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Date: 12th December, 2025

To, Manager - Listing Compliance **National Stock Exchange of India Limited** 'Exchange Plaza'. C-1, Block G, Bandra Kurla Complex, Bandra (E), Mumbai - 400 051 SYMBOL: JSLL	To, Head of the Department, Department of Listing Operation, **BSE Limited** Phiroze Jeejeebhoy Towers, Dalal Street, Mumbai 400001 SCRIP Code: 544476

Subject: Intimation under Regulation 30 of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 – Publication of Case studies.

Dear Sir/Madam,

Pursuant to Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, we wish to inform you that the following case studies have been Published in "***Academia Journal of Medicine, Advances in Applied Biological Research*** and ***Prakriti- The International Multidisciplinary Research Journal***" authored by medical professionals associated with **Jeena Sikho Lifecare Limited**, including our Managing Director, senior consultants, and Ayurvedic experts.

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

S. No.	Type	Name
1.	Case Study	Role of Ayurvedic Therapies in Chronic Kidney Disease Management: A Case Study on Integrating Traditional Healing.
2.	Case Study	Case Study on Ayurvedic and Panchkarma Intervention for Chronic Kidney Disease in an Elderly Patient.
3.	Case Study	Ashmari Chikitsa: An Ayurvedic Case Study on Renal Calculi.
4.	Case Study	Effectiveness of Ayurvedic and Panchakarma Therapies in Managing Chronic Kidney Disease: A Case Study Report.
5.	Case Study	Integrating Ayurvedic Therapies in Chronic Kidney Disease Management: A Case Report on Symptom Improvement and Renal Function Enhancement.
6.	Case Study	Ayurvedic Approach to Diabetes Mellitus Associated with Pancreatitis: A Case Study.

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

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

This is for your kind information and record.

Thanking you,
Yours faithfully,

For Jeena Sikho Lifecare Limited

MANISH GROVER
Digitally signed by MANISH GROVER
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Role of *Ayurvedic* Therapies in Chronic Kidney Disease Management: A Case Study on Integrating Traditional Healing

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ABSTRACT

Chronic Kidney Disease (CKD) is a progressive condition characterized by the gradual decline of kidney function, often resulting in end-stage kidney disease (ESKD), which necessitates kidney replacement therapy. While conventional treatments focus on managing these risk factors, *Ayurvedic* interventions have gained attention due to their holistic, individualized approach, which aims to restore balance within the body and improve kidney function. This case study evaluates the impact of *Ayurvedic* interventions combined with conventional treatments in a 56-year-old male patient with CKD, hypertension, and Type 2 Diabetes Mellitus (T2DM) who visited Jeena Sikho Lifecare Limited Hospital in Derabassi, Punjab. The patient presented with symptoms including general weakness, lower back ache, itching, and frothy urine. After a course of *Ayurvedic* treatment, significant improvements were noted in kidney function, including a reduction in serum urea and creatinine levels, as well as an increase in GFR. The patient's symptoms, including general weakness and itching, improved markedly, and his weight decreased. The results indicate that *Ayurvedic* therapies, such as *Ayurvedic* formulations and detoxification practices, could play a supportive role in managing CKD by improving renal function and alleviating symptoms. This study highlights the potential of combining traditional *Ayurvedic* treatments with conventional treatment in managing CKD. However, further research with larger sample sizes and controlled clinical trials is required to establish the effectiveness of *Ayurvedic* approaches in CKD management and integrate them into mainstream healthcare.

Introduction

Chronic kidney disease (CKD) is marked by a progressive decline in kidney function, diagnosed when the glomerular filtration rate (GFR) drops below 60 mL/min per 1.73 m^2 or when kidney damage persists for over three months. End-stage kidney disease (ESKD) arises when kidney function

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deteriorates to the point that life cannot be sustained without conservative care or kidney replacement therapy [1]. While CKD is often asymptomatic, some individuals experience symptoms due to uremic toxin accumulation, leading to hypertension, fluid retention, bone pain, peripheral neuropathy, and sleep disturbances, which impact quality of life [2,3].

Obesity contributes to CKD by increasing the risk of essential hypertension and Type 2 diabetes mellitus (T2DM), with resistant hypertension being a key factor in disease progression. Cardiovascular disease is the leading cause of death in CKD patients rather than dialysis complications [4]. Diabetes, both Type 1 and Type 2, is a major contributor to CKD, with diabetes mellitus being the leading cause of end-stage renal disease (ESRD) in developed nations. Additionally, anemia affects one in five individuals with diabetes and stage 3 CKD [5]. Chronic obesity further increases the risk of CKD [7]. Genetic factors such as ectopic kidneys, renal agenesis, and polycystic kidneys also contribute to CKD [8].

From an *Ayurvedic* perspective, CKD results from *Dosha* imbalances affecting the *Srotas*. The disease is classified based on the involved *Srotas* and symptoms, with anemia resembling *Vataj Pandu*, a *Rasavaha Srotas* disorder [9]. Modern medicine relies on declining GFR for CKD diagnosis, with diabetes and hypertension as the primary causes. Management focuses on slowing progression and preventing complications, with obesity exacerbating hypertension and diabetes, thus increasing CKD risk. Cardiovascular disease remains a critical concern, as CKD patients are more likely to die from cardiovascular events than dialysis complications [4,5]. Early detection and management of diabetes, hypertension, and obesity are crucial to reducing CKD's global burden. However, treatment access remains a challenge, leading to increased interest in *Ayurveda* [13].

Ayurvedic treatments aim to restore *Dosha* balance and *Srotas* function, addressing underlying causes such as diabetes and hypertension. *Panchakarma* detoxifies the body, while herbs like *Punarnava*, *Gokshura*, *Brahmi*, and *Ashwagandha* possess anti-inflammatory, diuretic, and detoxifying properties, supporting kidney function [10-16]. *Ayurvedic* dietary guidelines emphasize reducing protein, sodium, and phosphorus intake while promoting kidney-friendly foods [17]. These therapies not only improve kidney health but also enhance mental well-being and quality of life, offering a cost-effective alternative in regions with limited healthcare access [13,16]. This study aims to assess the impact of *Ayurvedic* interventions combined with conventional treatments for CKD with hypertension in a 56-year-old male patient.

CASE REPORT

On May 10, 2023, a 56-year-old male known case of CKD and hypertension for 4 years and T2DM for 11 years visited Jeena Sikho Lifecare Limited Hospital in Derabassi, Punjab. He was admitted twice, 7 days' day care for first time and 4 days' day care for second time. A comprehensive medical history, family history, physical examination, and diagnostic evaluations were all part of the methodical and thorough examination. He was taking allopathic medicines regularly. His father and sister had a history of CKD and he was diagnosed with COVID-19 during 2021. He experienced general weakness, lower backache, itching and frothy urine. The vital signs along with *Ashta vidha pariksha* report during the first day of visit is detailed in **Table 1**.

Table 1 Vitals during the initial examination on first day of the visit

Parameter	Findings
Temperature	98.2°F
Blood Pressure	130/80 mm of Hg
Pulse Rate	85/min
Weight	88 Kg
Nadi	*Vataj Pittaj*
Mutra	*Phenila Mutra*
Shabda	*Spashta*
Mala	*Samanya*
Akriti	*Madhyam*
Drika	*Avikrita*
Sparsha	*Avikrita*
Jivha	*Saam*

Vitals observed during investigations conducted on the May 11, 2023 are detailed in **Table 2**. After 7 days of treatment, the patient experienced significant improvement, including relief from itching, backache and gastric issues.

Table 2 Investigation on May 11, 2023

Parameter	Findings
Date	**11-05-2023**
Haemoglobin	10.2 gm/dL
eGFR	11 ml/min/1.73m²
Protein	+
Pus cells	1-2
Epithelial cells	2-3
Lipid Profile	
Total Cholesterol	213.5 mg/dL
HDL	45.3 mg/dL
LDL	126.60 mg/dL
VLDL	41.60 mg/dL
Triglycerides	208 mg/dL

The vitals observed during the day care treatment on daily basis are detailed in **Table 3**. Laboratory investigations during the treatment period including follow ups are mentioned in **Table 4**. The patient was afterward discharged on May 17, 2023. Vital signs during the time of discharge is given in **Table 5**.

Table 3. Daily vitals observed during the day care treatments

Date	Weight in Kg	Temperature in F	Blood Pressure (mmHg)	Pulse/min	Respiration/min	Pain score
10-May-23	88 Kg	98.2°F	130/80	84	20	0/10
11-May-23	-	98.2°F	120/80	80	18	0/10
12-May-23	85.6 Kg	98.2°F	130/90	68	18	0/10
13-May-23	85 Kg	98.2°F	130/90	68	18	2/10
14-May-23	-	98.2°F	120/90	70	18	2/10
15-May-23	-	98.2°F	130/80	78	18	0/10
16-May-23	-	98.2°F	120/80	68	18	0/10

Table 4. Vitals signs observed during the treatment period including follow ups

Parameter	Findings					
Date	11-05-2023	16-05-2023	14-06-2023	08-08-2023	25-09-2023	04-11-2023
Haemoglobin	**10.2 gm/dL**	**9.8 gm/dL**	**10.1 gm/dL**	**11.5 gm/dL**	**10.9 gm/dL**	**11.7 gm/dL**
Urea	**142 mg/dL**	**120 mg/dL**	**65 mg/dL**	**72.89 mg/dL**	**79.6 mg/dL**	**59.00 mg/dL**
Creatinine	**6.4 mg/dL**	**4.00 mg/dL**	**4.40 mg/dL**	**4.00 mg/dL**	**3.95 mg/dL**	**3.82 mg/dL**
Uric acid	6.4 mg/dL	**7.6 mg/dL**	**9.90 mg/dL**	**7.60 mg/dL**	**8.04 mg/dL**	**7.67 mg/dL**
Sodium	142.4 mEq/L	140.1 mEq/L	143.8 mEq/L	144.5 mEq/L	142.2 mEq/L	-
Potassium	5.46 mEq/L	5.40 mEq/L	5.38 mEq/L	5.40 mEq/L	5.15 mEq/L	-
Chloride	106.9 mEq/L	105.1 mEq/L	105.8 mEq/L	105.3 mEq/L	106 mEq/L	-
Total RBC count	3.85 Mill/Cumm	3.74 Mill/Cumm	3.56 Mill/Cumm	3.68 Mill/Cumm	-	3.63 Mill/Cumm

Table 5. Vital signs during the time of first discharge on May 17, 2023

Parameter	Findings
Temperature	98.2°F
Blood Pressure	120/80 mm of Hg
Pulse Rate	76/min
Weight	87 Kg
Nadi	*Vataj Pittaj*
Mutra	*Avikrita*
Jivha	*Avikrita*
Shabda	*Samanya*
Sparsha	*Avikrita*
Drika	*Avikrita*

The patient was on day care treatment for 7 days, during that period he received consolidated *Ayurvedic* treatments. This treatment procedure encompassed *Panchakarma* therapies such as *Awagaha Swedan* (below navel), *Madhutailik Basti*, *Abhyangam*. The patient was advised to take Chander Vati Tablet throughout the treatment period and Varunadi Vati on May 14, 2023.

On February 20, 2024, the patient return for day care treatment with conditions like weakness and frothy urination. The laboratory vital investigations during the second day care period are mentioned in **Table 6.** The vital parameters during discharge is mentioned in **Table. 7**

Table 6. The laboratory vital investigations during the second day care period.

Parameter	Findings	
Date	20-02-2023	27-03-2023
Haemoglobin	**11.5 gm/dL**	**10.3 gm/dL**
Urea	**63.27 mg/dL**	**55.88 mg/dL**
Creatinine	**3.76 mg/dL**	**3.55 mg/dL**
Uric acid	**7.85 mg/dL**	6.8 mg/dL
Sodium	146 mEq/L	145 mEq/L
Potassium	5.43 mEq/L	4.96 mEq/L
Chloride	105.1 mEq/L	105.8 mEq/L
Total RBC count	3.56 Mill/Cumm	**3.47 Mill/Cumm**

Table. 7 The vital parameters during discharge

Parameters	Findings
Temperature	98.2°F
Blood Pressure	140/90 mm of Hg
Pulse Rate	58/min
Weight	73 Kg
Nadi	*Vataj pittaj*
Mutra	*Samanya*
Jivha	*Avikrita*
Shabda	*Spashta*
Sparsha	*Anushmasheeta*
Mala	*Avikrita*
Drika	*Samanya*
Akriti	*Madhyam*

Medicinal Interventions

The *Ayurvedic* treatment employed in this case included GFR Powder, Nefron Plus Capsules, Chander Vati Tablet, CKD Syrup, Hrid Care Capsule, Dhatu Poshak Capsule, URI Plus Tablet, Kidney Care Syrup, Sama vati, MutraVardhak Vati and Divya Shakti Powder along with *Panchakarma* therapies. An accurately designed DIP Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CKD [17,18,19]:

Treatment Plan

I. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

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

Hydration:

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

Millet Consumption:

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

Meal Timing and Structure:

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

Fasting:

- It is recommended to fast for one day.

Special Instructions:

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

Diet Types:

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

II. Lifestyle Recommendations

1. Include meditation as a method for relieving stress.
2. Practice Yoga (Sukhasana and Sukshma Pranayama) between 6:00 AM and 7:00 AM.
3. Go for a brisk 30-minute barefoot walk.
4. Aim for 6-8 hours of restful sleep each night.
5. Follow a structured daily routine to maintain balance and organization in your life.

III. *Panchakarma* procedures administered to patients

1. Awagah Swedan (After monitoring the vitals) [20]

Procedure:

- The patient was submerged up to the navel in a tub of warm water.
- Sweating was encouraged by maintaining the water's temperature at 42˚C.
- The patient spent 20 to 60 minutes undergoing the operation.

Physiology and Mode of action:

- Immersion in warm water stimulates the production of nitric oxide, leading to vasodilation, which expands blood vessels. This enhances circulation, accelerating the removal of metabolic waste such as carbon dioxide and urea, while improving oxygen and nutrient delivery to tissues.
- The warmth activates sweat glands, encouraging sweating, which helps eliminate water-soluble toxins like heavy metals and other metabolic byproducts.
- The heat activates the parasympathetic nervous system, reducing cortisol levels and promoting relaxation. It also improves vagal tone and decreases the sympathetic stress response, supporting overall body balance and homeostasis.

2. Madhutailik Basti

Procedure:

- In order to clear the digestive tract and get rid of toxins, the therapy started with preemptive measures such a mild purgative (Virechana) and/or emetics (Vamana).
- For best absorption and therapeutic efficacy, a medicated enema with a mixture of honey (Madhu) and medicated oil (Taila) is given via the rectal channel in a regulated amount, temperature, and pressure.
- The patient is constantly watched for any negative reactions during the course of treatment.

Physiology and Mode of action:

- Madhutailika Basti uses honey and medicated oil to stimulate prostaglandin synthesis, relaxing smooth muscles and enhancing absorption.
- It increases lymphatic flow, helping to reduce inflammation and promoting detoxification.
- The medicated oil inhibits pro-inflammatory cytokines and enzymes, reducing inflammation and swelling.
- Honey contains antioxidants that neutralize free radicals, reducing oxidative stress.
- The combination of oil and honey may influence gut microbiota, improving neurotransmitter balance and stress response, enhancing mental clarity and mood.
- Nitric oxide production relaxes smooth muscles, improving blood circulation and enhancing the therapy's therapeutic effects.
- Madhutailika Basti helps balance the Vata, Pitta, and Kapha doshas, promoting overall dosha harmony, removing accumulated toxins, and strengthening the digestive fire [21].

3. *Abhyangam*

Procedure

- The *Ayurvedic* medicated oil was selected and warmed, and the environment was made comfortable and warm for the treatment.
- Warm oil was poured onto the body, starting from the head and moving down to the toes, ensuring even coverage across the entire body.
- A gentle, rhythmic massage was performed using circular strokes on the joints and long, smooth strokes on muscle groups, with pressure adjusted as needed.
- After the massage, a 15-20-minute resting period allowed the oil to absorb, followed by wiping off excess oil with a warm towel or a mild bath.

Physiology and Mode of action:

- Rich in fatty acids, *Ayurvedic* medicated oils improve skin hydration and elasticity by enhancing phospholipid biosynthesis and promoting fat breakdown.
- The massage stimulates blood flow, improving oxygen and nutrient delivery to tissues.
- It also promotes lymphatic flow, aiding in detoxification and toxin removal.
- *Abhyanga* reduces cortisol levels, promoting relaxation and mood enhancement.
- Active compounds in oils, like turmeric and ginger, modulate the NF-kB pathway, reducing inflammatory cytokines and alleviating pain, inflammation, and muscle soreness [22,23].

4. HDT [20]

Procedure

- Patient is made to lie at 10˚ angle down of the head.
- The patient lies on a tilted surface with their head and upper body lower than their legs.
- This position is continued for about 1 to 2 hours.

Physiology and Mode of action:

- HDT causes blood to shift toward the upper body, leading to an increase in central blood volume.
- The body's baroreceptors sense the change in blood volume, triggering hormonal and renal system changes, including activation of the Renin-Angiotensin-Aldosterone System pathway.
- Aldosterone and antidiuretic hormone are released, regulating fluid retention or excretion by the kidneys to maintain blood pressure and sodium-potassium balance.
- Increased pressure and shear stress on vascular endothelial cells stimulate the production of nitric oxide, which helps in vasodilation and blood pressure regulation.

5. *Matra Basti* with *Gokshura siddha sneha*

Procedure

- The patient was positioned comfortably on the left side with bent knees, and the bladder and bowels were emptied before the procedure.
- The *Gokshura* oil, made by infusing *Gokshura* in a base oil, was warmed to body temperature for comfortable administration.
- The warm *Gokshura* oil was gently administered into the rectum using a nozzle or catheter, and the patient retained it for 30-45 minutes.
- The oil was retained for the prescribed duration, allowing it to absorb, hydrate the tissues, balance the *doshas*, and improve digestion and urinary health.

Physiology and Mode of action:

- The oils used in *Matra Basti* are absorbed through the rectal mucosa, bypassing the digestive system. These oils carry the medicinal properties of *Gokshura* directly into the bloodstream, facilitating fast and efficient systemic delivery.
- *Gokshura's* saponins inhibit the NF-kB signaling pathway, reducing the production of pro-inflammatory cytokines (e.g., TNF-α, IL-6), leading to decreased inflammation and pain relief, particularly useful for *Vata*-related disorders like joint pain.
- The saponins in *Gokshura* modulate the RAAS, promoting increased excretion of water and waste products, helping detoxify the body and reduce fluid retention.
- Steroidal saponins in *Gokshura* stimulate the production of testosterone and other steroid hormones, supporting reproductive health and vitality, and enhancing physical and mental resilience.
- *Gokshura's* compounds activate the Nrf2 pathway, increasing the expression of antioxidant proteins like superoxide dismutase, protecting cells from oxidative stress and supporting brain health.
- The lipids in *Matra Basti* provide nourishment to deeper tissues, reducing dryness and instability, while the combined anti-inflammatory and antioxidant effects help balance *Vata dosha* [24].

6. *Vrikk basti* with *Dhanwantaram* oil

Procedure

- The patient was positioned in a prone posture, and a dough ring was placed over the kidney region (L1–L3).
- Warm *Dhanwantaram* Oil (39–41°C) was poured into the dough ring and retained for 20–30 minutes.
- The oil temperature was maintained throughout the procedure by reheating as needed.
- After completion, the oil was removed, the area was cleaned, and the patient was advised to rest for 15–30 minutes.

Physiology and Mode of action:

- *Dhanwantaram* oil, rich in lipophilic compounds like sesamol and fatty acids, is absorbed through the skin during *Vrikk basti*. These lipids facilitate the deep penetration of active compounds into the bloodstream, allowing them to interact with kidney cell membranes, enhancing nutrient transfer and promoting kidney tissue repair.
- Active ingredients such as turmeric and *Ashwagandha* in *Dhanwantaram* oil modulate inflammatory pathways by inhibiting pro-inflammatory cytokines (TNF-α, IL-6). This reduces oxidative stress and prevents cellular damage in kidney tissues, offering protection from nephritis, kidney stones, and inflammation-related kidney diseases.
- The antioxidant properties of *Dhanwantaram* oil, derived from herbs like turmeric and bala, protecting kidney cells.
- *Dhanwantaram* oil pacifies *Vata dosha*, stabilizing the

nervous system and promoting smooth fluid movement within the kidneys. It also stimulates cellular repair through *Rasayana* herbs, enhancing kidney tissue regeneration, improving renal function, and preventing further damage in chronic kidney conditions [25].

7. Vrikk basti with *Gokshuru* and *Dhanwantaram oil*

Procedure

- The patient was positioned in a prone posture, and a dough ring was placed over the kidney region (L1–L3).
- A warm blend of *Gokshuru* decoction and *Dhanwantaram* Oil (heated to 39–41°C) was poured into the dough ring and retained for 20–30 minutes.
- The oil temperature was maintained throughout the procedure by reheating as needed.
- After completion, the oil was removed, the area was cleaned, and the patient was advised to rest for 15–30 minutes.

Physiology and Mode of action:

- The warm oil and decoction penetrate the skin, dilating blood vessels and enhancing circulation in the kidney region.
- *Gokshuru* acts as a diuretic, promoting urine formation and toxin elimination, while heat improves renal filtration.
- *Dhanwantaram* Oil relaxes muscles, relieves lower back tension, and balances *Apana Vata*, aiding smooth urinary flow.
- Supports kidney nourishment, maintains electrolyte balance, reduces *Kapha*-related fluid retention, and enhances urinary and metabolic health. [26].

8. *Gokshuru* and *Punarnava Sneha Basti*

Procedure

- The patient was positioned on their left side with knees bent for the enema.
- The decoction of *Gokshura* and *Punarnava* was prepared by boiling in water and mixed with medicated oil to enhance absorption and promote kidney health.
- 90 ml of mixture of *Gokshura*, *Punarnava*, and medicated oil was administered to the patient through the rectum. The patient retained the enema for 15-30 minutes to allow for maximum absorption.
- After retention, the patient evacuated the enema, releasing toxins and excess fluid. They were advised to rest and stay hydrated for effective detoxification and kidney recovery.

Physiology and Mode of action:

- The lipophilic properties of the medicated oil used in the *Basti* enhance the absorption of active compounds from *Gokshura* and *Punarnava*, allowing direct delivery to the bloodstream and targeting kidney tissues for therapeutic action.
- The active compounds in *Gokshura* and *Punarnava* promote diuresis, increasing urine output and facilitating the elimination of *Ama* and metabolic waste products, aiding in kidney detoxification.
- *Punarnava* and *Gokshura* have anti-inflammatory and antioxidant effects, reducing oxidative stress and inflammation in kidney cells, protecting kidney tissues, and improving renal function.
- The diuretic action helps to regulate electrolyte balance, preventing imbalances and supporting proper kidney filtration, while the medicated oil maintains hydration and smooth fluid movement within the kidneys [27,28,29].

9. *Shiropichu* with *Brahmi* oil

Procedure

- *Brahmi* oil was indirectly heated to lukewarm temperature.
- The warmed Brahmi oil was gently applied to the forehead and scalp. A cloth pad soaked in the oil was placed on the forehead, covering the *Ajna Chakra* and crown, and left in place for 15-30 minutes.
- The patient was encouraged to remain still, focus on deep breathing, and enjoy the calming effects of the oil.

Physiology and Mode of action:

- The lipophilic nature of Brahmi oil allows its active compounds, like bacosides, to be absorbed through the scalp, directly influencing brain function and enhancing cognitive abilities.
- Bacosides improve neurotransmission by increasing the release of acetylcholine, boosting memory, focus, and

mental clarity.

- Brahmi oil's antioxidant properties help neutralize reactive oxygen species (ROS) in the brain, preventing neuronal damage and supporting brain health.
- Brahmi oil reduces cortisol levels, alleviating stress, while its anti-inflammatory properties help protect against neuro-inflammation, supporting cognitive function.
- The warm oil improves blood flow to the brain, enhancing the delivery of oxygen and nutrients, promoting overall brain rejuvenation and optimal function [30,31].

Medications administered during the discharge during first day care treatment on May 17, 2023 is mentioned in **Table 8**.

