacological interventions may address these systemic effects more comprehensively, resulting in improved overall patient outcomes.

Moreover, the patient's reported alleviation of symptoms, such as fatigue and edema, indicates a significant enhancement in the quality of life. This aligns with existing literature that supports the notion that holistic approaches can provide additional symptom relief not always achievable through conventional pharmacotherapy alone. Integrative approaches can empower patients, encouraging engagement in self-care practices that promote health and well-being.

### Need for Further Research

While this case report provides valuable insights, it is imperative to recognize its limitations. The findings are based

on a single patient case study, and further research involving larger cohorts is essential to validate these results and assess the generalizability of such integrative interventions in CKD management. Additionally, prospective clinical trials are needed to elucidate the specific mechanisms of action of *Ayurvedic* formulations and explore optimal therapeutic protocols.

### Conclusion

- i). **Therapeutic Potential of Integrative Approaches:** This case report explores the successful management of a CKD patient through an *ayurvedic* approach, combining *Ayurvedic* treatments, dietary and lifestyle modifications can effectively improve renal function and alleviate symptoms in a patient with Chronic Kidney Disease (CKD).
- ii). **Symptomatic Relief:** The patient experienced significant reduction in key symptoms, including fatigue, lumbar discomfort, and pedal edema, highlighting the efficacy of holistic management strategies in enhancing patient quality of life.
- iii). **Improved Renal Parameters:** Notable declines in serum creatinine levels and significant improvements in estimated Glomerular Filtration Rate (eGFR) were observed, indicating the potential of *Ayurvedic* interventions to support kidney function.
- iv). **Holistic Health Promotion:** The integrative regimen promoted overall health through dietary modifications and lifestyle adjustments, reinforcing the importance of comprehensive care in chronic disease management.
- v). **Need for Further Research:** Although the outcomes are encouraging, further clinical studies and larger trials are required to verify these findings, establish the efficacy of specific *Ayurvedic* interventions, and facilitate their integration into standard CKD management practices.
- vi). **Implications for CKD Management:** This case report underscores the potential role of *Ayurveda* as a complementary therapy in the management of CKD, advocating for further exploration into its benefits within the context of global healthcare systems.

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