Table 8. Medications advised during the time of discharge

Medicine Name	Ingredients	Dosage	Therapeutic Effects
GFR Powder	**Varun** (*Crateva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokshur** (*Tribulus terrestris*), **Kaasni** (*Cichorium intybus*), **Bhumi Amla** (*Phyllanthus niruri*), **Shirish** (*Albizia lebbeck*), **Shigru** (*Moringa oleifera*) and **Apamarg** (*Achyranthes aspera*)	Half a teaspoon BD (*Adhobhakta* with *koshan jala*)	Improves cell rejuvenation and urine outflow
Mutra Vardhak Vati	**Gokshura** (*Tribulus terrestris*), **Guggul** *(Commiphora wightii),* **Sonth** *(Zingiber officinale)* , **Kalimirch** *(Piper nigrum)*, **Pippal** *(Piper longum)*, **Bahera** *(Terminalia bellerica)* , **Haritaki** *(Terminalia chebula)*, **Amla** *(Phyllanthus emblica)*, **Motha** *(Cyperus rotundus).*	2 TAB BD *(Adhobhakta* with *koshan jala)*	Used for treating kidney stones, dysuria, painful micturition, high blood pressure, and inflammatory conditions, while also providing relief in osteoarthritis (O.A.), hyperuricemia, and exhibiting antithesis properties.
Nefron Plus Capsules	**Hazrool yahood bhasma powder Chandraprabha powder Pashanbheda MulakKshar powder, YavaKshar powder Amalaki Rasayan powder Trivikrum Rasa powder, Navasara powder Nimbu Stava powder** (*Citrus limon*), **Gokshur** (*Tribulus terrestris*), **Durbhamool** (*Chlorophytum borivilianum*), **Shila pushpa** (*Dolichos biflorus*), **Black Salt powder**, and **Hing powder** (*Ferula asafoetida*)	2 CAP BD *(Adhobhakta* with *koshan jala)*	Provides relief from pain and discomfort associated with kidney issues.
Divya Shakti Powder	**Trikatu, Triphala, Nagarmotha** (*Cyperus rotundus*), **Vaya Vidang** (*Embelia ribes*), **Chhoti Elaichi** (*Elettaria cardamomum*), **Tej Patta** (*Cinnamomum tamala*), **Laung** (*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** (*Ferula assafoetida*), **Kachnar** (*Bauhinia variegata*), **Ajmod** (*Trachyspermum ammi*), **Sazzikhar, Pushkarmool** (*Inula racemosa*), **Mishri** (*Saccharum officinarum*).	Half a teaspoon HS *(Nishikal* with *koshna jala*)	Deepan. Pachana and detoxification
Kidney Care Syrup	**Punarnavarishta, Chandanasava, Ushirasava and Gokshuradi Kadha**	20 ml BD *(Adhobhakta* with *koshna samamatra jala)*	Relieves dysuria

The Serum urea and serum creatinine increased after 2 months of the discharge. Then the patient came for follow-up on August 08, 2023. The medications advised on the follow-up is mentioned in **Table 9.**

Table 9. Medications advised during the follow-up on August 08, 2023

Medicine Name	Ingredients	Dosage	Therapeutic Effects
GFR Powder	**Varun** (*Crateva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokshur** (*Tribulus terrestris*), **Kaasni** (*Cichorium intybus*), **Bhumi Amla** (*Phyllanthus niruri*), **Shirish** (*Albizia lebbeck*), **Shigru** (*Moringa oleifera*) and **Apamarg** (*Achyranthes aspera*)	Half a teaspoon BD (*Adhobhakta* with *koshna jala*)	Improves cell rejuvenation and urine outflow
Nefron Plus Capsules	**Hazrool yahood bhasma powder**, **Chandraprabha powder**, **Pashanbheda**, **MulakKshar powder**, **YavaKshar powder**, **Amalaki Rasayan powder**, **Trivikrum Rasa powder**, **Navasara powder**, **Nimbu Stava powder** (*Citrus limon*), **Gokshur** (*Tribulus terrestris*), **Durbhamool** (*Chlorophytum borivilianum*), **Shila pushpa** (*Dolichos biflorus*), **Black Salt powder**, and **Hing powder** (*Ferula asafoetida*)	2 CAP BD (*Adhobhakta* with *koshna jala*)	Provides relief from pain and discomfort associated with kidney issues.
URI Plus Tablet	**Amalki (*Phyllanthus emblica*), Bibhitaki (*Terminalia bellirica*), Haritaki (*Terminalia chebula*), Gokshura (*Tribulus terrestris*), Shodhit Guggul, Guduchi(*Tinospora cordifolia*)**	2 tablets BD (*Adhobhakta* with *koshna jala*)	Manages Kidney dysfunction and infection,UTI and Kidney stone
Kidney Care Syrup	**Punarnavarishta, Chandanasava, Ushirasava and Gokshuradi Kadha**	20 ml BD (*Adhobhakta* with *koshna jala*)	Helps in cell rejuvenation, improves urine outflow.
Chander Vati Tablet	**Kapoor Kachri** (*Hedychium spicatum*), **Vacha** (*Acorus calamus*), **Motha** (*Cyperus rotundus*), **Kalmegh** (*Andrographis paniculata*), **Giloy** (*Tinospora cordifolia*), **Devdaru** (*Cedrus deodara*), **Desi Haldi** (*Curcuma longa*), **Atees** (*Aconitum heterophyllum*), **Daru Haldi** (*Berberis aristata*), **Pipla Mool** (*Piper longum* root), **Chitraka** (*Plumbago zeylanica*), **Dhaniya** (*Coriandrum sativum*), **Harad** (*Terminalia chebula*), **Bahera** (*Terminalia bellirica*), **Amla** (*Phyllanthus emblica*), **Chavya** (*Piper chaba*), **Vayavidang** (*Embelia ribes*), **Pippal** (*Piper longum*), **Kalimirch** (*Piper nigrum*), **Sonth** (*Zingiber officinale* dried ginger), **Gaj Pipal** (*Scindapsus officinalis*), **Swarn Makshik Bhasma** (Gold iron pyrite ash - Ayurvedic preparation), **Sajji Kshar** (Potassium carbonate - traditional alkali preparation), **Senda Namak** (Rock salt), **Kala Namak** (Black salt), **Choti Elaichi** (*Elettaria cardamomum* - small cardamom), **Dalchini** (*Cinnamomum verum*), **Tejpatra** (*Cinnamomum tamala*), **Danti** (*Baliospermum montanum*), **Nishothra** (*Operculina turpethum*), **Banslochan** (Bamboo silica), **Loh**	2 tablets BD (*Adhobhakta* with *koshna jala*)	Cell rejuvenation, improve urine output and improve kidney functioning
Sama vati	**Gokru** (*Tribulus terrestris*), **Kaunch** (*Mucuna pruriens*), **Shatawar** (*Asparagus racemosus*), **Ashwagandha** (*Withania somnifera*), **Vidarikand** (*Pueraria tuberosa*), **Beej Band Lal** (*Sida cordifolia*), **Akarkara** (*Anacyclus pyrethrum*), **Talmakhana** (*Hygrophila auriculata*), **Musli** (*Chlorophytum borivilianum*), **Aawla** (*Emblica officinalis*), **Sonth** (*Zingiber officinale*), **Jaiphal** (*Myristica fragrans*), **Swarn Makshik** (*Chalcopyrite*), **Shilajit Shudh** (*Asphaltum punjabianum*).	2 tablets BD (*Adhobhakta* with *koshna jala*)	*Deepan, pachan* and cell rejuvenation

The patient was on day care treatment for 4 days, during that period he received consolidated *Ayurvedic* treatments, the procedure encompassed *Panchakarma* therapies such as *Matra Basti* with *Gokshuradi, Abhyangam* and *Vrikk Basti* with *Dhanwantaram*. Therapies were then revised to *Awagaha swedan*, HDT (on BP monitoring), *Vrikk Basti* with *Gokshuru* and *Dhanwantaram* oil, *Gokshuru* and *Punarnava Sneha Basti* and *Shiropichu* with *Brahmi* oil. The medications advised during the day care treatment were *Brihatyadi kashayam* and *Varunadi Vati*. The medications advised during the discharge are detailed in **Table 10.**

Table 10. The medications advised during the discharge

Medicine Name	Ingredients	Dosage	Therapeutic Effects
GFR Powder	**Varun** (*Crateva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokshur** (*Tribulus terrestris*), **Kaasni** (*Cichorium intybus*), **Bhumi Amla** (*Phyllanthus niruri*), **Shirish** (*Albizia lebbeck*), **Shigru** (*Moringa oleifera*) and **Apamarg** (*Achyranthes aspera*)	Half a teaspoon BD (Adhobhakta with koshna jala)	Improves cell rejuvenation and urine outflow
Nefron Plus Capsules	**Hazrool yahood bhasma powder**, **Chandraprabha powder**, **Pashanbheda**, **MulakKshar powder**, **YavaKshar powder**, **Amalaki Rasayan powder**, **Trivikrum Rasa powder**, **Navasara powder**, **Nimbu Stava powder** (*Citrus limon*), **Gokshur** (*Tribulus terrestris*), **Durbhamool** (*Chlorophytum borivilianum*), **Shila pushpa** (*Dolichos biflorus*), **Black Salt powder**, and **Hing powder** (*Ferula asafoetida*)	2 CAP BD (Adhobhakta with koshna jala)	Provides relief from pain and discomfort associated with kidney issues.
Chander Vati Tablet	**Kapoor Kachri** (*Hedychium spicatum*), **Vacha** (*Acorus calamus*), **Motha** (*Cyperus rotundus*), **Kalmegh** (*Andrographis paniculata*), **Giloy** (*Tinospora cordifolia*), **Devdaru** (*Cedrus deodara*), **Desi Haldi** (*Curcuma longa*), **Atees** (*Aconitum heterophyllum*), **Daru Haldi** (*Berberis aristata*), **Pipla Mool** (*Piper longum* root), **Chitraka** (*Plumbago zeylanica*), **Dhaniya** (*Coriandrum sativum*), **Harad** (*Terminalia chebula*), **Bahera** (*Terminalia bellirica*), **Amla** (*Phyllanthus emblica*), **Chavya** (*Piper chaba*), **Vayavidang** (*Embelia ribes*), **Pippal** (*Piper longum*), **Kalimirch** (*Piper nigrum*), **Sonth** (*Zingiber officinale* dried ginger), **Gaj Pipal** (*Scindapsus officinalis*), **Swarn Makshik Bhasma** (Gold iron pyrite ash - Ayurvedic preparation), **Sajji Kshar** (Potassium carbonate - traditional alkali preparation), **Senda Namak** (Rock salt), **Kala Namak** (Black salt), **Choti Elaichi** (*Elettaria cardamomum* - small cardamom), **Dalchini** (*Cinnamomum verum*), **Tejpatra** (*Cinnamomum tamala*), **Danti** (*Baliospermum montanum*), **Nishothra** (*Operculina turpethum*), **Banslochan** (Bamboo silica), **Loh Bhasam** (Iron ash - Ayurvedic preparation), **Shilajit** (*Asphaltum punjabinum*), **Guggal** (*Commiphora wightii*).	2 tablets BD (Adhobhakta with koshna jala)	Cell rejuvenation, improve urine output and improve kidney functioning
CKD Syrup	**Kasani** (*Cichorium intybus*), **Gokhru** (*Tribulus terrestris*), **Shatavari** (*Asparagus racemosus*), **Giloy** (*Tinospora cordifolia*), **Sorbitol,** and **Shudh Shilaji**t (*Asphaltum punjabianum*)	20 ml BD (Adhobhakta with koshna jala)	Provides relief from pain and discomfort associated with kidney issues.
Hrid Care	**Lahshun BI. Ext.** (*Allium sativum*), **Arjun Bk. Ext.** (*Terminalia arjuna*), **Brahmi Lf. Ext.** (*Bacopa monnieri*), **Giloy St. Ext.** (*Tinospora cordifolia*), **Makoy Fr. Ext.** (*Solanum nigrum*), **Sarpgandha Sd. Ext.** (*Rauvolfia serpentina*), **Shankh Bhasam** (*Turbinella pyrum*).	2 CAP BD (Adhobhakta with koshna jala)	Used for the treatment of various conditions, including coronary artery disease (CAD), hypertension (HTN), acidity, insomnia, high blood pressure, and aortic disease.
Dhatu Poshak Capsule	**Chuna Shudh, Shankh Bhasam, Mukta Shukti, Prawal Pishti, Kapardika and Loh**	2 CAP BD (Adhobhakta with koshna jala)	Used for strengthening immunity, managing conditions like T.B., asthma, and hyperacidity, and supporting recovery from anorexia.

RESULT

Effectiveness of *Ayurvedic* **Treatments:** The patient underwent day care treatment for two times (7 days and 4 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. Graphical representation of the assessment of the patient's vital signs are represented in **Fig 1.** At the time of discharge, the patient was well oriented and there was relief from weakness and frothy urination which shows that the *Ayurvedic* interventions used in the case study are effective for CKD. DTPA scan report during the treatment period is mentioned in **Table 11.** The conditions during admission and during discharge is mentioned in **Table 12.**

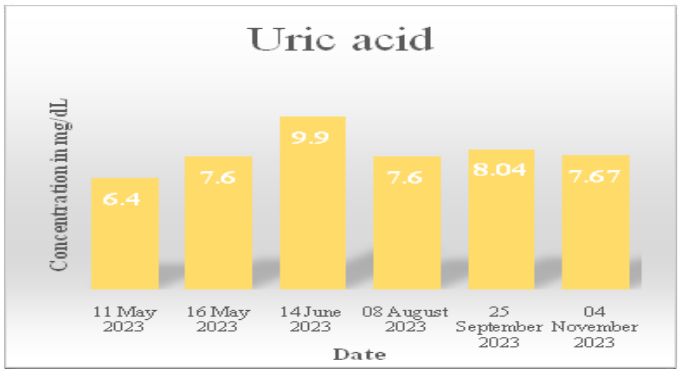
Table 11. DTPA scan report during the treatment period

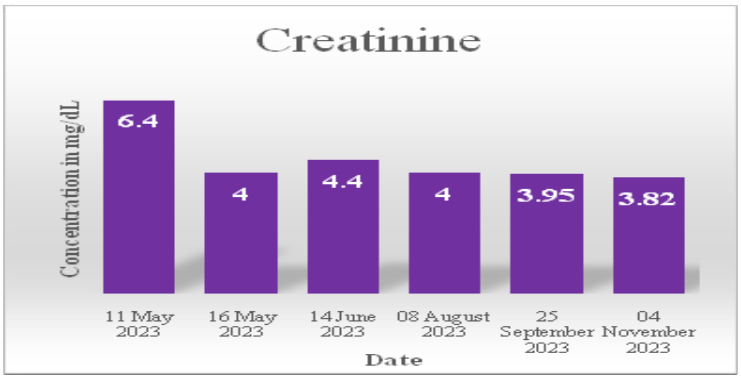
Date	10-05-2023		14-11-2023		27-03-2024	
Kidney	Left Kidney	Right Kidney	Left Kidney	Right Kidney	Left Kidney	Right Kidney
Visualization	Poor	Poor	Sub Normal	Sub Normal	Sub Normal	Sub Normal
Size	Shrunk	Shrunk	Shrunk	Shrunk	Normal	Normal
Concentration	Poor	Poor	Sub Normal	Sub Normal	Sub Normal	Sub Normal
GFR	3.2 ml/min	4.8 ml/min	9.9 ml/min	12.1 ml/min	10.0 ml/min	12.0 ml/min
Global GFR	8 ml/min		22 ml/min		22 ml/min	

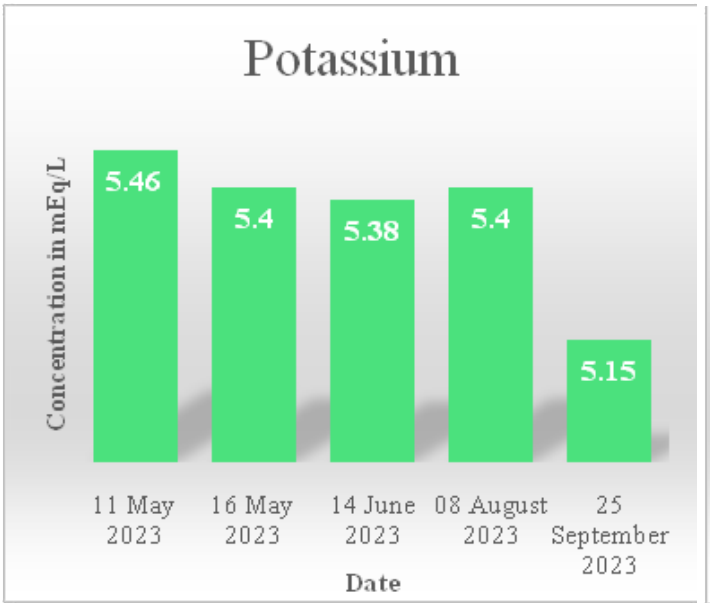
Table 12 The conditions during admission and during discharge

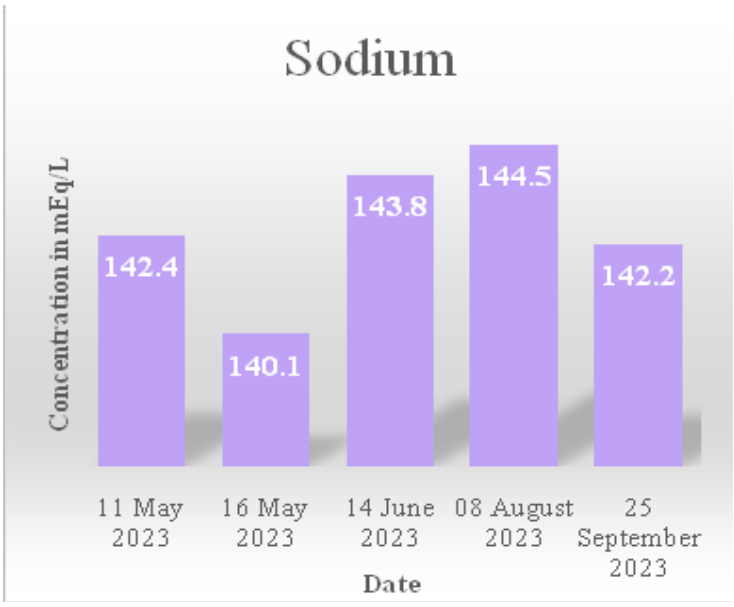
Conditions during admission	Conditions during discharge
First Daycare	
General weakness/ fatigue	Relief
Lower backache	Relief
Itching	Relief
Frothy urination	Mild (Better)
Second Daycare	
General weakness	Mild
Frothy urinatiom	Better

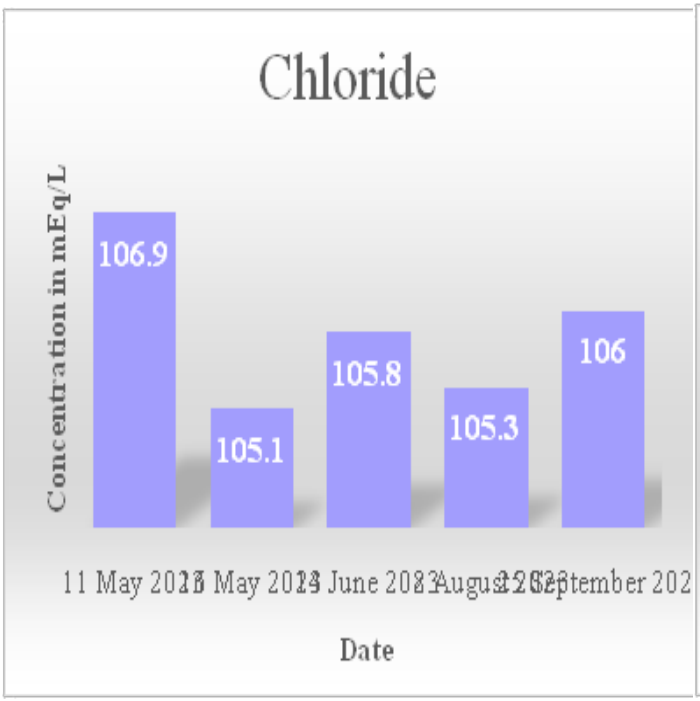
Fig 1 Graphical representation of the assessment of the patient's vital signs.

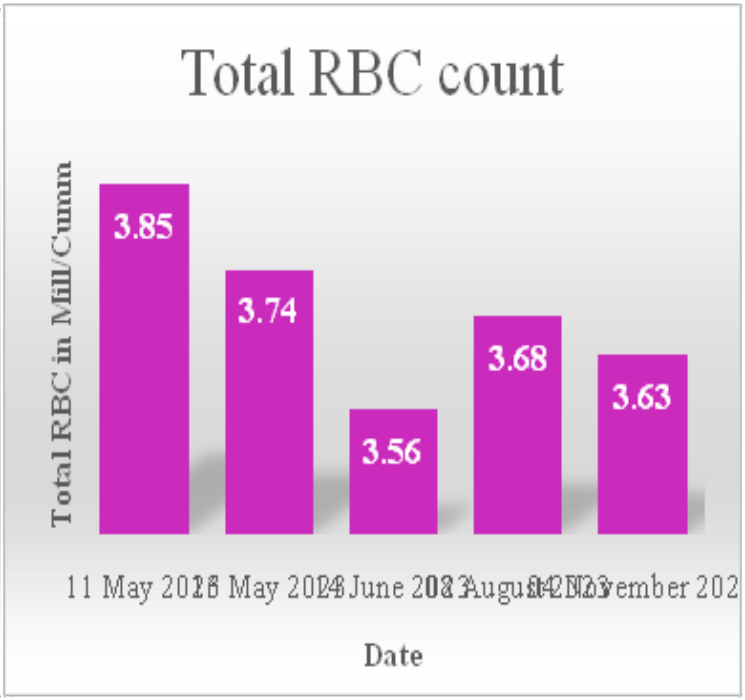












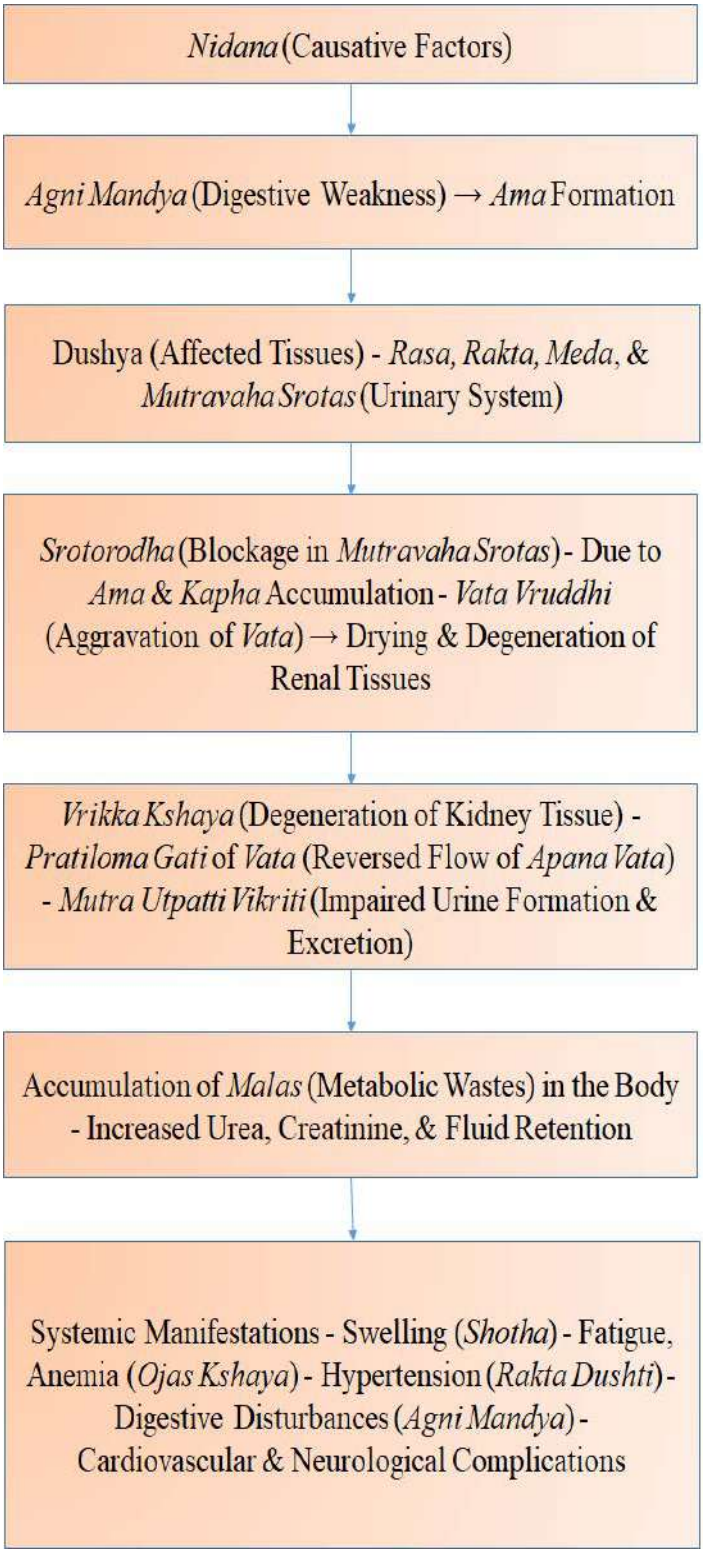
Implications for Future Research

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

DISCUSSION

Ayurvedic treatment integration for CKD offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 56-year-old man who has been diagnosed with T2DM for 11 years and CKD and hypertension for 4 years. The patient's symptoms included lower back pain, itching, frothy urine, and general sickness. The *samprapti* [32,33,34,35] for this case study is depicted in **Fig 2**. During his two 7-day and 4-day day care sessions, he underwent *Panchakarma* treatments as part of the *Ayurvedic* therapy regimen.

Fig 2. The *samprapti* for this case study



1. ***Awagaha Swedan*:** The water promotes blood vessel growth, which enhances cleansing and circulation. It facilitates the absorption of bioactive substances through the opening of skin pores, which aids in inflammation reduction and healing. By lowering stress hormones and encouraging relaxation, the warmth calms the body. The lymphatic system is stimulated by sweat, which improves immunological and detoxification.

2. Madhutailik Basti: *Madhutailik Basti* is an enema therapy that uses honey and medicated oil to relax pelvic floor muscles, increase blood circulation, and lower inflammation. It helps balance the three *doshas (Vata, Pitta*, and *Kapha)* and aids in toxins cleansing, promoting digestive health, and enhancing *Prana*. The treatment is effective in relieving constipation, lower back pain, and pelvic inflammatory disease. The combination of honey and oil stimulates prostaglandin synthesis, increases lymphatic flow, and reduces inflammation.

***3. Abhyangam*:** The treatment involves a gentle massage, focusing on the body's joints and muscle groups. The oil stimulates the parasympathetic nervous system, reducing stress and anxiety. It also enhances blood circulation, nutrient delivery, and lymphatic drainage, supporting detoxification and immune function. *Abhyanga* also reduces muscle stiffness and fatigue, and helps balance the three *doshas (Vata, Pitta*, and *Kapha)* by reducing stress and promoting relaxation. The treatment also reduces cortisol levels, promoting relaxation and mood enhancement.

4. HDT: The HDT therapy involves a patient lying at a 10˚ angle of the head and tilting their body for 1 to 2 hours. This position enhances blood flow towards the kidneys, improving kidney function and reducing harmful hormone levels. It also regulates blood pressure by controlling the baroreceptor reflex. The therapy leads to detoxification and improved blood circulation and kidney function. The process triggers hormonal and renal system changes, including the release of aldosterone and ADH, and the production of nitric oxide.

***5. Matra Basti* with *Gokshura*:** This is a treatment that involves administering warm *Gokshura* oil into the rectum, allowing it to absorb, hydrate, and balance the *doshas*. The oil provides systemic nourishment, localized healing, and hydration to the intestines and pelvic region. It helps balance *Vata* and *Kapha doshas*, promotes overall health, and aids in detoxification. The treatment also has anti-inflammatory and analgesic effects, relaxes muscles, reduces stress, and promotes healing. The oils used in Matra Basti are absorbed through the rectal mucosa, bypassing the digestive system.

***6. Vrikk basti* with *Dhanwantaram* oil:** *Vrikka Basti* is an *Ayurvedic* therapy aimed at detoxifying and rejuvenating the kidneys. The procedure involves positioning the patient in a prone posture and placing a dough ring over the kidney region (L1–L3). Warm *Dhanwantaram* Oil (39–41°C) is poured into the ring and retained for 20–30 minutes, with the temperature maintained throughout. After completion, the oil is removed, the area cleaned, and the patient advised to rest. This therapy improves circulation, balances doshas,

and reduces inflammation. *Dhanwantaram* Oil, known for its nourishing and anti-inflammatory properties, helps alleviate pain, support renal function, and aid in managing kidney stones and nephritis. Its lipophilic compounds facilitate deep penetration, promoting nutrient transfer, cellular repair, and oxidative stress reduction. Additionally, the oil pacifies *Vata dosha*, stabilizing the nervous system and enhancing kidney tissue regeneration, ultimately preventing further damage in chronic kidney conditions.

***7. Vrikk basti* with *Gokshuru* and *Dhanwantaram* oil**: *Vrikka Basti* is a therapeutic *Ayurvedic* procedure for kidney health. The patient is positioned in a prone posture, and a dough ring is placed over the kidney region (L1–L3). A warm blend of *Gokshuru* decoction and *Dhanwantaram* Oil (39–41°C) is poured into the ring and retained for 20–30 minutes, maintaining temperature throughout. After completion, the oil is removed, the area is cleaned, and the patient rests. This therapy enhances circulation, detoxification, and renal function. *Gokshuru* acts as a diuretic, improving urinary flow, while *Dhanwantaram* Oil pacifies *Vata*, relaxes muscles, and nourishes kidney tissues, preventing further degeneration.

8. Gokshuru* and *Punarnava Sneha Basti: The *Gokshuru* and *Punarnava Sneha Basti* is a treatment for kidney health that involves the administration of medicated oil, *Gokshura* and *Punarnava*, mixed with medicated oil. The therapy involves administering the mixture through the rectum, allowing for maximum absorption. *Punarnava* and *Gokshura* have anti-inflammatory and antioxidant properties, reducing inflammation and protecting kidney tissues from oxidative stress.

***9. Shiropichu* with *Brahmi* oil:** The *Shiropichu* treatment involves cleansing the patient's scalp and forehead, warming Brahmi oil infused with *Bacopa monnieri*, and applying it to the forehead and scalp. A cloth or gauze pad is placed on the forehead, covering the *Ajna Chakra* and crown. The physiology of oil improves brain function by supporting neurotransmission and enhancing cognitive clarity. Its adaptogenic properties reduce cortisol levels, calming the central nervous system. Applying warm Brahmi oil to the scalp enhances blood circulation, delivering oxygen and nutrients to the brain, improving mental sharpness and reducing symptoms like brain fog. It also balances *Vata* and *Pitta doshas*, calming the mind and promoting restful sleep.

GFR Powder, Nefron Plus Capsules, Chander Vati Tablet, CKD Syrup, Hrid Care Capsule, Dhatu Poshak Capsule, URI Plus Tablet, Kidney Care Syrup, Sama vati, MutraVardhak Vati, and Divya Shakti Powder were used in this case's *Ayurvedic* treatment regimen, which also included *Panchakarma* treatments. These treatments were intended to reduce symptoms and enhance kidney function. The vital sign investigations also showed that the patient had seen significant improvement from important symptoms like weakness and foamy urine.

1. GFR Powder: This *Ayurvedic* medicines blend is formulated to support kidney health and detoxification. It helps cleanse the body, boost kidney function, and improve overall well-being. The powder also enhances energy levels, supports proper hydration, and assists in toxin removal. Additionally, it boosts vitality, enhancing the overall quality of life and wellness. Key ingredients include *Kasni*, *Gokhru*, and *Punarnava*, which are known for their hydrating properties.

2. Nefron Plus Capsules: This is *Ayurvedic* formulation designed to support kidney health. They help with detoxification, reduce inflammation in the kidneys, and support urinary health. The capsules likely contain ingredients like *Gokshura* and *Punarnava*, which are known for their diuretic and kidney-supportive properties. Additionally, the antioxidants in these capsules protect kidney cells from oxidative damage, promoting long-term renal health. This formulation may also aid in maintaining proper fluid balance and improving overall kidney function.

3. Chander Vati Tablet: These *Ayurvedic* medicines are formulated to boost overall well-being and kidney health. The *Ayurvedic* tablets support a balanced, active lifestyle by enhancing digestion, immunity, detoxification, and energy levels. The *Ayurvedic*, including *Kalmegh*, *Giloy*, and *Devdaru*, improves overall wellness, strengthens immunity, and promotes detoxification. Additionally, the tablets aid in digestion, bolster the immune system, and help in eliminating toxins and impurities.

4. CKD Syrup: An *Ayurvedic* formulation aimed at supporting kidney health in individuals with CKD. The syrup helps improve kidney function, promote detoxification, and maintain fluid balance. It is designed to complement a healthy diet and medical treatment, but should be used under the guidance of a healthcare provider.

5. Hrid Care Capsule: An *Ayurvedic* formulation designed to support heart health. It contains a blend of *Ayurvedic* formulations known for their cardiovascular benefits. The capsule helps improve circulation, regulate blood pressure, and support overall heart function.

6. Dhatu Poshak Capsule: This supports proper functioning and regeneration of all seven *Dhatus*, improving vitality, tissue strength, and overall health.

7. URI Plus Tablet: URI Plus Tablet is an *Ayurvedic* formulation containing A herbs like *Gokshura*, *Punarnava*, and Brahmi, known for their diuretic, anti-inflammatory, and antimicrobial properties. It aids in urinary health, kidney and bladder function, and fluid balance.

8. Kidney Care Syrup: Kidney Care Syrup is an *Ayurvedic* formulation promoting kidney health and function. It contains detoxifying herbs like *Punarnava*, *Gokshura*, and *Brahmi*, aiding in kidney function, toxins elimination, fluid balance, waste elimination, kidney inflammation reduction, and urinary health.

9. Sama vati: Sama Vati is an *Ayurvedic* formulation to support digestive health and improve metabolic function. Key ingredients like *Triphala*, *Ajwain*, and Cumin improve digestion, reduce acidity, and prevent constipation. Regular use may support overall gastrointestinal health and promote a healthy metabolism.

10. MutraVardhak Vati: MutraVardhak Vati is an *Ayurvedic* formulation that promotes urinary health and healthy urine flow. It contains *Ayurvedic* herbs like *Gokshura* and *Punarnava*, which improve kidney function and waste elimination. The tablet balances fluid retention, reduces swelling, and flushes out toxins.

11. Divya Shakti Powder: An *Ayurvedic* formulation designed to promote general health and nerve health. Natural components like *ardana*, *mishri*, and *dalchini* are used in it to improve nerve function, reduce stress, and shield the nerves from harm. These essential components work together to effectively support nerve health, reduce stress, and shield the body from free radical damage.

This case study demonstrates the possible advantages of combining *Ayurvedic* medicines with *Panchakarma* therapy to manage chronic kidney disease. For many people with CKD, *Ayurvedic* treatments, offer a more accessible and cost-effective option. These therapies target underlying bodily imbalances that contribute to renal dysfunction with an emphasis on holistic rehabilitation. Additionally, this aids in the management of concomitant diseases like diabetes and hypertension, which accelerate the course of CKD. *Ayurvedic* treatments can improve CKD patients' quality of life by enhancing renal function and general health. However, more thorough and organized research is required to confirm the effectiveness, security, and dependability of *Ayurvedic* treatments in the treatment of CKD.

CONCLUSION

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

Symptoms: Upon admission, the patient presented with general weakness, lower bac ache, itching, and frothy urine. After day care *Ayurvedic* treatment and follow-up care, significant improvements were observed. The patient reported relief from general weakness and itching, with no new symptoms emerging, suggesting a marked improvement in kidney function and overall health.

Vitals: The patient's vital signs fluctuated during the treatment period. Blood pressure stabilized at varying levels throughout day care treatment. The patient's weight decreased from 88 kg to 73 kg, and there was a notable reduction in itching and lower limb ache, reflecting positive changes in both lifestyle and diet.

Investigations: Laboratory tests conducted during the treatment showed significant improvements in renal function. **Serum urea levels** oscillated throughout the treatment but later decreased from **142 mg/dL to 55.88 mg/dL**, indicating enhanced kidney function. Similarly, s**erum creatinine levels reduced from 5.60 mg/dL to 3.55 mg/dL**. **The DTPA results shows that the GFR increased from 8.0 ml/min/2.09 sqm BSA to 22 ml/min/1.93 sq m BSA**. These results underscore the potential efficacy of *Ayurvedic* therapies in managing CKD.

In summary, the combination of previously prescribed allopathic treatments for CKD with holistic *Ayurvedic* therapies showed encouraging results, including improvements in laboratory test results, vital signs, and symptoms. *Ayurvedic* treatments combined with prescription drugs seem to promote improved renal function, reduce symptoms associated with chronic kidney disease, and enhance the patient's general health. *Ayurvedic* treatments may be essential for improving renal health since they concentrate on reestablishing equilibrium and treating underlying imbalances in the body. However, more study involving extensive, carefully monitored clinical trials is necessary to confirm these findings and create uniform treatment methods. Such research will support the effectiveness of *Ayurvedic* treatments for CKD and offer a solid scientific basis for their incorporation into conventional medical practice.

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(A Unit of Indian Institute Of Nuclear Medicine & Scanning, Sector 69, Mohali)

NOT FOR MEDICO LEGAL PURPOSES

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. - Faculty N.I.M.S. Hyderabad.

Dc-3

NAME [redacted] AGE : 56 Y SEX : M DATE: 10/05/2023
REG.NO. : REN-588-23
ATTENDING HOSPITAL: HIIMS, DERABASSI
CLINICAL STATUS: CKD, to know functional status, drainage pattern and AND differential function WITH GFR CALCULATION

DYNAMIC RENAL SCINTIGRAPHY

ISOTOPE: 99mTc- DTPA DOSE: 5 mCi

	LEFT KIDNEY	RIGHT KIDNEY
PERFUSION PHASE		
VISUALISATION	poor	poor
RELATIVE PERFUSION	poor	poor
UPTAKE PHASE		
SIZE	shrunk	shrunk
SHAPE	normal	normal
POSITION	normal	normal
CONCENTRATION	poor	poor
CORTICALMARGIN DELINEATION	poorly-defined	poorly defined
SPLIT FUNCTION	40.0%	60.0%
EXCRETORY PHASE		
COLLECTING SYSTEM	normal	normal
DRAINAGE PATTERN	normal	normal
DIURETIC RESPONSE	normal	normal
URETER	normal	normal
GFR	3.2ml/min	4.8ml/min

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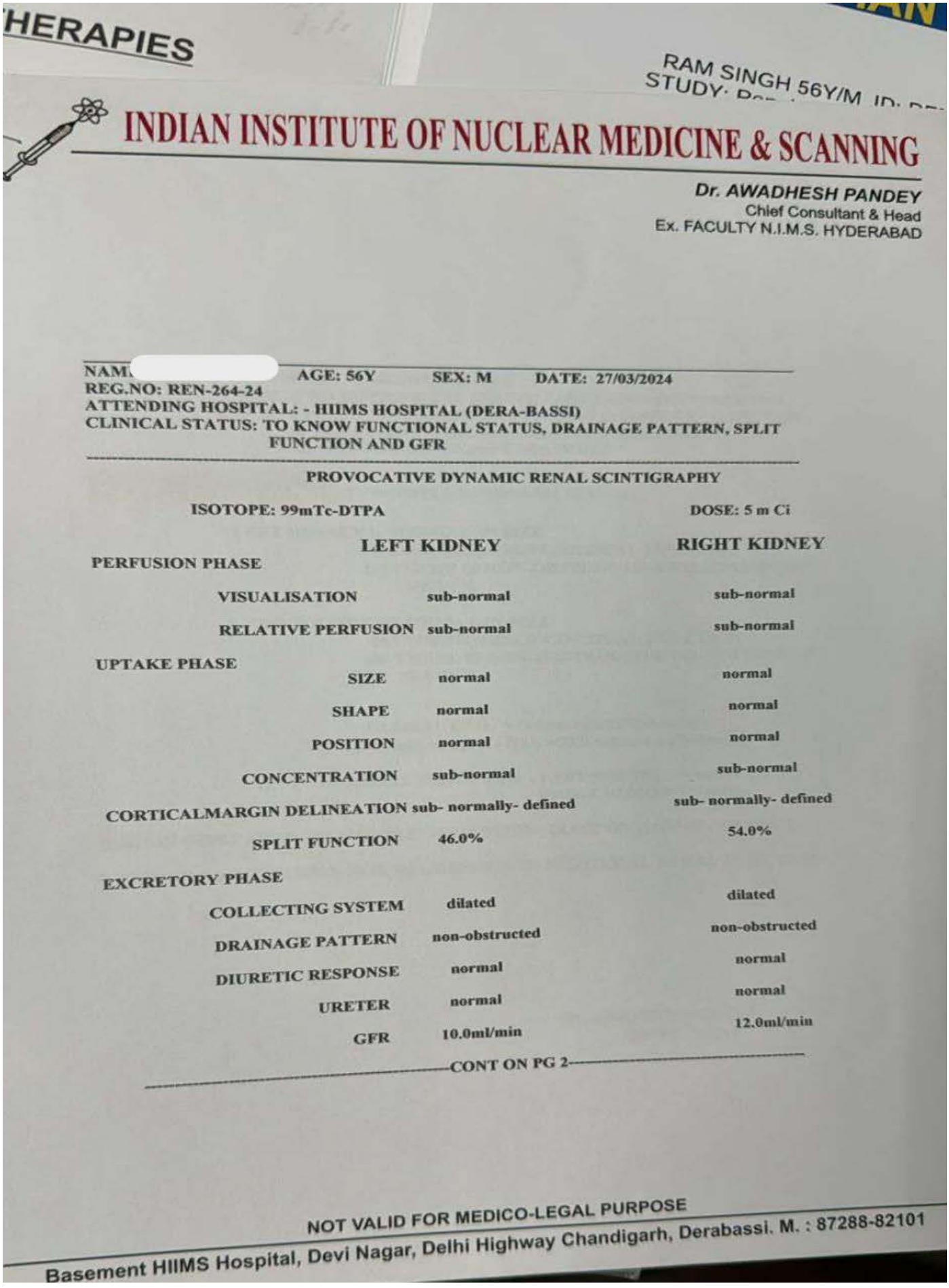
BASEMENT HIIMS HOSPITAL, DEVI NAGAR, DELHI HIGHWAY CHANDIGARH, DERA BASSI.
MOBILE : 99888 62091



HERAPIES

RAM SINGH 56Y/M ID:

INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. FACULTY N.I.M.S. HYDERABAD

NAM[redacted] AGE: 56Y SEX: M DATE: 27/03/2024
REG.NO: REN-264-24
ATTENDING HOSPITAL: - HIIMS HOSPITAL (DERA-BASSI)
CLINICAL STATUS: TO KNOW FUNCTIONAL STATUS, DRAINAGE PATTERN, SPLIT FUNCTION AND GFR

PROVOCATIVE DYNAMIC RENAL SCINTIGRAPHY

ISOTOPE: 99mTc-DTPA DOSE: 5 m Ci

		LEFT KIDNEY	RIGHT KIDNEY
PERFUSION PHASE			
	VISUALISATION	sub-normal	sub-normal
	RELATIVE PERFUSION	sub-normal	sub-normal
UPTAKE PHASE			
	SIZE	normal	normal
	SHAPE	normal	normal
	POSITION	normal	normal
	CONCENTRATION	sub-normal	sub-normal
	CORTICALMARGIN DELINEATION	sub- normally- defined	sub- normally- defined
	SPLIT FUNCTION	46.0%	54.0%
EXCRETORY PHASE			
	COLLECTING SYSTEM	dilated	dilated
	DRAINAGE PATTERN	non-obstructed	non-obstructed
	DIURETIC RESPONSE	normal	normal
	URETER	normal	normal
	GFR	10.0ml/min	12.0ml/min

CONT ON PG 2

NOT VALID FOR MEDICO-LEGAL PURPOSE

Basement HIIMS Hospital, Devi Nagar, Delhi Highway Chandigarh, Derabassi. M. : 87288-82101

INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

(A Unit of Indian Institute Of Nuclear Medicine & Scanning, Sector 69, Mohali)

NOT FOR MEDICO LEGAL PURPOSES

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. - Faculty N.I.M.S. Hyderabad.

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

LEFT KIDNEY i) SHRUNK IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION
iii) NORMAL DRAINAGE SEEN
a) improving on frusemide provocation
b) improving as a function of time

RIGHT KIDNEY i) SHRUNK IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION
iii) NORMAL DRAINAGE SEEN
a) improving on frusemide provocation
b) improving as a function of time

- GLOBAL GFR =8.0 ml/min/ 2.09 sq m BSA
(normal range for BSA and age = 75.0 ml/min + - 17ml/min)

-SPLIT FUNCTION: LEFT KIDNEY = 40.0%
RIGHT KIDNEY = 60.0%

REPEAT DTPA SCAN AFTER 3 MONTHS 10/08/2023 TO SEE PROGRESSION OR REGRESSION

Awadhesh Pandey

Dr. AWADHESH PANDE Y
Sr. CONSULTANT & HEAD

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BLADDER: -NORMAL RESIDUAL VOLUME

-THERE IS NO DIFFRENCE IN TRACER CONCENTRATION BETWEEN
-PRE AND POST VOID FILMS SIGNIFYING NO INDIRECT EVIDENCE OF
i) VESICO-URETERIC REFLUX ON EITHER SIDE OR
ii) GRAVITY DEPENDENT DRAINAGE

IMPRESSION:- Tc 99m DTPA RENOGRAM REVEALS: -

LEFT KIDNEY i) NORMAL IN SIZE
ii) COMPROMISED CORTICAL FUNCTION
iii) THERE IS NON-OBSTRUCTIVE DILATATION OF THE PCS.

RIGHT KIDNEY i) NORMAL IN SIZE
ii) COMPROMISED CORTICAL FUNCTION
iii) THERE IS NON-OBSTRUCTIVE DILATATION OF THE PCS.

- GLOBAL GFR =22.0ml/min/1.93sq m BSA
(Normal range for BSA =75.0 ml/min ± 17ml/min)

-SPLIT FUNCTION: LEFT KIDNEY = 46.0%
RIGHT KIDNEY = 54.0%

N.B: AS COMPARED TO THE PREVIOUS STUDY DONE ON (14/11/23) THERE IS NEITHER PROGRESSION NOR REGRESSION IN BILATERAL RENAL FUNCTION

Dr. ABHISHEK GUPTA
(DNB)

MEDICAL PURPOSE

MANISH GROVER Digitally signed by MANISH GROVER Date: 2025.12.12 17:11:32 +05'30'

Case Study

Academia Journal of Medicine
Year 2025, Volume-8, Issue- 2 (Jul-Dec)

Case Study on *Ayurvedic* and *Panchkarma* Intervention for Chronic Kidney Disease in an Elderly Patient

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ABSTRACT

Chronic Kidney Disease (CKD) is a progressive disorder affecting kidney structure and function, often complicated by Type 2 Diabetes Mellitus (T2DM) and hypertension. Early-stage CKD is frequently asymptomatic, and management can be challenging, particularly in resource-limited settings due to high costs and limited accessibility of conventional therapies. This case report presents a 67-year-old male patient with CKD, T2DM, and hypertension, treated at Jeena Sikho Lifecare Limited Hospital, Derabassi, India, using a personalized Ayurvedic regimen combined with Panchakarma therapies. Following 12 days of inpatient treatment, the patient demonstrated marked clinical improvements: drowsiness, pedal oedema, eye vision and urine got better. Vital parameters showed gradual stabilization, with body weight decreasing from 83 kg to 76 kg and blood pressure stabilizing from highs of 180/90 mmHg to 120/80 mmHg. Laboratory investigations indicated significant improvements, with hemoglobin increasing from 7.3 gm/dL to 10.0 gm/dL, urea decreasing from 280.12 mg/dL to 100 mg/dL, creatinine declining from 6.10 mg/dL to 4.5 mg/dL, and total RBC count increasing from 2.61 Mill/Cumm to 3.54 Mill/Cumm. Uric acid stabilized at 7.1 mg/dL. Renal function assessed by GFR improved, with global GFR from 14.2 to 19.8 ml/min. This case highlights the potential of Ayurveda as an effective, accessible, and affordable approach for managing CKD Stage IV and associated comorbidities, demonstrating improvements in symptoms, vitals, laboratory parameters, and kidney function over a short inpatient treatment period.

INTRODUCTION

Chronic kidney disease (CKD) is a significant global health concern that affects approximately 10% of the population and presents an increasing burden, particularly in low-income countries. It ranks as the seventh leading risk factor for global mortality, emphasizing the need for public health initiatives that focus on early detection and effective management strategies [1,2]. The global prevalence of CKD is approximately 13%, with older populations experiencing higher prevalence rates [3]. Socioeconomic disparities exist, with high-income countries reporting slightly lower prevalence rates than low-income ones [3,4]. CKD also imposes a substantial financial burden, particularly because of the high costs of kidney

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replacement therapy (KRT), which consumes a significant share of health budgets, especially in low-resource settings [4]. Access to KRT remains highly variable and children face significant obstacles in obtaining dialysis and transplantation [1,4].

CKD affects 17.2% of the Indian population, with end-stage renal disease (ESRD) incidence estimated at 229 per million. Key risk factors include hypertension, diabetes and lifestyle. Therefore, early diagnosis and intervention are crucial. The SEEK (Screening and Early Evaluation of Kidney Disease) study found a CKD prevalence rate of 17.2 %, with 6% of cases at stage 3 or higher [5]. Diabetic nephropathy is the leading cause, accounting for 31% of cases [6]. Hypertension affects 47.1% of patients with CKD, while diabetes is strongly correlated with CKD burden [7,8]. Obesity is a significant predictor of CKD [6].

In India, CKD is an escalating public health issue, occurring alongside a rise in non-communicable diseases [9]. Diabetes mellitus is the primary driver of CKD cases, contributing 56.5%, followed by chronic glomerulonephritis at 20.5% and hypertension at 12.5% [10,11]. CKD is more prevalent among younger men, especially in rural communities. Early diagnosis is essential for individuals with diabetes, high blood pressure, or a family history of kidney disease, as CKD typically progresses without symptoms in its initial stages [12]. An estimated 0.79% of the population has stage III CKD or beyond, with diabetic nephropathy as a leading cause [13]. Factors such as lifestyle choices, dietary habits, hypertension and uncontrolled diabetes are increasing CKD rates, while the high costs and limited accessibility of dialysis and kidney transplants put these treatments out of reach for many individuals [14].

Ayurveda offers a holistic approach to CKD through personalized treatment, focusing on diet, *Yoga*, *Panchkarma* and lifestyle modifications. It emphasizes controlling blood sugar and blood pressure, along with using Reno protective medicines to prevent CKD progression [15]. CKD correlates with *Vataj Pandu* in *Ayurveda*, with a focus on symptom similarities. Treatment involves assessing *Nidaan* (etiology), *Samprapti* (pathogenesis) and individual patient factors such as *Bala* (strength), *Prakriti* (innate constitution), *Agni* (digestive fire) and *Oja* (vital essence) to improve the quality of life and management [16]. *Ayurveda* offers treatment modalities for CKD by addressing the underlying *Dosha, Dushya* and *Strotas* involved in the pathogenesis of the disease, potentially improving patients' quality of life, and, in some cases, substituting conventional medical treatments [17]. *Ayurveda* views CKD related to type II diabetes as a result of *Dosha* imbalance, emphasizing personalized dietary adjustments, *Ayurvedic* medicines and lifestyle modifications to manage diabetic nephropathy and improve kidney health through a holistic approach [18]. These approaches aim to control oxidative stress and inflammation and improve lifestyle, thereby supporting kidney function and overall health in affected patients [19].

OBJECTIVE

This case study analyses *Ayurvedic* interventions for CKD stage IV along with Type 2 Diabetes Mellitus and Hypertension.

MATERIALS AND METHODS

Case Report

A 67-year-old male with a known case of CKD stage IV for 6 years, hypertension for 20 years and Type 2 Diabetes Mellitus (T2DM) for 20 years visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, India on May 13, 2024. A detailed and systematic evaluation was performed, including a complete medical history, family history, physical checkup and diagnostic assessments. His symptoms were pedal oedema (1˚), frothy urine, facial puffiness and weak eye vision. His initial condition was drowsy due to medicine intake. He was taking Novorapid, 6 units, three times a day and Lantus 12U HS for past 10 years. The patient has a history of Chikungunya in 2018 and COVID in 2020. His father has diabetes mellitus and brother has a hypertension history. The vital signs along with *Ashta vidh pariksha* (Eight-fold Examination) report during the first day of visit is detailed in **Table 1**.

Table 1 Vitals along with *Ashta vidh pariksha* during the initial examination on first day of the visit

Parameter	Findings
Temperature	97˚F
Blood Pressure	150/80 mm of Hg
Pulse Rate	72/min
Weight	83 Kg
Oxygen Saturation	99%
Nadi (Pulse)	*Vataj Kaphaj*
Mala (Stool)	*Saam* (Mucous Mixed)
Mutra (Urine)	*Phenil Mutra* (Frothy)
Jivha (Tongue)	*Saam* (Coated)
Shabda (Voice)	*Spashta* (Clear Voice)
Sparsha (Touch)	*Anushna Sheet* (Normal)
Drik (Eyes)	*Avikrit* (Normal)
Akriti (Physique)	*Madhyam*
Nidra (Sleep)	*Khandit* (Disturbed Sleep)

The patient was admitted for 12 days, during that period he received consolidated *Ayurvedic* treatments. This treatment procedure encompassed *Panchkarma* therapies such as

Madhutailik basti, Matra basti with *Sahacharadi tailam, Netra tarpan* with *triphala ghrit*, *Awagah swedan, Udvartan* with *Kolkulathadi, Abhyangam* with *Bala Ashwagandha* and *Mahanarayana* with *Sarwang Swedan*.

Laboratory investigation conducted on the May 13, 2024 are detailed in **Table 2**. The daily vitals during the IPD is showed in **Table 3**. The GFR during the treatment period is mentioned in **Table 4.** After 10 days of treatment, the patient experienced significant improvement, including relief from pain, backache and itching.

Table 2 Vitals observed during the date of admission

Parameter	Findings
Date	**13-05-2024**
Haemoglobin	7.3 gm/dL
Intact PTH	532.60 pg/dL
eGFR	9 ml/min/1.73m²
Rapid Tests	Non-reactive for HIV, HBsAg, and HCV
HbA1C	7.80%
Glucose	+
Protein	++
Pus cells	1-2
Epithelial cells	2-3
Lipid Profile	
Total Cholesterol	198.51 mg/dL
HDL	38.11 mg/dL
LDL	125.21 mg/dL
VLDL	35.19 mg/dL
Cholesterol/HDL Ratio	5.21
Triglycerides	175.96 mg/dL

Table 3. Daily vitals during the IPD

Date	Time	Weight in Kg	Temperature in F	Blood Pressure (mmHg)	Pulse per min	Respiration/min	SpO2
13-05-2024	2:00 PM	83 Kg	97° F	150/80	64	18	99%
14-05-2024	5:00 AM	83 Kg	97° F	180/90	64	18	99%
15-05-2024	5:00 AM	81 Kg	98° F	140/90	64	18	99%
16-05-2024	5:00 AM	80 Kg	97° F	140/80	72	18	97%
17-05-2024	5:00 AM	80.5 Kg	98° F	140/80	88	18	99%
18-05-2024	5:00 AM	78 Kg	98.2° F	150/100	74	20	99%
19-05-2024	5:00 AM	77 Kg	98° F	130/70	74	20	99%
20-05-2024	9:00 AM	78 Kg	97.6° F	160/90	72	20	98%
21-05-2024	5:00 AM	78 Kg	98° F	130/80	70	16	99%
22-05-2024	5:00 AM	79 Kg	98° F	130/80	70	16	99%
23-05-2024	5:00 AM	79 Kg	98° F	130/80	80	16	99%
24-05-2024	5:00 AM	76 Kg	98° F	130/80	90	16	99%
25-05-2024	5:30 AM	76 Kg	96.8° F	120/80	72	20	99%

The GFR during the treatment period is calculated through DTPA SCAN mentioned in Fig 1

The diabetes chart during the IPD is mentioned in **Table 4**. Laboratory investigations conducted during the treatment is mentioned in **Table 5**. The patient was discharged on May 25, 2024.

Table 4. Diabetes chart during IPD

Date	Breakfast				Lunch				Dinner			
	Before	Medicine	After	Medicine	Before	Medicine	After	Medicine	Before	Medicine	After	Medicine
13-May-24	-	-	-	-	-	-	229 mg/dL	-	152 mg/dL	-	R-200 mg/dL	-
14-May-24	185 mg/dL	-	-	-	319 mg/dL	4 Unit Insulin	-	-	-	-	R-196 mg/dL	-
15-May-24	198 mg/dL	-	-	-	250 mg/dL		-	-	210 mg/dL	-	285 mg/dL	3 Unit Lantus
16-May-24	196 mg/dL	-	-	-	473 mg/dL	6 Unit Insulin	-	-	-	-	184 mg/dL	1 DM capsule
17-May-24	192 mg/dL	-	224 mg/dL	4 Unit Insulin	282 mg/dL	4 Unit Insulin	-	-	260 mg/dL	3 Unit Insulin	247 mg/dL	5 Unit Lantus
18-May-24	215 mg/dL	3 Unit Novorapid	-	-	277 mg/dL	3 Unit Insulin	-	-	189 mg/dL	2 Unit Insulin	259 mg/dL	4 Unit Lantus
19-May-24	217 mg/dL	3 Unit Insulin	-	-	329 mg/dL	6 Unit Insulin	-	-	255 mg/dL	4 Unit Insulin	266 mg/dL	5 Unit lantus
21-May-24	252 mg/dL	4 Unit Insulin	-	-	283 mg/dL	4 Unit Insulin	-	-	295 mg/dL	4 Unit Insulin	259 mg/dL	5 Unit Lantus
22-May-24	230 mg/dL	-	-	-	341 mg/dL	3 Unit Insulin	-	-	262 mg/dL	3 Unit Insulin	304 mg/dL	8 Unit Lantus
23-May-24	279 mg/dL	-	-	-	269 mg/dL		292 mg/dL	-	-	-	252 mg/dL	8 Unit Lantus
24-May-24	225 mg/dL	-	-	-	342 mg/dL	5 Unit Insulin	270 mg/dL	5 Unit Insulin	-	-	160 mg/dL	2 Unit Lantus
25-May-24	260 mg/dL	-	-	-	275 mg/dL	5 Unit Novorapid	-	-	-	-	-	-

Table 5. Laboratory investigations observed during the treatment period (Fig 2)

Parameter	Findings				
Date	13-05-2024	19-05-2024	25-05-2024	06-06-2024	24-06-2024
Haemoglobin	**7.3 gm/dL**	**8.9 gm/dL**	**9.8 gm/dL**	**10.2 gm/dL**	**10.0 gm/dL**
Urea	**280.12 mg/dL**	**239.2 mg/dL**	**183.34 mg/dL**	**108 mg/dL**	**100 mg/dL**
Creatinine	**6.10 mg/dL**	**5.50 mg/dL**	**4.7 mg/dL**	**5.10 mg/dL**	**4.5 mg/dL**
Uric acid	3.95 mg/dL	6.51 mg/dL	6.10 mg/dL	**7.8 mg/dL**	7.1 mg/dL
Sodium	141.4 mEq/L	140.9 mEq/L	143.0 mEq/L	141 mEq/L	137 mEq/L
Potassium	5.38 mEq/L	5.40 mEq/L	5.19 mEq/L	5.3 mEq/L	5.0 mEq/L
Chloride	105.8 mEq/L	101.3 mEq/L	103 mEq/L	107 mEq/L	108 mEq/L
Urine protein	++	++	_	++	_
Urine glucose	+	+	_	+	_
Pus cells	1-2	1-2	_	_	_
Epithelial cells	**2-3**	**2-3**	_	_	_
Total RBC count	**2.61 Mill/Cumm**	3.51 Mill/Cumm	_	3.62 Mill/Cumm	3.54 Mill/Cumm

Treatment Plan

A personalized *Ayurvedic* and Disciplined and Intelligent Person's (DIP) Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CKD [20]:

Diet Plan:

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital include the following key commendations:

a. Foods to be avoided:

Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.

Avoid eating after 8 PM.

During solid consume as small bite and chew 32 times.

b. Hydration:

During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.

Drink about 1 liter of alkaline water 3 to 4 times throughout the day.

Include herbal tea, living water, and turmeric-infused water part of daily routine.

Boil 2 liters water to reduce up to 1 liter and consume.

c. Millet Intake:

Incorporate five types of millet into diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*) and Browntop (*Urochloa ramose*).

Use only steel cookware for preparing the millets

Cook the millets only using mustard oil.

d. Meal Timing and Structure:

Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.

Breakfast (9:00-10:00 AM): Steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).

Morning Snacks (11:00 AM): Carrot juice (150 ml) and soaked almonds.

Lunch (12:30 PM - 2:00 PM): Two plates- Plate 1 and Plate 2. Plate 1 will include a steamed salad, while Plate 2 with cooked millet-based dish.

Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.

Dinner (6:15-7:30 PM): Steamed salad, chutney, and soup, as Plate 1, along with millet khichdi as Plate 2.

e. Fasting:

It was advised to observe one-day fasting.

f. Special Instructions:

Express gratitude to the divine before consuming food or drinks.

Sit in *Vajrasan* (a yoga posture) after each meal.

10 minutes slow walk after every meal.

g. Diet Types:

The diet comprises low salt solid, semi-solid and smoothie options.

Suggested foods include herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds and steamed salads.

Lifestyle Recommendations

Include meditation (*Sukhasan* and *Sukshm pranayam*) for relaxation.

Practice barefoot brisk walk for 30 minutes.

Ensure 6-8 hours of quality sleep each night.

Adhere to a structured daily routine.

Panchkarma procedures administered to patients

1. ***Madhutailik Basti*** [21]

500 mL of medicated enema, containing honey (*Madhu*) and oil (*Taila*), was then administered through the rectal route in a specific quantity, temperature and pressure to ensure effective absorption.

The patient was monitored for adverse reactions, advised to rest, avoid strenuous activities and follow diet to maximize

treatment benefits.
This treatment was done in alternative days.

2. ***Matra Basti*** with ***Sahacharadi Tailam*** [22]
Sahacharadi Tailam was warmed up to the body temperature (98°F-104°F).
The patient was positioned on his side, the rectal area was lubricated, and a sterile enema tube was inserted.
Administered 90 ml of warmed oil and retained for 30-60 minutes.
The patient was then advised to rest for 30 minutes to 1 hour, follow a light diet for 24 hours.
This treatment was done alternate with *Madhutailik Basti*.

3. ***Awagah Swedan*** [23]
The patient was immersed till navel in a tub filled with warm water.
Sweating was induced by sustaining the water temperature at 42˚ Celsius.
The patient was advised to practice this procedure 20 to 60 minutes.

4. *Udvartan* with *kolkulathadi* with hot water bath [24,25]
Kolkulathadi powder was applied to the body.
Gentle massage was done for 30 to 45 minutes with the *Kolkulathadi* paste onto the skin in upward strokes, focusing on areas like the abdomen, thighs and arms in moderate pressure.
This treatment was done for 3 days.

5. *Abhyangam* with *Bala aswagandha* and *Mahanarayana* followed by *Sarwang Swedan* [26,27]
Bala, *Ashwagandha* and *Mahanarayana* oils were mixed with a carrier oil in a 1:1 ratio.
The oil mixture was warmed up to body temperature.
Warm oil was applied to the entire body, focusing on joints, muscles and pressure points.
Long stroke massages were done for 45 to 60 minutes in circular motions and gentle pressure to stimulate lymphatic drainage and relaxation.
The patient was advised to sit in the steam chamber for 10-15 minutes at a maintained comfortable temperature (40-45°C/104-113°F).
This therapy was carried out from the fourth day of IPD.

6. *Netra tarpana* with *Triphala Ghrit* [28,29,30]
Triphala Ghrit in mixed with warm water or milk.
The patient comfortably seated with his eyes closed and eyes were gently cleaned with lukewarm water.
A frame was created around the eyes using a small, ring-like structure.
Warm *Triphala Ghrit* was poured into the *Tarpana Yantra*, ensuring the eyes are fully immersed and it was maintained for almost 5-7 minutes.
After that the *Ghrit* was drained from the eyes and rinsed with lukewarm water.
30 minutes to 1 hour of rest was advised after the therapy.

Medicinal Interventions

Allopathic medicines
The allopathic medicines taken during the treatment were Clonidine 100 Tablet, Metoprolol Succinate 50 Tablet, Cilnidipine 10 Tablet, Iron Supplement, Calcium Supplement, Gabapentin (400mg) + Nortriptyline (10mg) Tablet, Linagliptin 5mg Tablet and Torsemide 20 Tablet (**Table 6**).

***Ayurvedic* interventions**
The *Ayurvedic* treatment employed in this case included Castor oil, Chander Vati Tablet, Prameh Rog Har Vati Powder, Renal support syrup, Gadood Sudharak Vati, Madhumeh Nasak syrup, Divya Shakti Powder, GFR Powder, Prameh Rog Har Powder, Yakrit Shoth Har Vati, DM Capsule and JS BP cure. The medicine administration chart during IPD is mentioned in **Table 7.** The medicines with *Anupana* is present in **Table 8** and the details are mentioned in **Table 9.**

Table 6 Allopathic Medications taken during the IPD

Medicine	Therapeutic Effects	Dose	13-May	14-May	15-May	16-May	17-May	18-May	19-May	20-May	21-May	22-May
Clonidine 100 Tablet	Hypertension	TDS	✓	✓	BD	✓	OD	✓	SOS	SOS	SOS	SOS
Metoprolol Succinate 50 Tablet	Hypertension	HS	✓	✓	✓	✓	SOS	SOS	SOS	SOS	SOS	SOS
Cilnidipine 10 Tablet	Hypertension	BD	✓	✓	×	×	×	×	×	×	×	×
Iron Supplement	Multivitamin + Iron	OD	✓	AD	✓	×	×	×	×	×	×	×
Calcium Supplement	Manage low calcium levels	BD	✓	✓	✓	✓	OD	✓	✓	×	×	×
Gabapentin (400mg) + Nortriptyline (10mg) Tablet	Relief from neuropathic pain	HS	✓	✓	AD	✓	✓	✓	✓	×	×	×
Linagliptin 5mg Tablet	Treat type 2 diabetes mellitus	OD	SOS	×	×	×	×	×	×	×	×	×
Torsemide 20 Tablet	Reduce the swelling (edema)	BD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 7 *Ayurvedic* Medications taken during the IPD

Medicine name	14-May	15-May	16-May	17-May	18-May	19-May	20-May	21-May	22-May	23-May	24-May	25-May
Castor oil	✓	✓	✓	×	×	×	×	×	×	×	×	×
Chander Vati	✓	✓	✓	✓	✓	×	×	×	×	×	×	×
Prameh Rog Har Vati Powder	✓	✓	✓	✓	✓	✓	✓	✓	×	×	×	×
Renal support syrup	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Yakrit Shoth Har Vati	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Madhumeh Nasak syrup	×	×	×	×	✓	✓	✓	✓	✓	✓	✓	✓

Table 8. Medications advised during the treatment with *Anupana*

Date	Medicines	Dosage with *Anupana*
May 13, 2024	Castor oil	20 ml HS (*Nishikala* with *koshna jala*- Before bed with lukewarm water)
	Chander Vati	2-2 BD (*Adhobhakta* with *koshna jala*- After meal with lukewarm water)
	Prameh Rog Har Powder	1 TSF BD (*Pragbhakta* with *koshna jala*- Before meal with lukewar water)
	Renal support syrup	20 ml BD (*Adhobhakta* with *sama matra koshna jala*- After meal with equal amount of lukewarm water)
	Yakrit Shoth Har Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Madhumeh Nasak syrup	20 ml BD (*Adhobhakta* with *sama matra koshna jala*)
May 25, 2024	Divya Shakti Powder	Half a teaspoon HS (*Nishikala* with *Koshna jala*)
	GFR Powder	Half a teaspoon BD (*Adhobhakta* with *Koshna jala*)
	Prameh Rog Har Powder	1 TSF TDS before meal (*Pragbhakta* with *Koshna jala*)
	Yakrit Shoth Har Vati	2 tablets BD (*Adhobhakta* with *Koshna jala*)
	Madhumeh Nashak Syrup	20 ml TDS before meal (*Pragbhakta* with *sama matra koshna jala*- Before meal with equal amount of lukewarm water)
	Renal support syrup	20 ml BD (*Adhobhakta* with sama *matra koshna jala*)
June 08, 2024	Gadood Sudharak Vati	2 tablets BD (*Adhobhakta* with *Koshna jala*)
	DM Capsule	2 CAP TDS (*Adhobhakta* with *Koshna jala*)
	JS BP cure	2 CAP BD (*Adhobhakta* with *Koshna jala*)
	GFR Powder	Half a teaspoon BD (*Adhobhakta* with *Koshna jala*)
	Chander Vati	2 tablets BD (*Adhobhakta* with *Koshna jala*)

Table 9. Details of medications advised during the treatment

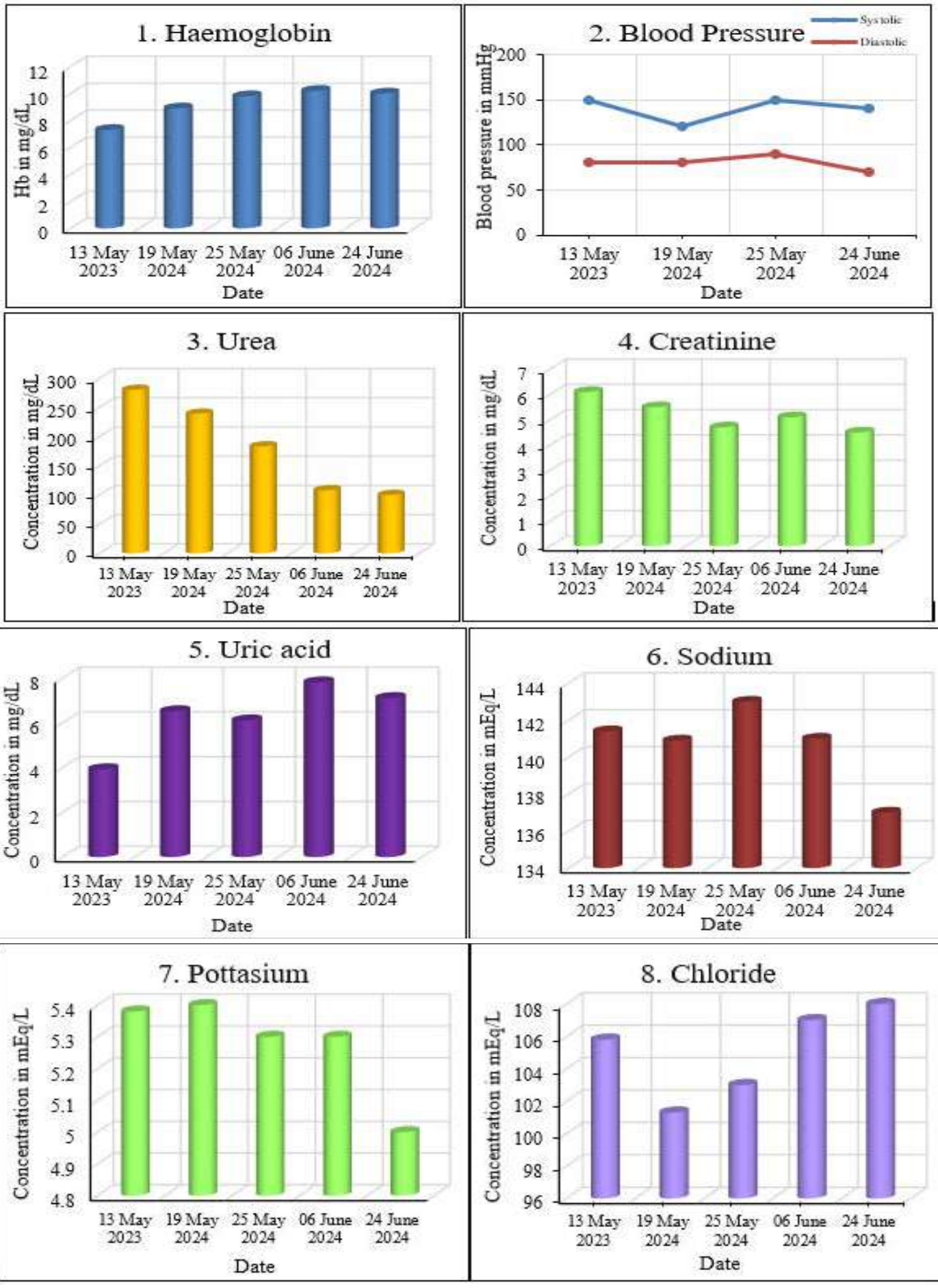
Medicine Name	Ingredients	Therapeutic Effects
Chander Vati	***Kapoor Kachri*** *(Hedychium spicatum),* ***Vacha*** *(Acorus calamus),* ***Motha*** *(Cyperus rotundus),* ***Kalmegh*** *(Andrographis paniculata),* ***Giloy*** *(Tinospora cordifolia),* ***Devdaru*** *(Cedrus deodara),* ***Desi Haldi*** *(Curcuma longa),* ***Atees*** *(Aconitum heterophyllum),* ***Daru Haldi*** *(Berberis aristata),* ***Pipla Mool*** *(Piper longum root),* ***Chitrak*** *(Plumbago zeylanica),* ***Dhaniya*** *(Coriandrum sativum),* ***Harad*** *(Terminalia chebula),* ***Bahera*** *(Terminalia bellirica),* ***Amla*** *(Phyllanthus emblica),* ***Chavya*** *(Piper chaba),* ***Vayavidang*** *(Embelia ribes),* ***Pippal*** *(Piper longum),* ***Kalimirch*** *(Piper nigrum),* ***Saunth*** *(Zingiber officinale dried ginger),* ***Gaj Pipal*** *(Scindapsus officinalis),* ***Swarn Makshik Bhasm*** *(Gold iron pyrite ash - Ayurvedic preparation),* ***Sajjikshar*** *(Potassium carbonate - traditional alkali preparation),* ***Sendha Namak*** *(Rock salt),* ***Kala Namak*** *(Black salt),* ***Choti Elaichi*** *(Elettaria cardamomum - small cardamom),* ***Dalchini*** *(Cinnamomum verum),* ***Tejpatra*** *(Cinnamomum tamala),* ***Danti*** *(Baliospermum montanum),* ***Nishothra*** *(Operculina turpethum),* ***Vanslochan*** *(Bamboo silica),* ***Loh Bhasm*** *(Iron ash - Ayurvedic preparation),* ***Shilajeet*** *(Asphaltum punjabinum),* ***Guggul*** *(Commiphora wightii).*	*Raktashodhana* (Blood purifier), *Pitta Shaman (Pitta* pacifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Vata-Pitta Shaman (Dosha* pacifier)
Prameh Rog Har	***Kutaki*** *(Picrorhiza kurroa),* ***Chiraita*** *(Swertia chirata),* ***Neem*** *(Azadirachta indica),* ***Karela*** *(Momordica charantia),* ***Rasonth*** *(Berberis aristata),* ***Imli Beej*** *(Tamarindus indica),* ***Kala Namak***, ***Giloy*** *(Tinospora cordifolia),* ***Sonth*** *(Zingiber officinale),* ***Babool Chhaal*** *(Vachellia nilotica),* ***Sarpgandha*** *(Rauvolfia serpentina),* ***Trivang Bhasm***, ***Yashad Bhasm***, ***Revend Chinni*** *(Rheum emodi),* ***Sodhit Guggulu*** *(Commiphora mukul),* ***Methi*** *(Trigonella foenum-graecum),* ***Jamun*** *(Syzygium cumini),* ***Babool Fruit*** *(Vachellia nilotica),* ***Karanj*** *(Millettia pinnata),* ***Shilajeet***, ***Haldi*** *(Curcuma longa),* ***Harad*** *(Terminalia chebula),* ***Inderjaun*** *(Holarrhena antidysenterica),* ***Vanshlochan*** *(Bambusa arundinacea),* ***Bahera*** *(Terminalia bellirica),* ***Amla*** *(Phyllanthus emblica),* ***White Musli*** *(Chlorophytum borivilianum),* ***Gurmar*** *(Gymnema sylvestre).*	*Pramehaghna* (Anti-diabetic), *Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Rasayana* (Rejuvenator), *Medohara* (Fat reducer), *Shoth har* (Anti-inflammatory), *Mutral* (Diuretic)
Renal Support Syrup	***Nimba*** *(Azadirachta indica),* ***Arjun*** *(Terminalia arjuna),* ***Gokshur*** *(Tribulus terrestris),* ***Hareetaki*** *(Terminalia chebula),* ***Ashwagandha*** *(Withania somnifera),* ***Karanja*** *(Pongamia pinnata),* ***Chiraita*** *(Swertia chirayita).*	*Mutravirajaniya (*Urine purifier), *Shoth har* (Anti-inflammatory), *Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Rasayana* (Rejuvenator)
Madhumeh Nashak Syrup	***Karela*** *(Momordica charantia),* ***Jamun*** *(Syzygium cumini),* ***Neem*** *(Azadirachta indica),* ***Chirata*** *(Swertia chirata),* ***Gurmar*** *(Gymnema sylvestre),* ***Kutaj*** *(Holarrhena antidysenterica)*	*Vata pitta kapha shamaka (Tridosha* pacifier), *Madhumeha hara* (Anti-diabetic), *Agnideepan* (Digestive fire stimulant), *Rasayana* (Rejuvenator), *Medohara* (Fat reducer), *Kledahara* (Moisture remover)
Divya Shakti Powder	***Trikatu*** *(Zingiber officinale, Piper nigrum and Piper longum),* ***Triphala***, ***Nagarmotha*** *(Cyperus rotundus),* ***Vayavidang*** *(Embelia ribes),* ***Chhoti Elaichi*** *(Elettaria cardamomum),* ***Tej Patta*** *(Cinnamomum tamala),* ***Laung*** *(Syzygium aromaticum),* ***Nisoth*** *(Operculina turpethum),* ***Sendha Namak***, ***Dhaniya*** *(Coriandrum sativum),* ***Pipla Mool*** *(Piper longum root),* ***Jeera*** *(Cuminum cyminum),* ***Nagkesar*** *(Mesua ferrea),* ***Amarvati*** *(Achyranthes aspera),* ***Anardana*** *(Punica granatum),* ***Badi Elaichi*** *(Amomum subulatum),* ***Hing*** *(Ferula assafoetida),* ***Kachnar*** *(Bauhinia variegata),* ***Ajmod*** *(Trachyspermum ammi),* ***Sajjikshar***, ***Pushkarmool*** *(Inula racemosa),* ***Mishri*** *(Saccharum officinarum)*	*Ojakshaya* (Loss of vitality/immunity), *Agnimandya* (Low digestive fire), *Chakshukshaya* (Weak vision), *Deepan* (Appetizer), *Rasayana* (Rejuvenator)

GFR Powder	***Punarnava*** *(Boerhavia diffusa),* ***Gokshur*** *(Tribulus terrestris),* ***Kaasni*** *(Cichorium intybus),* ***Bhoomi Amla*** *(Phyllanthus niruri),* ***Badi Hard*** *(Terminalia chebula),* ***Makoy*** *(Solanum nigrum) and* ***Apamarg*** *(Achyranthes aspera)*	*Mutral* (Diuretic), *Shoth har* (Anti-inflammatory), *Virechana* (Purgation), *Raktaprasadana* (Blood purifier), *Vatanulomana (Vata* regulator), *Mutravirechana* (Urinary purgation), *Rasayana* (Rejuvenator), *Amapachan* (Toxin digestant)*, Kledahara* (Moisture remover), *Vrikkadoshahara* (Kidney toxin eliminator)
Yakrit Shoth Har Vati	***Punarnava*** *(Boerhavia diffusa),* ***Kalimirch*** *(Piper nigrum),* ***Pippali*** *(Piper longum),* ***Vayavidanga*** *(Embelia ribes),* ***Devdaru*** *(Cedrus deodara),* ***Kutha Haldi*** *(Picrorhiza kurroa),* ***Chitrak*** *(Plumbago zeylanica),* ***Harad*** *(Terminalia chebula)***,** ***Bahera*** *(Terminalia chebula, Terminalia bellirica),* ***Amla*** *(Emblica officinalis),* ***Danti*** *(Baliospermum montanum),* ***Chavya*** *(Piper chaba),* ***Indra Jon*** *(Taraxacum officinale),* ***Pippla Mool*** *(Piper longum),* ***Motha Kalajira*** *(Nigella sativa),* ***Kayphal*** *(Myrica esculenta),* ***Kutaki*** *(Picrorhiza kurroa),* ***Nisoth*** *(Operculina turpethum),* ***Saunth*** *(Zingiber officinale),* ***Kakd Singhi*** *(Cucumis sativus),* ***Ajwain*** *(Trachyspermum*	*Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Shoth har* (Anti-inflammatory), *Vata-kapha shamaka (Dosha-*balancer), *Rasayana* (Rejuvenator), *Ojovardhaka* (Immunity enhancer)
Gadood Sudharak Vati	***Kahu*** *(Lactuca sativa),* ***Varuna*** *(Crateva religiosa),* ***Gokshur*** *(Tribulus terrestris),* ***Khayarain*** *(Cucumis sativus) and* ***Shodhit Guggal***	*Vata shamaka (Vata* pacifier), *Shoth har* (Anti-inflammatory), *Rasayana* (Rejuvenator), *Balya* (Strengthener), *Shulahara* (Pain reliever)
DM Capsule	***Amba Haldi*** *(Curcuma amada),* ***Giloy*** *(Tinospora cordifolia),* ***Safed Musli*** *(Chlorophytum borivilianum),* ***Methi*** *(Trigonella foenum-graecum),* ***Neem*** *(Azadirachta indica),* ***Karela*** *(Momordica charantia),* ***Jamun*** *(Syzygium cumini),* ***Bilva Patra*** *(Aegle marmelos),* ***Gudmar*** *(Gymnema sylvestre),* ***Shuddh Shilajeet***.	*Pramehaghna* (Anti-diabetic), *Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Rasayana* (Rejuvenator), *Medohara* (Fat reducer), *Shoth har* (Anti-inflammatory), *Mutral* (Diuretic)
JS BP cure	***Sarpgandha*** *(Rauvolfia serpentina),* ***Arjun*** *(Terminalia arjuna),* ***Shigru*** *(Moringa oleifera),* ***Haritaki*** *(Terminalia chebula),* ***Vibhitaki*** *(Terminalia bellirica),* ***Amla*** *(Emblica officinalis),* ***Godanti Bhasm*** *(Gypsum).*	*Raktashodhana* (Blood purifier), *Vatanulomana (Vata* regulator), *Shoth har* (Anti-inflammatory), *Anulomana (*Bowel regulator), *Pitta Shaman (Pitta* pacifier), *Raktavardhaka* (Blood builder), *Vishagna* (Detoxifier), *Deepan* (Appetizer)

RESULT

After 12 days of IPD, the patient experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CKD with T2DM and hypertension. The graphical representation of the vitals is mentioned in **Fig 3**. Also, the relief from the pedal oedema, drowsiness and frothy urine shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The conditions before and after treatment is mentioned in **Table 10.**

Fig.2 Graphical representation of the assessment of the patient's vital signs.



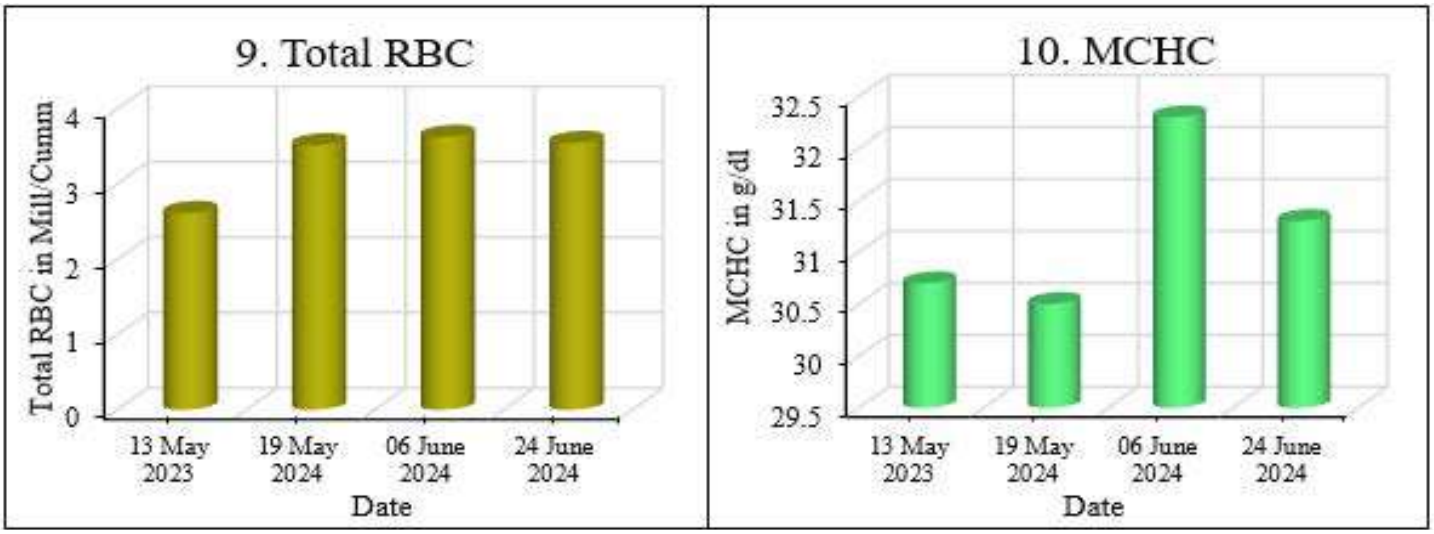
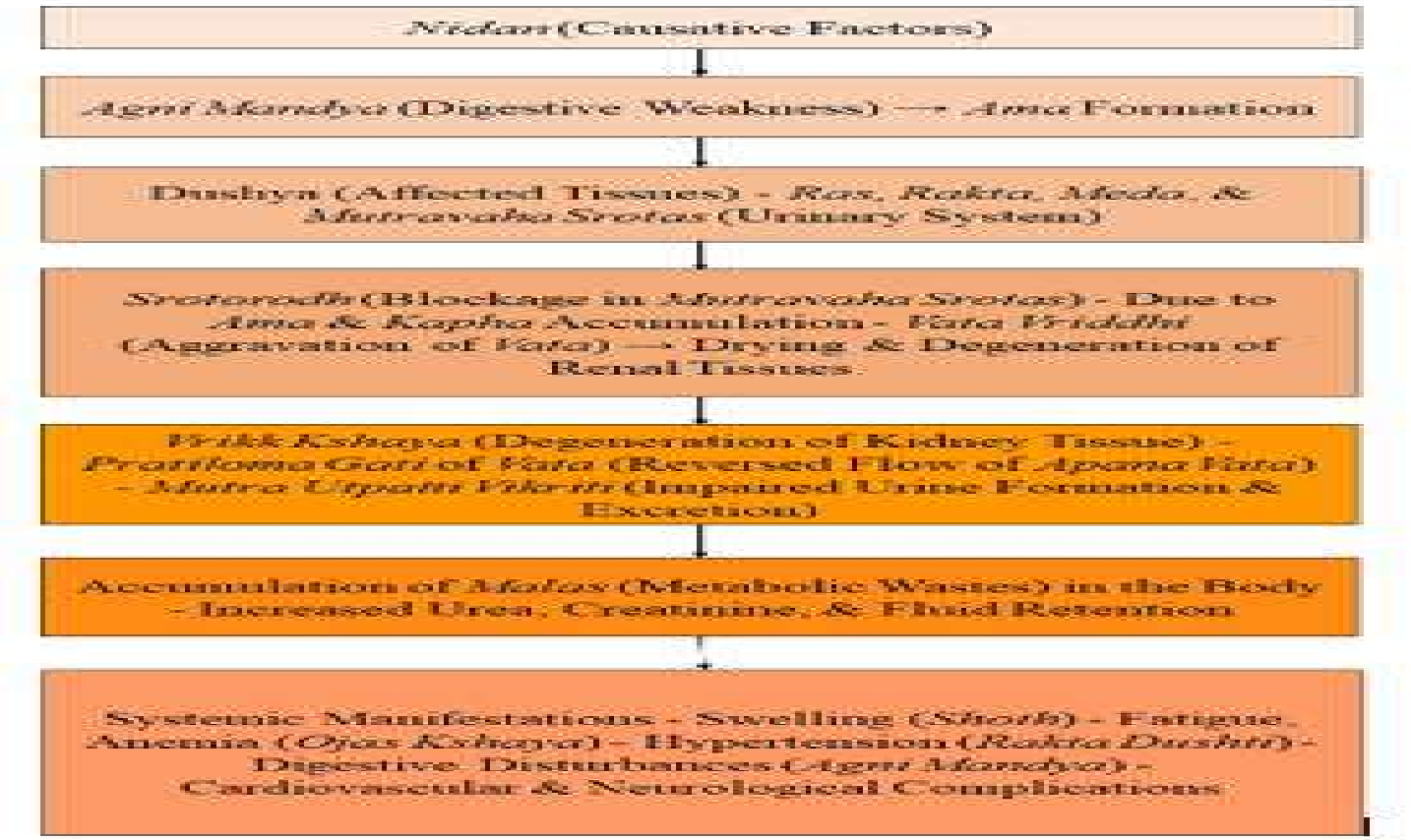


Table 10. The conditions before and after treatment

Condition	Before treatment	After treatment
Drowsiness [31]	Grade 2 (Moderate chance of dozing)	Grade 0 (No chance of dozing)
Pedal oedema [32]	1˚	Relief
Eye vision	Weak	Better
Urine	Frothy	Normal

DISCUSSION

Integrating *Ayurvedic* interventions for the treatment of CKD assures a promising alternative for the conventionally practicing treatment methods. This case report is about the procedure of incorporating different *Ayurvedic* therapies in a 67-year-old male, diagnosed with CKD, T2DM and hypertension. The patient was taking insulin for past 10 years. *Neem karela* therapy was done during the IPD. The *Samprapti*[,33,34,35,36] for the case study is depicted in **Fig 4**.



The *Samprapti* and *Nidan Parivarjan*

In this 67-year-old male patient with CKD stage IV, the pathogenesis can be understood through the lens of *Vataja Prameha* leading to *Mutravaha Srotodushti*. The chronicity of T2DM (*Madhumeha*) contributes to *Kapha-Vata* imbalance, resulting in sluggish metabolism (Manda Agni) and impaired tissue nutrition (*Dhatu Kshaya*). Persistent *Rakta* and *Meda Dushti* from hyperglycemia and hypertension aggravates oxidative stress, leading to progressive *Vataja* degeneration of *Mutravaha Srotas*, causing reduced renal filtration (GFR decline), accumulation of metabolic wastes (Uremia), and fluid-electrolyte imbalance. The compounding influence of *Rakta* and *Vata Prakopa* due to long-standing hypertension further stresses renal microvasculature, promoting sclerosis and nephron loss. Thus, the disease manifests as *Moorcha* (fatigue, lethargy), *Mutra Atikshaya/Alpata* (oliguria or anuria), *Shotha* (edema), *Daurbalya* (general weakness), and *Prameha Lakshanas* [33-36].

Management focuses on minimizing etiological factors that aggravate *Vata* and *Kapha* in *Mutravaha Srotas*. The patient should avoid excess intake of sugar-rich, salty, and processed foods, which worsen *Madhumeha* and hypertension, and excessive animal protein, which burdens renal function [37,38]. Sedentary lifestyle and irregular sleep should be corrected to prevent *Vata* aggravation [39]. Alcohol, smoking, and exposure to nephrotoxic drugs (NSAIDs, certain antibiotics) should be strictly avoided [40]. Emotional stress, which can precipitate *Vata* and *Prameha* complications, should be managed with daily routines (*Dinacharya*), meditation, and mild physical activity suited for the patient's age and renal function [41,42]. Controlled dietary habits, proper hydration, and avoidance of excess salt and heavy oils form the cornerstone of *Nidan Parivarjan* to prevent further progression of CKD in this patient.

The effects of *Ahar Vihar*

The personalized *Ayurvedic* and DIP (Disciplined and Intelligent Person) diet provided to the CKD stage IV patient had several beneficial effects on renal function, metabolic balance, and overall well-being. The dietary regimen avoided wheat, refined foods, milk products, coffee, tea, and packed foods, reducing renal load and minimizing the accumulation of metabolic waste [43]. Incorporation of five types of millets—Foxtail, Barnyard, Little, Kodo, and Browntop—ensured low glycemic index, high fiber, and kidney-friendly protein sources, while fermented millet shakes and steamed sprouts improved gut health and nutrient absorption, reducing systemic inflammation [44]. Controlled intake of herbal tea, green and red juices, and alkaline water supported antioxidant defenses and electrolyte balance, while sip-by-sip hydration and boiled water consumption prevented fluid overload [45,46]. Eating slowly with 32 chews per bite, along with raw ginger and turmeric, enhanced digestion and assimilation, reducing the formation of *Ama* (toxins). Structured meal timing and avoidance of late-night eating contributed to improved glycemic control in the context of T2DM, while low-salt, high-fiber meals helped manage hypertension and systemic inflammation. Spiritual and mindful practices such as expressing gratitude before meals and sitting in *Vajrasan* promoted mental focus, reduced stress, and indirectly supported renal health [47].

Complementing the dietary interventions, lifestyle modifications emphasized physical activity, relaxation, and sleep hygiene. Slow walking for ten minutes after each meal, along with 30 minutes of barefoot brisk walking, enhanced circulation, reduced edema, and improved insulin sensitivity [48]. Meditation practices, including *Sukhasan* and *Sukshm pranayam*, lowered anxiety, improved autonomic function, and contributed to better sleep quality [49]. Observing one-day fasting facilitated mild detoxification and provided the kidneys with metabolic rest. Ensuring six to eight hours of quality sleep and adherence to a structured daily routine supported hormonal balance, metabolic clearance, and tissue repair [50]. Collectively, these integrated *Ahar* and *Vihar* interventions helped optimize renal function, manage glycemic and blood pressure levels, reduce oxidative stress, and improve overall health, effectively complementing the *Ayurvedic* therapies administered for CKD.

The effect of *Panchakarma* therapies

The *Panchakarma* therapies administered to the CKD stage IV patient had multiple systemic and organ-specific effects that complemented the overall *Ayurvedic* management. *Madhutailik Basti*, delivered as a medicated enema with honey and oil, facilitated absorption of nutrients, supported colon health, and helped in reducing *Ama* (toxins) accumulation while improving digestive and metabolic functions [21]. *Matra Basti* with *Sahacharadi Tailam* promoted lubrication and rejuvenation of the colon, enhanced tissue nutrition, and improved *Vata* balance, contributing to better kidney and gastrointestinal function. Both *Basti* therapies, administered on alternate days, helped regulate bowel movements, reduce systemic inflammation, and provided mild detoxification [22]. *Awagah Swedan*, by immersing the patient in warm water, induced sweating, promoted circulation, and enhanced elimination of toxins through the skin while relieving stiffness and improving tissue perfusion [23]. *Udvartan* with *Kolkulathadi*, through gentle massage with medicated powder, stimulated lymphatic drainage, enhanced microcirculation, reduced edema, and improved metabolic activity in the soft tissues [24,25]. *Abhyangam* with *Bala*, *Ashwagandha*, and *Mahanarayana* oils, followed by *Sarvang Swedan*, provided deep tissue relaxation, improved joint and muscle flexibility, enhanced lymphatic flow, and promoted rejuvenation of tissues, thereby reducing stress and fatigue

associated with CKD [26,27]. *Netra Tarpana* with *Triphala Ghrit* supported ocular health, nourished tissues around the eyes, reduced oxidative stress, and contributed to overall neuro-visual rejuvenation [28-30]. Collectively, these *Panchakarma* interventions improved circulation, facilitated detoxification, enhanced tissue nutrition, and supported holistic well-being alongside dietary and lifestyle modifications.

The effects of *Ayurvedic* medicines

The therapeutic effects of *Ayurvedic* medicines administered for CKD stage IV can be explained through the *Ras Panchaka* of their key common ingredients such as *Punarnava, Gokshur, Giloy, Karela, Haritaki, Amlaki, Shilajit, Pippali, Sonth,* and *Kutaki.* These ingredients collectively contribute to multiple therapeutic effects in CKD management [51-59]. *Punarnava* and *Gokshur* act as diuretics (*Mutral*), help in urinary purgation (*Mutravirechana*), reduce inflammation (*Shoth Har*), and support kidney detoxification (*Vrikkadoshahara*). *Giloy*, *Haritaki*, and *Amlaki* function as blood purifiers (*Raktashodhana*), anti-inflammatory agents, and rejuvenators (*Rasayana*), also aiding in digestive stimulation (*Deepan*) and toxin elimination (*Amapachan*). *Karela, Pippali*, and *Sonth* help in balancing *Doshas*, especially *Vata-Pitta-Kapha*, controlling blood sugar (*Pramehaghna*), enhancing digestive fire (*Agnideepan*), and reducing metabolic toxins (*Medohara, Kledahara*). *Shilajeet* and *Kutaki* further contribute to immunity enhancement (*Ojovardhaka*), liver protection, and detoxification, while providing *Rasayana* effects to improve vitality and overall systemic balance. Overall, these common ingredients act synergistically to address CKD-related complications, improve renal function, reduce inflammation, support metabolism, and enhance general health.

Future Research perspectives: This study was conducted on CKD stage IV patient with hypertension and T2DM. This study results were promising but a keen examination is needed because this study only involves one patient. Further studies with larger number of randomized controlled trials are required to confirm the reliability, efficacy and safety of the integrated *Ayurveda* therapies used in this study for CKD to establish a standard protocol and guidelines for the clinical settings.

CONCLUSION

This case study for the treatment of CKD stage IV with hypertension and T2DM through *Ayurvedic* interventions can be concluded as follows:

Symptoms: The patient showed marked improvement in several clinical parameters following treatment. Drowsiness, initially assessed as Grade 2 (moderate chance of dozing), reduced to Grade 0, indicating no chance of dozing. Pedal oedema, which was present at grade 1, was completely relieved. Eye vision, which was weak prior to treatment, improved noticeably. Additionally, the patient's urine, which was initially frothy, returned to a normal appearance.

Vitals: Over the monitoring period, the patient showed gradual improvements in several vital parameters. Body weight decreased steadily from 83 kg to 76 kg, indicating effective weight management. Blood pressure initially fluctuated, reaching highs of 180/90 mmHg and 160/90 mmHg, before stabilizing at 120/80 mmHg. Pulse rate varied between 64 and 90 beats per minute, with occasional elevations, and ultimately returned to 72 bpm. Respiratory rate remained largely stable between 16 and 20 breaths per minute, while oxygen saturation (SpO_2) stayed consistently high, ranging from 97% to 99%, reflecting good oxygenation. Body temperature remained within the normal range (96.8–98.2 °F), indicating no signs of infection or systemic inflammation. Overall, these trends suggest improvements in hemodynamic stability, weight management, and general physiological status.

Investigations: Over the course of treatment, the patient's laboratory parameters showed notable improvements. Hemoglobin levels increased gradually from 7.3 gm/dL to 10.0 gm/dL, reflecting improved anemia management. Urea levels decreased significantly from 280.12 mg/dL to 100 mg/dL, and creatinine declined from 6.10 mg/dL to 4.5 mg/dL, indicating improved renal function. Uric acid fluctuated slightly, rising initially to 7.8 mg/dL before settling at 7.1 mg/dL. Urine analysis showed intermittent proteinuria and glucosuria, while pus and epithelial cells decreased over time, suggesting reduced urinary tract irritation or infection. Total RBC count increased from 2.61 Mill/Cumm to 3.54 Mill/Cumm, supporting the improvement in overall hematological status.

In conclusion, Holistic *Ayurvedic* treatments with prescribed necessary allopathic medicines for CKD provided encouraging such as the improvement of symptoms, vitals and laboratory test results. Thus, the traditional therapies are found to enhance kidney function and heath and also the overall well-being of the patient. Future research with large controlled trails is essential to authenticate the conclusions of this case study and standardize treatment protocol establishment.

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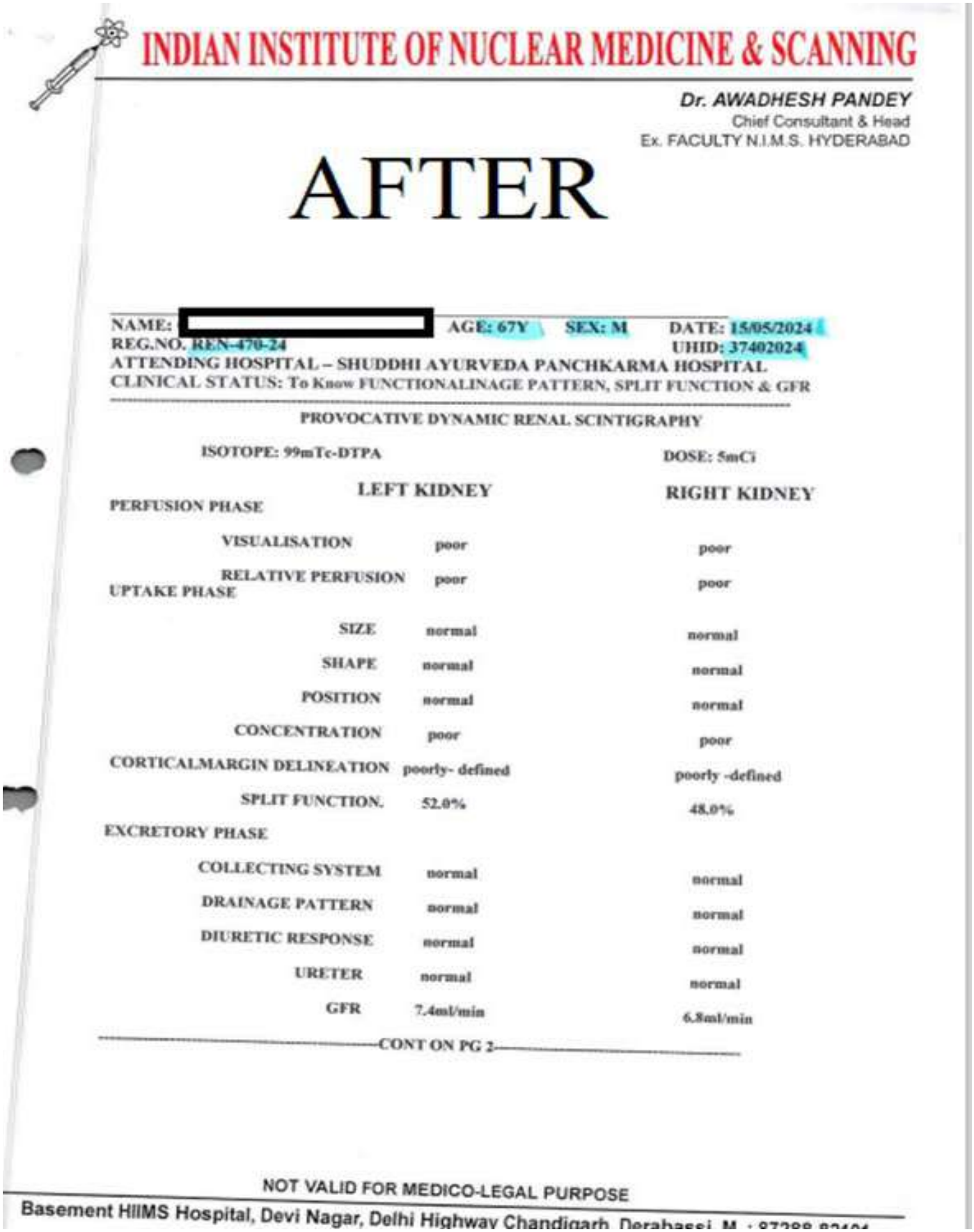
Fig 1. DTPA scan reports



INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. FACULTY N.I.M.S. HYDERABAD

AFTER

NAME: [redacted] AGE: 67Y SEX: M DATE: 15/05/2024
REG.NO. REN-470-24 UHID: 37402024
ATTENDING HOSPITAL – SHUDDHI AYURVEDA PANCHKARMA HOSPITAL
CLINICAL STATUS: To Know FUNCTIONALINAGE PATTERN, SPLIT FUNCTION & GFR

PROVOCATIVE DYNAMIC RENAL SCINTIGRAPHY

ISOTOPE: 99mTc-DTPA DOSE: 5mCi

	LEFT KIDNEY	RIGHT KIDNEY
PERFUSION PHASE		
VISUALISATION	poor	poor
RELATIVE PERFUSION	poor	poor
UPTAKE PHASE		
SIZE	normal	normal
SHAPE	normal	normal
POSITION	normal	normal
CONCENTRATION	poor	poor
CORTICALMARGIN DELINEATION	poorly- defined	poorly -defined
SPLIT FUNCTION.	52.0%	48.0%
EXCRETORY PHASE		
COLLECTING SYSTEM	normal	normal
DRAINAGE PATTERN	normal	normal
DIURETIC RESPONSE	normal	normal
URETER	normal	normal
GFR	7.4ml/min	6.8ml/min

CONT ON PG 2

NOT VALID FOR MEDICO-LEGAL PURPOSE

Basement HIIMS Hospital, Devi Nagar, Delhi Highway Chandigarh, Derabassi, M. : 87289 82404

INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

Dr. AWADHESH PANDEY
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Ex. FACULTY N.I.M.S. HYDERABAD

AFTER

Page 2

IMPRESSION:- 99m DTPA RENOGRAM REVEALS:

LEFT KIDNEY i) NORMAL IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION.
iii) THERE IS NORMAL DRAINAGE SEEN.

RIGHT KIDNEY i) NORMAL IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION
iii) THERE IS NORMAL DRAINAGE SEEN.

- GLOBAL GFR=14.2ml/min/ 1.99sq m BSA
(Normal range for BSA 73.0ml/min ± 17ml/min)

-SPLIT FUNCTION:. LEFT KIDNEY=52.0%
RIGHT KIDNEY=58.0%

-. REPEAT DTPA SCAN AFTER 3 MONTHS (15/08/2024) TO SEE PROGRESSION OR REGRESSION.

Dr. ABHISHEK GUPTA
(DNB)

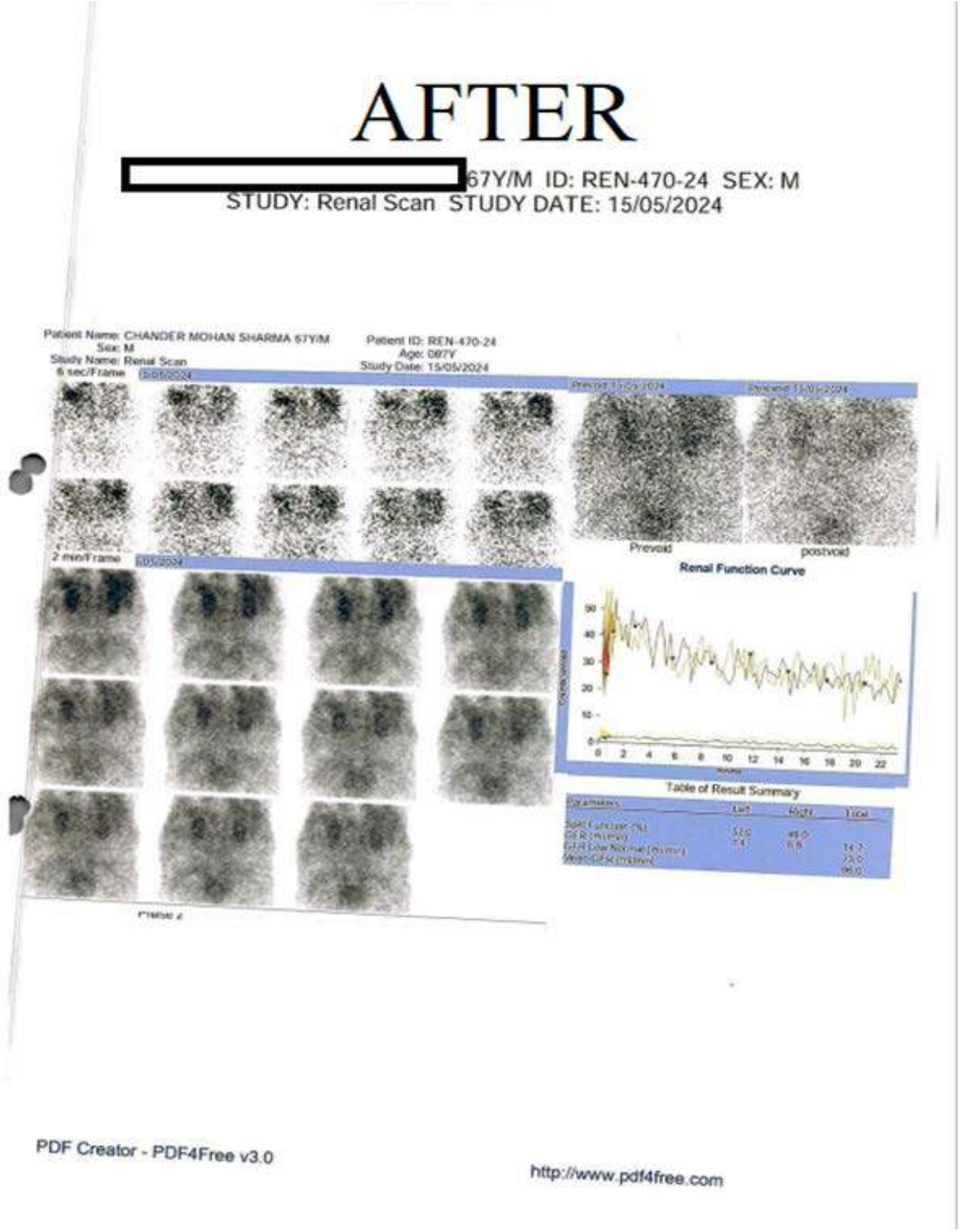
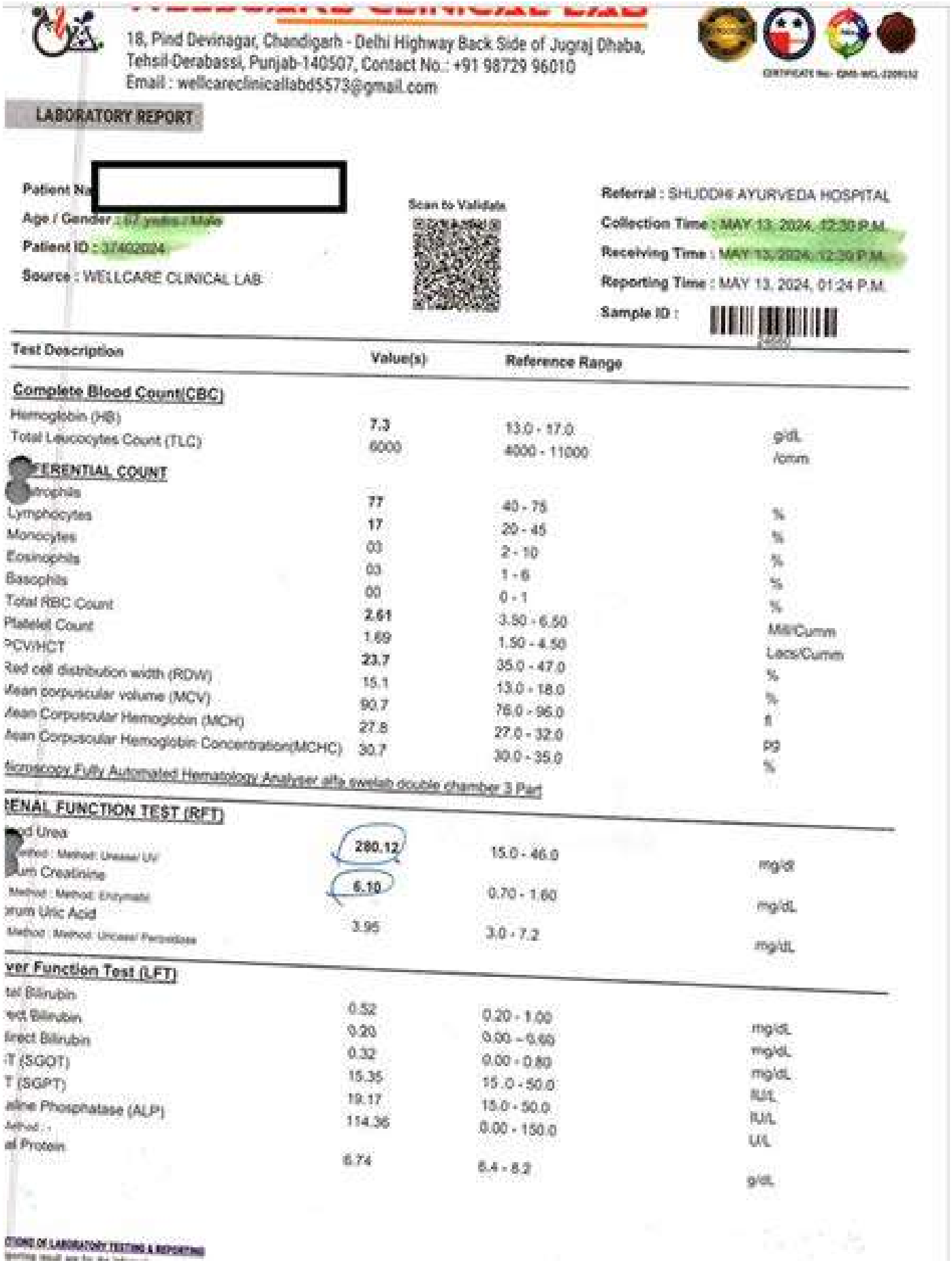


Fig 1 The laboratory reports



18, Pind Devinagar, Chandigarh - Delhi Highway Back Side of Jugraj Dhaba,
Tehsil-Derabassi, Punjab-140507, Contact No.: +91 98729 96010
Email : wellcareclinicallabd5573@gmail.com

CERTIFICATE No: QMS-WCL-2209152

LABORATORY REPORT

Patient Na [redacted]
Age / Gender : 67 years / Male
Patient ID : 374020024
Source : WELLCARE CLINICAL LAB

Scan to Validate

Referral : SHUDDHI AYURVEDA HOSPITAL
Collection Time : MAY 13, 2024, 12:30 P.M.
Receiving Time : MAY 13, 2024, 12:39 P.M.
Reporting Time : MAY 13, 2024, 01:24 P.M.
Sample ID :

Test Description	Value(s)	Reference Range	
Complete Blood Count(CBC)			
Hemoglobin (HB)	7.3	13.0 - 17.0	g/dL
Total Leucocytes Count (TLC)	6000	4000 - 11000	/cmm
FERENTIAL COUNT			
mophils	77	40 - 75	%
Lymphocytes	17	20 - 45	%
Monocytes	03	2 - 10	%
Eosinophils	03	1 - 6	%
Basophils	00	0 - 1	%
Total RBC Count	2.61	3.50 - 6.50	Mill/Cumm
Platelet Count	1.69	1.50 - 4.50	Lacs/Cumm
PCV/HCT	23.7	35.0 - 47.0	%
Red cell distribution width (RDW)	15.1	13.0 - 18.0	%
Mean corpuscular volume (MCV)	90.7	76.0 - 96.0	fl
Mean Corpuscular Hemoglobin (MCH)	27.8	27.0 - 32.0	Pg
Mean Corpuscular Hemoglobin Concentration(MCHC)	30.7	30.0 - 35.0	%
Hematology Fully Automated Hematology Analyser alfa swelab double chamber 3 Part			
ENAL FUNCTION TEST (RFT)			
od Urea	280.12	15.0 - 46.0	mg/dl
Method : Method: Urease/ UV			
um Creatinine	6.10	0.70 - 1.60	mg/dL
Method : Method: Enzymatic			
rum Uric Acid	3.96	3.0 - 7.2	mg/dL
Method : Method: Uricase/ Peroxidase			
ver Function Test (LFT)			
tal Bilirubin	0.52	0.20 - 1.00	mg/dL
ect Bilirubin	0.20	0.00 - 0.60	mg/dL
rect Bilirubin	0.32	0.00 - 0.80	mg/dL
T (SGOT)	15.35	15.0 - 50.0	IU/L
T (SGPT)	19.17	15.0 - 50.0	IU/L
aline Phosphatase (ALP)	114.36	0.00 - 150.0	U/L
Method : -			
al Protein	6.74	6.4 - 8.2	g/dL

STAGES OF LABORATORY TESTING & REPORTING

HOUSE OF DIAGNOSTICS

Patient Name: [redacted]
Age / Sex: 58 Y / M
Referred By: Dr. AIIMS
Centre: BTC PATPARGANJ

Lab No: PTG24061410
Registration On: 24-Jun-24 07:35
Patient ID: UHID:0001647035

Clinical Significance of LFT: A clinical suspicion of liver disease usually leads to the measurement of the liver function tests (LFT) which include measurement of several enzymes, serum bilirubin and albumin. These parameters may point to an underlying pathological process and direct further investigation. The aim of investigation in patients with suspected liver disease are: To detect hepatic abnormality. Measurement of severity of liver damage. Identify the specific cause. Investigate possible complications.

Technology: Dry Chemistry (VITROS Microslide, Microsensor and Indirect ISE Technology)
Analyser: Fully Automated Biochemistry and Immunology Analyser VITROS 5600

Advise: Please correlate results clinically

Kidney Function Test — Serum Sample

Accession No: 0010336557 | Collected On: 24-Jun-24 07:35 | Received On: 24-Jun-24 13:42 | Approved On: 24-Jun-24 18:33

Observation	Result	Unit	Biological Ref. Interval	Method
Blood Urea	100	mg/dL	10 - 43	Urease, Colorimetric
Blood Urea Nitrogen	46.73	mg/dL	9-20	Calculated
Creatinine	4.5	mg/dL	0.6-1.25	Enzymatic
Estimated GFR	12.50	mL/min/1.73m2		Calculated By CKD-EPI(2021)
Uric Acid	7.1	mg/dL	3.5 - 8.5	Uricase , Colorimetric
Calcium	8.5	mg/dL	8.4 - 10.2	Arsenazo III
Phosphorus	4.7	mg/dL	2.5 - 4.5	Phosphomolybdate reduction
BUN/Creatinine Ratio	10.38	Ratio		Calculated
Urea/Creatinine Ratio	22.22	Ratio		Calculated
Electrolytes				
Sodium	137	mmol/L	137-145	ISE Direct
Potassium	5.0	mmol/L	3.5 - 5.1	ISE Direct
Chloride	108	mmol/L	98 - 107	ISE Direct

kindly correlate clinically and treatment history of the patient.

Classification of eGFR by UK Kidney Association (2017):

eGFR (ml/min/1.73 m2)	GFR Category	Significance
>90	G1	Normal Renal Function
60-90	G2	Mild impairment of Renal Function
45-59	G3a	Impaired Kidney Function
30-44	G3b	Impaired Kidney Function
15-29	G4	Significant Impairment of Renal Function
<15	G5	End-Stage Renal Failure (ESRF)

Technology: Dry Chemistry (VITROS Microslide, Microsensor and Indirect ISE Technology)
Remarks: Please correlate results clinically

ESR — EDTA Whole Blood Sample

Accession No: 0001334557 | Collected On: 24-Jun-24 07:36 | Received On: 24-Jun-24 12:54 | Approved On: 24-Jun-24 18:18

Observation	Result	Unit	Biological Ref. Interval	Method
ESR	35	mm/hr	<20	Modified Westergren

Scan to Validate

14,15,16 Hargovind Enclave, Delhi - 110092

MANISH GROVER Digitally signed by MANISH GROVER Date: 2025.12.12 17:12:02 +05'30'

Academia Journal of Medicine
Year 2025, Volume-8, Issue- 2 (Jul-Dec)

Ashmari Chikitsa: An *Ayurvedic* Case Study on Renal Calculi

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ABSTRACT

Mutrashmari, commonly known as renal calculi or kidney stones, is a significant health concern characterized by the formation of stones in the urinary tract. *Ayurveda* classifies it as one of the *Ashtamahagada* due to its complexity and challenges in treatment. It arises from an imbalance in *Vata, Pitta*, and *Kapha doshas* and is influenced by factors such as improper diet, sedentary lifestyle, dehydration, excessive calcium intake, metabolic disorders, and genetic predisposition. Clinically, it presents with severe pain, dysuria, oliguria, hematuria, nausea, and vomiting. This case study evaluates the impact of *Ayurvedic* management in a 34-year-old male diagnosed with *Mutrashmari* at Jeena Sikho Lifecare Limited Hospital, Hyderabad, Telangana, India. Following two months of *Ayurvedic* treatment, a comparative USG revealed a reduction in stone size, with the right kidney calculus decreasing from 4.6 mm to 2 mm and the left kidney calculus reducing from 3.7 mm to 2.7 mm. The patient experienced significant symptomatic relief, including reduced pain and improved urine output. These findings support the efficacy of *Ayurvedic* interventions in renal calculus management. However, further clinical trials are required to validate these results and establish standardized treatment protocols.

Introduction

Mutrashmari, commonly known as renal calculi or kidney stones, is a significant health concern characterized by the formation of stones in the urinary tract. *Ayurveda* classifies it as one of the *Asthamahagad* (eight major diseases) due to its complexity and difficulty in treatment. The condition arises from an imbalance in the body's *doshas—Vata, Pitta*, and *Kapha*—and is influenced by factors such as improper diet, sedentary lifestyle, dehydration, excessive intake of calcium-rich foods, metabolic disorders, and genetic predisposition. Clinically, it manifests as severe pain in the lower abdomen and back, painful and burning urination, reduced urine output, yellow or reddish-yellow urine, nausea, and vomiting [1].

Modern medicine refers to this condition as urolithiasis, which results from the supersaturation of urine with stone-forming substances such as calcium, oxalate, and uric acid. Major risk factors include dietary habits, dehydration, metabolic disorders, and genetic predisposition. Diagnosis primarily relies on imaging studies like non-contrast CT scans and ultrasound, as well as urinalysis and blood tests

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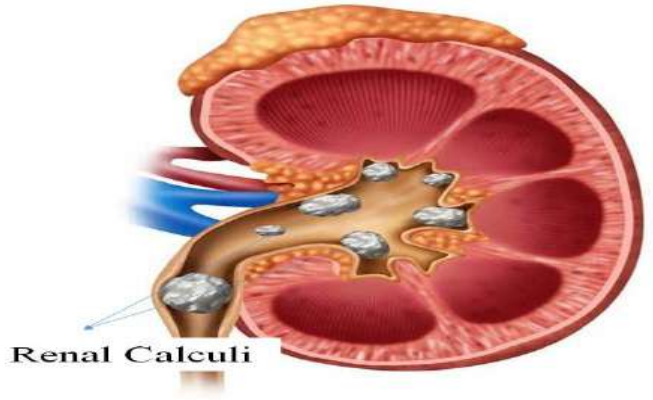
to assess metabolic abnormalities. Treatment strategies range from conservative management to pharmacological interventions and surgical procedures for larger stones. Preventive measures emphasize dietary modifications, increased fluid intake, and addressing metabolic conditions to reduce recurrence risk [2,3,4].

Recent studies have highlighted various *Ayurvedic* interventions for managing *Mutrashmari*, focusing on both symptomatic relief and reducing calculi size. Studies underscores the prevalence of renal calculi and the effectiveness of *Ayurvedic* interventions, particularly *Ayurvedic* herbs such as *Varuna, Gokshura*, and *Pashanabheda*, along with dietary and lifestyle modifications [5,6]. Case reports documented the successful treatment of a 50-year-old female patient with *Ayurvedic* medicines, showing significant symptomatic and imaging improvements within one month. Another case study demonstrated complete dissolution of renal calculi and resolution of symptoms through *Ayurvedic* medications and lifestyle changes [5,7,8,9,10]. Case studies further validate the effectiveness of *Ayurvedic* treatments, reporting significant symptom relief and complete resolution of calculi following therapies like *Viddhakarma* [11]. Urolithiasis affects approximately 5–7 million individuals in India, with a higher prevalence in males [10]. Lifestyle factors, including sedentary habits and poor dietary choices, contribute to the rising incidence of this condition [7].



Ayurvedic management of *Mutrashmari* focuses on restoring *doshic* balance and utilizing *Ayurvedic* formulations to dissolve stones and prevent recurrence. *Ayurvedic* herbs like *Varuna*, *Gokshura*, *Pashanabheda*, and *Punarnava* are known for their stone-breaking properties [12]. *Panchakarma* therapies, such as *Virechana* and *Basti*, play a significant role in detoxifying the body and balancing the *doshas*.

A holistic approach combining modern and *Ayurvedic* principles can enhance treatment outcomes. While modern medicine offers rapid symptom relief and surgical options for severe cases, *Ayurveda* provides preventive and curative measures focusing on detoxification, *Ayurvedic* medicines, and lifestyle modifications. Integrating both systems can ensure a comprehensive approach to managing *Mutrashmari* effectively. This study aims to assess the impact of *Ayurvedic* interventions for *Mutrashmari* (Renal calculi) in a 34-year-old male patient.

CASE REPORT

A 34-year-old male visited Jeena Sikho Lifecare Limited Hospital, Hyderabad, Telangana, India, on December 25, 2024. The patient was diagnosed with *Mutrashmari* (Renal calculi). A systematic and detailed assessment included a thorough review of medical and family history, along with physical examination and diagnostic evaluations. He had a history of ureter calculus and underwent right percutaneous nephrolithotomy (PCNL) with Double-J (DJ) stenting under spinal anesthesia on August 23, 2024. He experienced body pain. His symptoms involved oliguria and yellow urine. He had tobacco addiction. The initial assessment during the visits are mentioned in **Table 1.** The stone analysis is mentioned in **Table 2.**

Table 1. The initial assessment during the visits

Date	25-12-2024	26-02-2025
Blood pressure	110/70 mmHg	100/70 mmHg
Weight	67.3 Kg	68 Kg
Jiwha	*Malin Shweta*	*Malin Shweta*
Nadi	*Vataj Pittaj*	*Vataj Pittaj*

Table 2. The stone analysis

Composition	Percentage
Calcium oxalate	60%
Calcium	30%
Uric acid	10%

Treatment Plan

I. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

The patient adhered to a meticulously designed Disciplined and Intelligent Person (DIP) Diet to complement the *Ayurvedic* treatments for *Mutrashmari* (Renal calculi) [6,13].

Treatment Plan for *Mutrashmari* (Renal calculi) Management

I. Dietary Recommendations

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital, Hyderabad, Telangana, include the following key recommendations:

Fig 1. Key recommendations:

Fig 2. Meal Timing & Structure:

Fig 3. Lifestyle Recommendations

Medicinal Interventions

The *Ayurvedic* treatment employed in this case included Renal Stone Removing Powder, Nefron Plus Capsules, Stoni capsule, Renal stone syrup and LIV Shuddhi Tablet. The *Ayurvedic* medications advised during the treatment period are described in **Table 3**. The details of the medicines advised during the treatment period is in **Table 4.**

Table 3 The *Ayurvedic* medications advised during the treatment period

Date	Medicines	Dosage with *Anupana*
25-12-2024	Renal Stone Removing powder	Half a teaspoon BD *(Adhobhakta* with *koshna jala)*
	Nefron Plus Capsule	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Stoni Capsule	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Renal Stone Removing Blk	10 ml BD (*Adhobhakta* with *sama matra koshna jala)*
26-02-2025	Renal Stone Removing powder	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Nefron Plus Capsule	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Stoni Capsule	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Renal Stone Removing Blk	10 ml BD (*Adhobhakta* with *sama matra koshna jala)*
	Dr Liv Shuddhi Tablet	1 TAB BD (*Adhobhakta* with *koshna jala*)

Table 4. The details of the medicines advised during the treatment period

Medicine name	Ingredients	Therapeutic Effects
Renal Stone Removing Powder	**Gokhru** (*Tribulus terrestris*), **Yavakshar** (*Hordeum vulgare*), **Mulikshar** (*Raphanus sativus*), **Kalmi Shora** (*Potassium nitrate*), **Hujralyahud Bhasma** (*Corallium rubrum*), **Shwet Parpati** (*Potassium nitrate, Ammonium chloride, Alum*)	Used for the treatment of kidney stone, urinary obstruction and UTI
Nefron Plus Capsules	**Hazrool yahood bhasma powder**, **Chandraprabha powder**, **Pashanbheda**, **MulakKshar powder**, **YavaKshar powder**, **Amalaki Rasayan powder**, **Trivikrum Rasa powder**, **Navasara powder**, **Nimbu Stava powder** (*Citrus limon*), **Gokshur** (*Tribulus terrestris*), **Durbhamool** (*Chlorophytum borivilianum*), **Shila pushpa** (*Dolichos biflorus*), **Black Salt powder**, and **Hing powder** (*Ferula asafoetida*)	Provides relief from pain and discomfort associated with kidney issues.
Stoni capsule	**Pashan Bhed** (*Bergenia ligulata*), **Gokhru Chota** (*Tribulus terrestris*), **Kulthi** (*Macrotyloma uniflorum*), **Pather Bar** (*Ficus arnottiana*), **Ilechi Badi** (*Amomum subulatum*), **Jawakhar** (*Calcium carbonate*), **Akshar** (*Natron - Sodium carbonate*), **Shudh Shilajeet** (*Purified Asphaltum*), **Hazral Yahud Bhasam** (*Purified Silicate of Lime*).	Helps to manage kidney stone, diuretis, GB stone and UTI
Renal stone syrup	**Gokshur** (*Tribulus terrestris*), **Bhumiawala** (*Phyllanthus niruri*), **Harad** (*Terminalia chebula*), **Kulath** (*Macrotyloma uniflorum*), **Makoy** (*Solanum nigrum*), **Pashan Bhed** (*Bergenia ligulata*), **Panchtranmool** (*Desmodium gangeticum*, *Uraria picta*, *Solanum indicum*, *Solanum xanthocarpum*, *Tribulus terrestris*), **Plasha** (*Butea monosperma*), **Punarnava** (*Boerhavia diffusa*), **Chharila** (*Parmelia perlata*), **Saindha Namak** (*Halite*), **Varun Chhal** (*Crataeva nurvala*), **Sheetal Chini** (*Piper cubeba*), **Guduchi** (*Tinospora cordifolia*).	Provide solution for KIDNEY STONE, diuretic, UTI, relief from urinary discomfort, abdominal pain and dissolve calculi
LIV Shuddhi Tablet	**Milk Thistle** (*Silybum marianum*), **Guduchi** (*Tinospora cordifolia*), **Dandelion** (*Taraxacum officinale*), **Tulsi** (*Ocimum sanctum*), **Punarnava** (*Boerhavia diffus* a), **Amla** (*Phyllanthus emblica*) and **Arjuna** (*Terminalia arjuna*)	Helps with natural liver detox, digestion, and overall wellness

RESULT

After 2 months of treatment he experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against *Mutrashmari* (Renal calculi). The patient experienced relief from pain which shows that the *Ayurvedic* interventions used in the case study are effective for *Mutrashmari*.

The USG abdomen comparison between 02-12-2024 (**Fig 4**) and 25-02-2025 (**Fig 5**) shows a reduction in renal calculi size, indicating improvement. Initially, the right kidney (RK) had a 4.6 mm calculus in the upper pole, and the left kidney (LK) had a 3.7 mm calculus in the mid pole, confirming bilateral renal calculi. In the latest scan, the right kidney now has a 2 mm calculus in the mid pole, and the left kidney calculus has reduced to 2.7 mm, suggesting partial dissolution or passage of stones. The overall interpretation suggests a positive trend in kidney stone reduction, necessitating lifestyle modifications, proper hydration, and regular monitoring to prevent further complications.

Implications for Future Research

This study explored the case of a single patient diagnosed with Mutrashmari, demonstrating significant improvements with Ayurvedic interventions. However, as a single-case analysis, its findings may not be broadly applicable to a wider population. To confirm the efficacy, safety, and reliability of these treatments, further research is essential. Future

investigations should include randomized controlled trials (RCTs) involving larger and more diverse patient groups to reduce bias and enhance statistical significance. These studies should compare Ayurvedic therapies with conventional treatments or placebo controls to evaluate their relative effectiveness.

Developing standardized treatment protocols based on clinical evidence will be vital for integrating Ayurvedic interventions into mainstream healthcare. Such guidelines would not only enhance patient care but also promote wider acceptance of Ayurveda as a complementary or alternative approach for managing Mutrashmari. Collaborative research between Ayurvedic scholars and modern medical experts can help bridge the gap between traditional knowledge and scientific validation, ultimately benefiting a broader patient population.

DISCUSSION

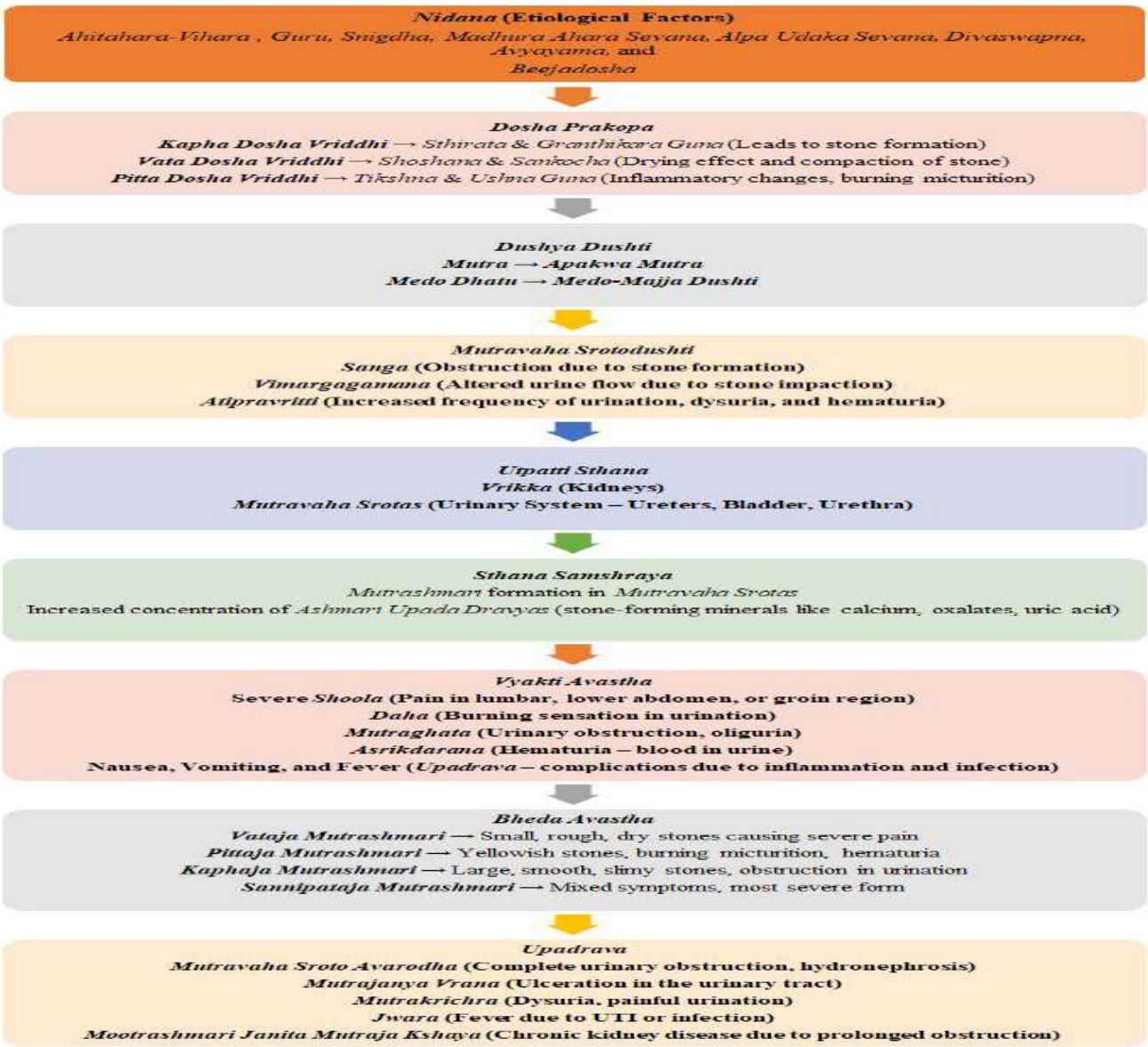
Ayurvedic treatment for *Mutrashmari* (Renal calculi) offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 34-year-old male who had been diagnosed *Mutrashmari* (Renal calculi). The size of calculus was reduced in USG. The *samprapti* [14,15,16,17] for this case study is depicted in **Fig 6**.

"व्यायामतीक्ष्णौषधरुक्षमद्यप्रसंगनत्यिदरुतपृष्ठयानात्।

आभूपमांसाध्यशनाज्जीर्णाशनात् स्युमूत्रकृच्छ्राण्यष्टौ॥"

- माधवनदिान, मूत्रकृच्छ्रनदिान, श्लोक 1[18]

Fig 6 The *samprapti* for this case study



During his 2 months of treatment, he underwent *Ayurvedic* therapy regimen provided by Jeena Sikho Lifecare Limited Hospital, Hyderabad, Telangana. **The following medicines help in breaking this** *Samprapti* **:**

"पृथङ्गङ्गलाःस्ववःकफता ननदान्वयुःसवेऽथवा कोपमुपेत्य बस्तौ।

मूत्रस्य मार्गं परपीडयन्तयिदा तदा मूत्रयतीह कृच्छ्रात्॥"

- माधवनदिान, मूत्रकृच्छ्रनदिान, श्लोक 2 [19]

Mutrashmari develops due to a *Tridoshic* imbalance, particularly the aggravation of *Kapha*, *Pitta*, and *Vata*. The condition primarily affects the *Mutravaha Srotas*, leading to *Srotorodha* and impaired metabolism, which causes stone formation. Contributing factors include excessive intake of calcium-rich and heavy foods, dehydration, sedentary lifestyle, stress, and genetic predisposition. *Ayurvedic* management focuses on *Shodhana* and *Shamana* therapies. Various *Ayurvedic* formulations help in breaking down stones, alleviating symptoms, and preventing recurrence. Renal Stone Removing Powder acts as a *Mutral* (diuretic), facilitating the removal of stones, while Nefron Plus Capsules improves urine outflow, enhances kidney function and reduce inflammation. Stoni Capsule works as an *Ashmari Nashak* (stone-dissolving agent), clearing urinary obstructions, whereas Renal Stone Syrup alkalizes urine and prevents further stone formation. LIV Shuddhi Tablet aids in detoxification and metabolic balance, reducing excessive calcium oxalate deposition. Along with these formulations dietary modifications, including increased water intake and avoidance of high-oxalate foods, play a crucial role in prevention. By integrating these approaches, *Ayurvedic* management provides a holistic solution for *Mutrashmari*, addressing the root cause, alleviating symptoms, and reducing the risk of recurrence.

This case study highlights the effectiveness of *Ayurvedic* treatments in managing *Mutrashmari*. By targeting the underlying imbalances, these therapies aid in alleviating pain and weakness. Moreover, *Ayurveda* offers a holistic and cost-efficient approach to treating *Mutrashmari*. However, additional research is needed to further establish its efficacy and safety in managing this condition.

CONCLUSION

This case study evaluating the treatment of *Mutrashmari* through *Ayurvedic* interventions yields the following findings:

Symptoms: Upon admission, the patient presented with pain. After *Ayurvedic* treatment, significant improvements were observed. The patient reported relief from pain with no new symptoms emerging, suggesting a marked improvement in the conditions.

Outcome after treatment: The USG abdomen comparison indicates a reduction in renal calculi size, showing improvement. The right kidney calculus decreased from 4.6 mm to 2 mm, and the left kidney calculus reduced from 3.7 mm to 2.7 mm. There was a notable reduction in pain due to positive changes in both lifestyle and diet.

Ayurvedic treatments for *Mutrashmari* showed beneficial effects, as evidenced by improvements in laboratory parameters, vital signs, and symptoms. These therapies focus on restoring equilibrium and addressing root imbalances to enhance overall well-being. However, additional clinical studies are required to confirm these results and establish standardized treatment guidelines for *Mutrashmari* management.

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Fig 4. The USG abdomen and pelvis on December 02, 2024

Print Results

IMAGEE DBR Diagnostic Services

IMAGEE DBR DIAGNOSTIC SERVICES

Name : [redacted]
Age/Gender : 33YEARS/MALE
Reff By : SELF

Bill Number : 7643
Reporting Date : 02-Dec-2024 01:28 PM

DEPARTMENT OF RADIOLOGY
ULTRASOUND SCANNING OF WHOLE ABDOMEN

Findings :

LIVER : Normal in size (123 mm) with normal echopattern. No evidence of focal lesions. No intrahepatic biliary dilatation. Portal vein and CBD are normal.

GALL BLADDER: Well distended.No evidence of focal lesions / calculi. Wall thickness normal. No pericholecystic fluid collection seen.

SPLEEN : Normal in size (89 mm) with normal echopattern. No evidence of focal lesions.

PANCREAS: Normal in size and echopattern.No evidence of calcifications or focal lesions.Pancreatic duct is normal.

RIGHT KIDNEY : Measures 98 x 45 mm.
Normal in size and echopattern.Pelvicalyceal system is normal.
Corticomedullary differentiation well maintained.
A calculus of size 4.6 mm noted in upper pole.

LEFT KIDNEY : Measures 99 x 50 mm. Normal in size and echopattern.
Mild hydroureteronephrosis to rule out distal ureter calculus.
Corticomedullary differentiation well maintained.
A calculus of size 3.7 mm noted in mid pole.

URINARY BLADDER : Well distended. Bladder walls are normal. No evidence of calculi.

PROSTATE: Normal in size (Vol : 20 cc) with normal echopattern.

Aorta and IVC are normal.No paracaval or aortic adenopathy.
No evidence of free fluid in the pelvic or abdominal cavity.

IMPRESSION : * Bilateral renal calculi.
*** Left mild hydroureteronephrosis to rule out distal ureter calculus.**
Suggested Clinical Correlation

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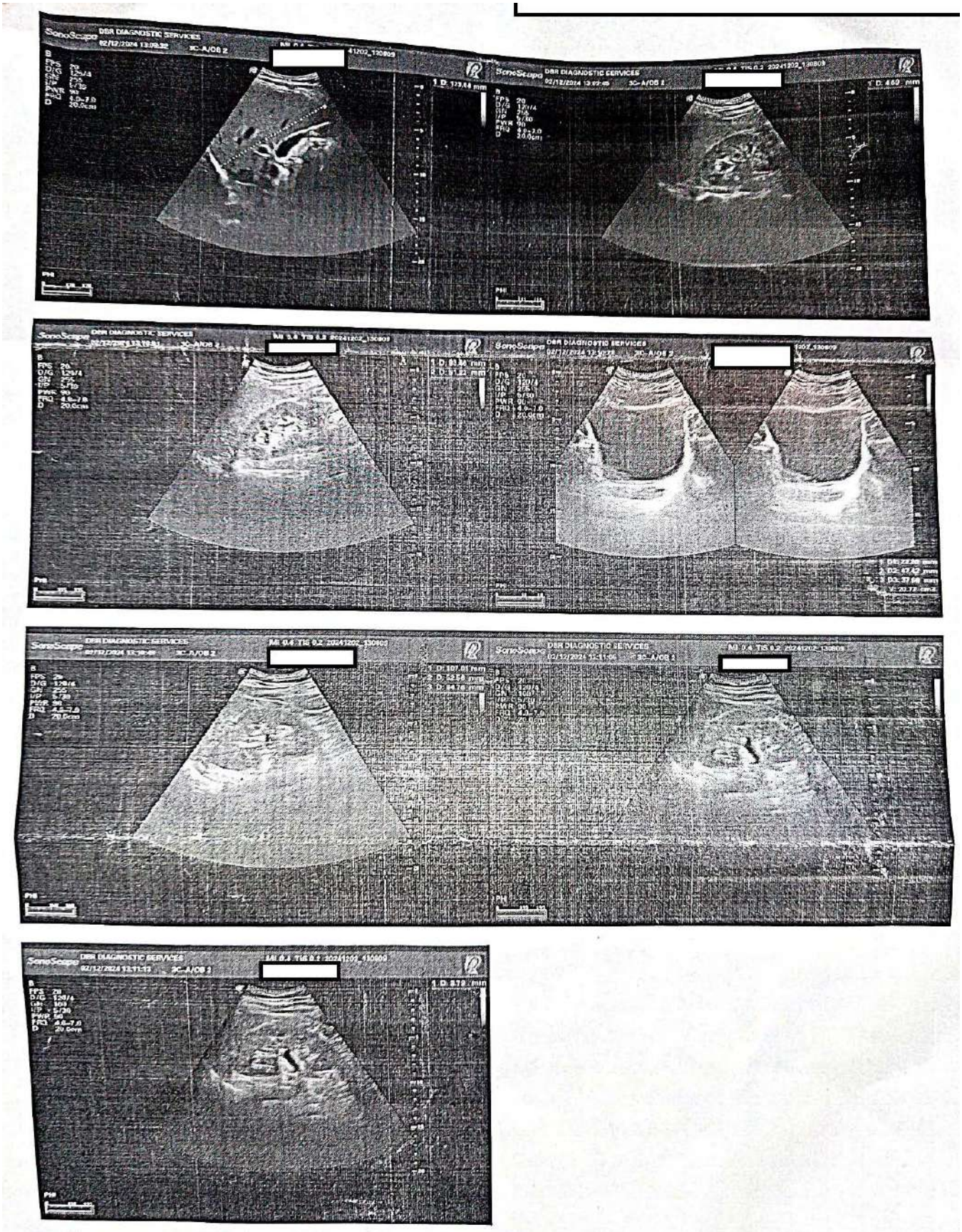

Fig 5. The USG abdomen and pelvis on February 25, 2025

2/25/25, 12:42 PM

Print Results

IMAGEE DBR Diagnostic Services

IMAGEE DBR DIAGNOSTIC SERVICES

Name : [redacted]
Age/Gender : 34YEARS/MALE
Reff By : DR SELF

Bill Number : 10264
Reporting Date : 25-Feb-2025 12:24 PM

ULTRASOUND OF ABDOMEN & PELVIS

Findings :

Liver : Normal in size (136 mm) and **shows diffuse increased in homogenous echotexture**. No focal pathology seen. No IHBRD/CBD dilatation portal vein appear normal.

Gall Bladder : Physiologically distended and shows no wall thickening.No calculus seen.

Pancreas : Normal in size, shape and echopattern. No focal lesions or peri pancreatic collections seen.

Spleen : Normal in size (114 mm) shape and echopattern. No focal lesions seen.

Right kidney : 107 x 46 mm.Normal in size, shape and echopattern. No focal lesions.
Prominent pelvis.Calculus measuring 2 mm mid pole.

Left kidney : 103 x 46 mm.Normal in size, shape and echopattern. No focal lesions.
Prominent pelvis. Calculus measuring 2.7 mm in mid pole.

Urinary Bladder : Well distended. No wall thickening seen.

Prostate : Vol : 17 cc.Normal in size, shape and echotexture.

No ascites or lymphadenopathy.

Visualised bowel loops shows normal peristalsis. No abnormal dilataton/lesions noted.

IMPRESSION :

* **Grade I fatty liver.**
* **Bilateral prominent renal pelvis (Right > Left).**
* **Bilateral tiny renal calculi.**

- For clinical correlation.

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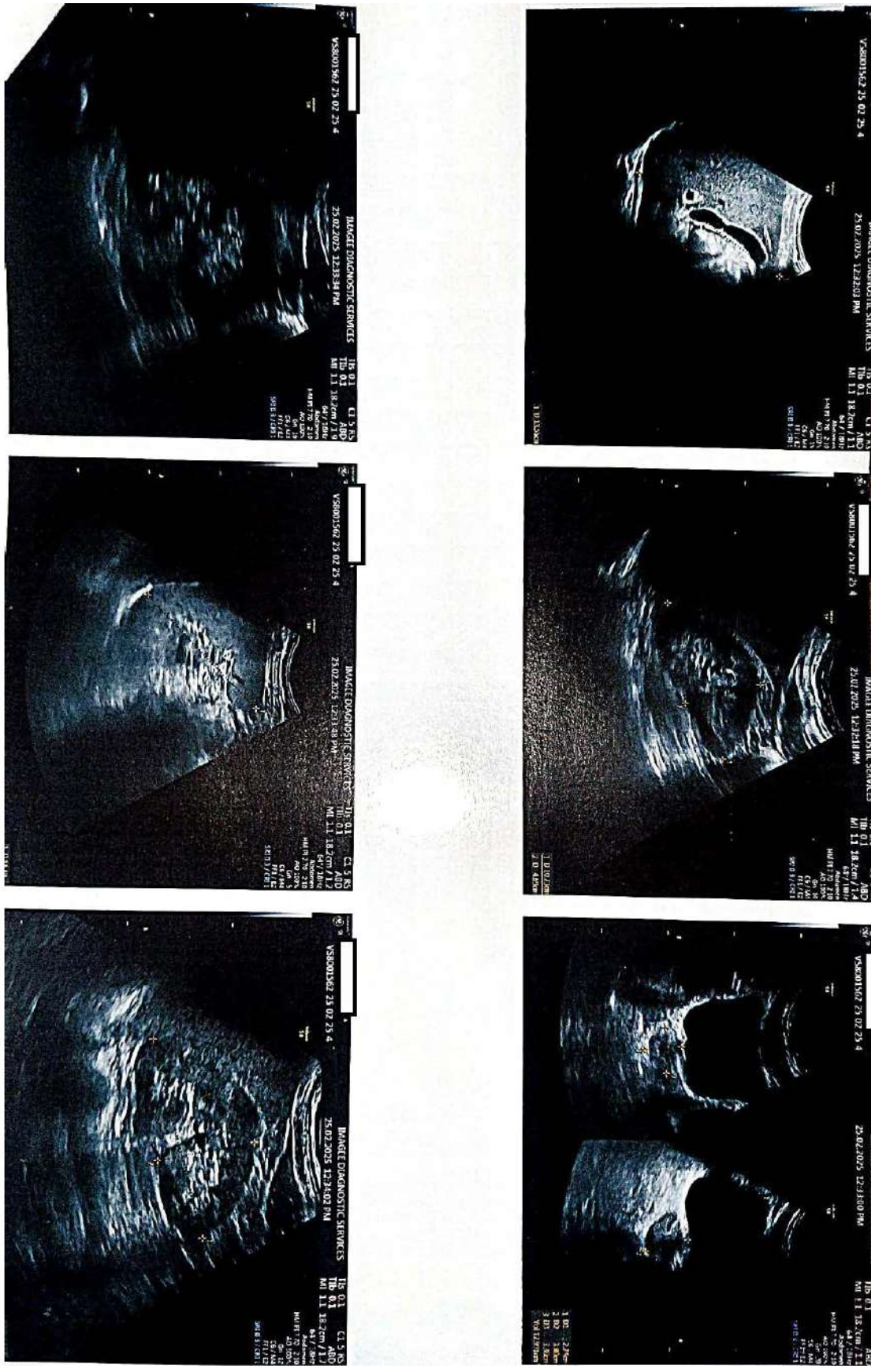

Research Article

Advances in Applied Biological Research
Year 2025, Volume-2, Issue-2 (Jul-Dec)

Effectiveness of Ayurvedic and Panchakarma Therapies in Managing Chronic Kidney Disease: A Case Study Report

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ABSTRACT

Chronic kidney disease (CKD) is defined as a progressive disease that affects the overall health of kidney. CKD is diagnosed in five stages based on its symptoms and the structure and function of kidney. CKD can be significantly influenced by several lifestyle factors. Poor dietary habits, such as high intake of salt, sugar, unhealthy fats, and processed foods, contribute to obesity, hypertension, and diabetes, key risk factors for CKD. Hence, the CKD treatment requires a multifaceted approach including adopting a healthy lifestyle with a balanced diet, regular exercise, stress management, and proper hydration. This case report focuses on a 31-year-old female patient with CKD for 2 years and hypertension for 6 months who received *Ayurvedic* treatment at Jeena Sikho Lifecare Limited Hospital, Derabassi. The treatment method administered on her was a combination of customized *Ayurveda* and *Panchakarma* therapies, resulting in significant progresses in her symptoms, kidney health and function, and general life quality. After 7 days of IPD, the patient showed improvement in Blood Urea and Serum Creatinine, also reported relief from periorbital swelling and other symptoms. This study highlights the potential of Ayurveda as an economical alternative to conventional treatments, especially for individuals with limited financial resources who face challenges in accessing advanced healthcare. While the results are encouraging, further research with larger randomized controlled trials is essential to assess the effectiveness and safety of *Ayurvedic* treatments for CKD.

Introduction

Chronic Kidney Disease (CKD) is characterized by structural or functional kidney abnormalities persisting for over three months. Its increasing prevalence presents significant challenges for healthcare systems, escalating medical costs worldwide [1]. CKD progresses through cellular injury and nephron loss, commonly caused by diabetes, hypertension, and heavy metal exposure, ultimately impairing renal function [2]. Globally, approximately 800 million individuals

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suffer from CKD, which disrupts essential physiological processes and, if untreated, leads to complications such as hyperkalaemia and metabolic acidosis [3]. Early-stage CKD is typically asymptomatic but significantly heightens the risk of cardiovascular diseases, making early detection crucial to preventing kidney failure [4]. In women, CKD can contribute to menstrual irregularities, decreased libido, high-risk pregnancy, and early menopause [5]. Although effective treatments exist, late diagnoses, lack of awareness, and systemic disparities limit proper healthcare access [6]. CKD is now the seventh leading cause of mortality globally and is projected to rank fifth by 2040, with obesity, lifestyle changes, and climate change exacerbating its prevalence [7,8]. In India, CKD poses a particularly severe public health burden, especially in eastern regions, due to environmental factors, limited healthcare infrastructure, and high diabetes and hypertension rates [11]. Patient education on lifestyle changes can help slow disease progression and improve outcomes [10]. However, CKD in rural India is often diagnosed late, with approximately 210,000 new cases annually. Socioeconomic challenges, high treatment costs, and restricted healthcare access force many patients to abandon treatment within a year [12]. India's end-stage renal disease (ESRD) incidence rate is 229 per million, highlighting substantial healthcare and economic concerns. Preventive measures and early detection are critical in managing CKD, largely driven by hypertension, diabetes, and socioeconomic disparities [13].

CKD patients frequently experience periorbital swelling due to fluid retention, electrolyte imbalances, and complications such as infections and inflammation. Proper management includes fluid intake control, blood pressure regulation, and infection prevention [14]. Lower limb pain, affecting 50%-70% of CKD patients, is often linked to hyperuricemia, arthritis, and calcium-phosphate metabolism abnormalities, further complicating treatment [15,16,17,18]. Modern CKD management emphasizes early diagnosis, lifestyle modifications, and regular kidney function monitoring to slow disease progression and prevent complications [7,9].

Ayurveda provides a holistic approach to CKD, using herbs like *Punarnava, Gokshura*, and *Brahmi* to enhance kidney function. *Panchakarma* therapies such as *Vamana, Virechana*, and *Basti* aid in detoxification and *dosha* balance [19]. *Ayurvedic* dietary recommendations focus on reducing protein and salt intake while promoting diuretic and anti-inflammatory foods [20]. Herbal tea from *Punarnava* and *Gokshura*, combined with stress management and yoga, offer a comprehensive CKD management strategy [20,21]. This study deals with the *Ayurvedic* interventions with *Panchakarma* therapy and conventional methods to maintain CKD.

CASE REPORT

A 31-year-old female with a history of CKD for 2 years and hypertension for 6 months visited Jeena Sikho Lifecare Limited Hospital, Derabassi (Punjab) on May 14, 2024. A detailed and systematic evaluation was performed, including a complete medical history, family history, physical checkup, and diagnostic assessments. Her symptoms were periorbital swelling, pain in lower limb and mild shortness of breath on exertion. She also had fungal infection (ring worm) between the thighs. She was diagnosed with hypertension for 6 months and hyperthyroidism for 6 years prior to her hospital admission. The patient was advised for MHD but not continuing during the visit. The problem started with chest and back pain a year ago the visit. Vital investigation results showed high serum creatinine and blood urea. Allopathic medications were taken after CKD was diagnosed. After increased weakness, creatinine and urea level, she was advised for dialysis twice a week. The vital signs along with *Astha sthana pariksha* report during the first day of visit is detailed in Table 1.

Table 1 Vitals during the initial examination on first day of the visit

Parameter	Findings
Temperature	98.2˚F
Blood Pressure	150/90 mm of Hg
Pulse Rate	96/min
Weight	37 Kg
Oxygen Saturation	99%
Nadi	*Vataj Pittaj*
Mutra	*Avikrita*
Jivha	*Saam*
Shabda	*Spashta*
Nidra	*Prakrita*
Drik	*Prakrita*
Mala	*Abadha*

The patient was admitted for 7 days, during that period he received consolidated *Ayurvedic* treatments. This treatment procedure included *Panchakarma* therapies such as *Matra basti* with *Gokshuradi* and *Punarnavadi*, *Shiropchu* with *Brahmi* oil and *Abhyangam* with *Bala* oil and a blend of Naturopathy and *Panchakarma* therapies such as *Awagaha swedan* and Chest and Legs *Lepam* with *Dashmool* and *Dashanga*.

The patient was advised to take Chander Vati Tablet, Asthiposhak Vati and GFR powder throughout the IPD. Vitals observed during the treatment investigations conducted on the May 14, 2024 are detailed in Table 2. After 7 days of treatment, the patient experienced significant improvement in the symptoms.

Table 2 Vitals observed during the IP treatment Investigation on the date of admission

Parameter	Findings
Date	14-05-2024
Haemoglobin	10.7 gm/dL
Intact PTH	389.30 pg/dL
eGFR	5 ml/min/1.73m²
Rapid Tests	Non-reactive for HIV, HBsAg, and HCV
Gluocse	Trace
Protein	++
Pus cells	1-2
Epithelial cells	2-3
Calcium	7.72 mg/dL
Lipid Profile	
Total Cholesterol	205.15 mg/dL
HDL	40 mg/dL
LDL	140.65 mg/dL
VLDL	24.50 mg/dL
Cholesterol/HDL Ratio	5.13
Triglycerides	122.49 mg/dL

The eGFR noted on May 11, 2024, prior to the visit was 5 ml/min/1.73m². The vitals observed during the IPD treatment on daily basis are detailed in Table 3. Investigations conducted during the treatment is mentioned in Table 4. The vitals fluctuated throughout the IPD treatment. The patient was afterward discharged on May 20, 2024. Vital signs with *Nadi pareeksha* during the time of discharge is given in Table 5.

Table 3. Daily vitals observed during the IPD treatments

Date	Time	Weight in Kg	Temperature in F	Blood Pressure (mmHg)	Pulse per min
14-05-2024	4:00 PM	-	98.2° F	150/90	96
	8:00 PM	-	97° F	160/100	86
15-05-2024	5:00 AM	-	97° F	160/100	84
	9:00 AM	37 Kg	97.2° F	150/100	88
	7:00 PM	38 Kg	98° F	140/90	90
16-05-2024	5:00 AM	-	98° F	140/100	82
	9:00 AM	38 Kg	97.2° F	130/80	86
	8:00 PM	37 Kg	97.4° F	140/100	82
17-05-2024	5:00 AM	-	98° F	130/90	86
	5:00 PM	37Kg	97.6° F	140/100	88
	8:00 PM	-	98° F	140/100	92
18-05-2024	5:00 AM	-	98° F	130/80	88
	10:00 AM	37 Kg	97.2° F	130/80	96
	8:00 PM	37 Kg	97° F	140/100	97
19-05-2024	8:00 AM	37 Kg	97.4° F	130/80	99
	9:00 AM	-	98° F	130/80	96
	8:00 PM	-	97.4° F	140/80	88
20-05-2024	5:00 AM	-	98.4° F	130/80	78
	9:00 AM	37 Kg	97.8° F	120/80	96

Table 4. Vitals signs observed during the treatment period

Parameter	Findings		
Date	14-05-2024	19-05-2024	12-06-2024
Haemoglobin	**10.7 gm/dL**	-	**7.50 gm/dL**
Urea	**180.11 mg/dL**	**143.13 mg/dL**	**82 mg/dL**
Creatinine	**9.52 mg/dL**	**8.29 mg/dL**	**6.82 mg/dL**
Uric acid	**7.48 mg/dL**	4.80 mg/dL	**7.82 mg/dL**
Sodium	142 mEq/L	140.2 mEq/L	-
Potassium	4.93 mEq/L	4.97 mEq/L	-
Chloride	105.1 mEq/L	105.6 mEq/L	-

Table 5. Vital signs with *Nadi pareeksha* during the time of discharge

Parameter	Findings
Temperature	97.8°F
Blood Pressure	110/70 mm of Hg
Pulse Rate	80/min
Weight	37 Kg
Oxygen Saturation	98%
Nadi	*Vataj Pittaj*
Mutra	*Avikrita*
Jivha	*Avikrita*
Shabda	*Spashta*
Nidra	*Sukhada*
Drik	*Prakrita*
Mala	*Saam*

Medicinal Interventions

The *Ayurvedic* treatment employed in this case GFR Powder, Chander Vati Tablet, Asthiposhak Vati, CKD Tablet, Renal support syrup, Divya Shakti Powder, Ladies tonic, Fe Capsule and Sama vati along with *Panchakarma* therapies.

Allopathic medications such as Calcium Acetate Tablet, Calcitriol (0.25mcg), Sodium Bicarbonate (1000mg) and Cyanocobalamin / Vitamin B12 (0.75 Mcg) + Elemental Iron (30 Mg) + Folic Acid (300 Mcg) + Vitamin C / Ascorbic Acid (50 Mg) were provided during IPD.

An accurately designed DIP Diet was provided to the patient to complement the *Ayurvedic* treatments administered for CKD[22]:

Treatment Plan

I. Diet Plan:

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital include the following key commendations:

a. **Foods to be avoided:**

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid consume as small bite, chew 32 times.

b**. Hydration:**

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 1 litre of alkaline water 3 to 4 times throughout the day.
- Include herbal tea, living water, and turmeric-infused water part of your daily routine.
- Boil 2 litre water to reduce up to 1 litre and consume.

c. **Millet Intake:**

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*), and Browntop (*Urochloa ramose*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

d. **Meal Timing and Structure:**

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient will have steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient will be given red juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient will receive Plate 1 and Plate 2. Plate 1 will include a steamed salad, while Plate 2 with cooked millet recipe.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient will be served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.

e. **Fasting:**

- One-day fasting was advised.

f. **Special Instructions:**

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

g. **Diet Types:**

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

II. Lifestyle Recommendations

(i) Include meditation for relaxation.

(ii) Practice barefoot brisk walk for 30 minutes.

(iii) Yoga practice (Sukhasana and Sukshma Paranayama) are advised.

(iv) Ensure 6-8 hours of quality sleep each night.

(v) Adhere to a structured daily routine.

III. *Panchakarma* procedures administered to patients

1. *Awagah Swedan*[23]

Procedure:

- The patient is immersed up to the navel in a tub of warm water.
- Sweating is encouraged by maintaining the water temperature at 42˚C.
- The procedure is recommended to be followed for

20 minutes.
- The therapy was discontinued starting May 16, 2024 because of menstruation.

Physiology:

- The elevated temperature induces vasodilation, which improves blood flow to the skin.
- Sweating, prompted by the water temperature, facilitates the elimination of metabolic waste and toxins.
- The healing properties of the *Ayurvedic* herbal infusion are absorbed into the skin.

Mode of Action:

- Immersion in 42°C water induces systemic vasodilation, increasing peripheral blood flow.
- The body raises circulation to dissipate the warmth, enhancing skin and tissue perfusion.
- Warm water exposure activates the sympathetic nervous system (SNS), releasing catecholamine (epinephrine, norepinephrine).
- Stimulates the release of endorphins, cortisol, oxytocin, serotonin, and melatonin, influencing mood, stress response, and metabolism.
- Elevated temperature and metabolic rate increase aerobic metabolism and oxygen demand.

2. *Matra Basti* with *Gokshura and Punarnava*[24]

Procedure

- *Gokshura* and *Punarnava* roots were boiled indirectly in water.
- Infused medicines oil over time to create a concentrated preparation.
- The patient was positioned in the left lateral position to facilitate enema administration.
- 90 ml of the prepared medicated oil was administered into the rectum using an enema nozzle.
- The patient was instructed to retain the enema for 15-20 minutes.

Physiology

- Vasodilation and improved circulation enhance tissue perfusion and support kidney function.
- Stimulation of the sympathetic nervous system raises metabolism, increases oxygen demand, and boosts energy expenditure.
- Detoxification is facilitated through greater urine production and sweating, aiding in the elimination of waste and toxins from the body.
- Fluid and electrolyte balance is maintained, helping to alleviate edema and support proper kidney function.
- Hormonal balance is impacted, including the regulation of stress and reproductive hormones, which contributes to overall resilience.
- Increased metabolic activity and oxygen usage accelerate fat breakdown, enhance detoxification, and optimize cellular processes.

Mode of action

- Rectal absorption of compounds from *Gokshura* and *Punarnava* via the rectal mucosa enhances bioavailability, bypassing digestion.

- Oils used in *Matra Basti* improve the absorption of fat-soluble compounds, ensuring effective delivery to target organs.

- *Gokshura promotes* diuresis by enhancing renal filtration, improving blood flow, and excreting waste products like urea and creatinine, stimulates HPA axis, promoting cortisol and aldosterone release, and boosts testosterone and growth hormone production, improving stress resilience and muscle recovery, antioxidants neutralize ROS and free radicals, supporting cellular repair and metabolic health, inhibits pro-inflammatory cytokines (e.g., TNF-α, IL-6) and the COX-2 pathway, reducing systemic inflammation in conditions like arthritis, and maintains electrolyte balance by regulating sodium and potassium levels in the kidneys, promoting fluid and electrolyte homeostasis.

- *Punarnava increases* GFR and urinary output, supporting detoxification and alleviating edema and renal insufficiency, modulates adrenal and pituitary hormones, helps regulate thyroid function, and may reduce cortisol to support metabolic balance and stress response, activates phase I and II detox enzymes (e.g., cytochrome P450, GST) in the liver, enhancing the clearance of lipophilic toxins through urine and bile, modulates immune responses, regulating cytokines (TNF-α, IL-6) and IFN-γ, balancing immune activation and suppression.
- Thermogenic effect of *Matra Basti* increases lipoly-

sis via saponins in *Gokshura* which activate lipolytic enzymes (e.g., hormone-sensitive lipase), converting triglycerides to free fatty acids for energy.

3. *Shiropichu* with *Brahmi* oil[25]

Procedure:

- *Brahmi* oil was made by infusing *Bacopa monnieri* in a base oil and indirectly warmed to a comfortable, non-hot temperature to facilitate absorption.
- The patient was placed in a supine position with a headrest to keep the head steady during the treatment.
- A thick cotton cloth was soaked in the warm *Brahmi* oil and applied to the top of the crown area. The cloth was positioned to cover the crown and held in place throughout the procedure.
- The *Brahmi* oil remained on the scalp for 20-30 minutes, allowing for absorption.

Physiology:

- *Brahmi* oil penetrates the scalp via hair follicles, delivering bioactive compounds like bacosides for anti-inflammatory and antioxidant benefits, promoting skin health.
- Stimulates the CNS, improving memory, focus, and mood by supporting neurogenesis and balancing neurotransmitters like dopamine and serotonin.
- Activates the parasympathetic nervous system (PNS), reducing stress, anxiety, and mental tension, fostering relaxation and mental calm.
- Warm oil and massage improve blood flow to the brain, enhancing cognitive performance by increasing oxygen and nutrient delivery.
- Helps regulate stress hormones (cortisol, adrenaline) and mood-related hormones (serotonin, melatonin), improving mental clarity and sleep.
- Enhances circulation, reduces inflammation, and nourishes hair follicles, promoting healthy hair growth and reducing scalp issues like dandruff.

Mode of Action:

- The oil's ability to penetrate the scalp's hair follicles and sebaceous glands allows the active compounds in *Brahmi* to enter systemic circulation.
- Once absorbed, these compounds travel to the brain, enhancing cognitive functions and offering neuroprotection.
- *Brahmi* oil promotes the growth and repair of neural tissues, boosting memory, learning, and cognitive function. Also it helps to balance neurotransmitters such as dopamine, serotonin, and acetylcholine, improving mental clarity, focus, and memory
- By modulating the dopamine and serotonin systems, Brahmi oil helps regulate stress hormones like cortisol, promoting a positive mood and emotional stability.
- Applying *Brahmi* oil through techniques like Shiropichu can activate the PNS, inducing a relaxed state and reducing mental fatigue. This activation lowers *sympathetic* nervous system activity, reducing stress hormones and anxiety.
- *Brahmi* oil promotes microcirculation in the scalp, delivering more oxygen and nutrients to hair follicles, stimulating hair growth, and improving scalp health.

4.*Abhyangam* with *Bala oil* [26]

Procedure

- A warm and peaceful atmosphere was created for the massage, then gently heated the *Bala oil* to a comfortable, safe temperature.
- Began by massaging the scalp in circular motions to encourage relaxation and stimulate blood flow.
- The warm oil was applied in long, sweeping strokes from the head down to the feet, focusing on the joints and muscles. Used firm pressure on tense areas and incorporated kneading or tapping for deeper muscle relief.
- The massage was done for 20-40 minutes and it is then followed by *Sarwang Swedan* from May 16, 2024.

Physiology

- Active compounds in *Bala* oil (alkaloids, flavonoids) penetrate the skin and reach deeper tissues (muscles, joints, fascia), enhancing absorption and supporting muscle and joint health.
- The warm oil and rhythmic massage stimulate vasodilation, increasing blood flow and promoting lymphatic drainage, aiding in detoxification, nutrient delivery, and waste removal.

- The combination of warm oil and pressure helps relax tight muscles and fascia, alleviating muscle stiffness. *Bala* oil also strengthens muscles, improves vitality, and promotes synovial fluid production, enhancing joint mobility and reducing inflammation and pain.
- *Bala* oil moisturizes and nourishes the skin, improving elasticity and texture. Its antioxidants protect from environmental stressors and promote skin regeneration.
- The massage activates the parasympathetic nervous system, reducing cortisol levels, relieving stress, and regulating neurotransmitters (serotonin, dopamine) to improve mood and emotional well-being.
- It neutralizes free radicals, reduces oxidative stress, supports cellular healing, and promotes faster recovery, slowing the aging process.

Mode of action

- Bioactive ingredients of *Bala* oil, such as alkaloids and flavonoids, are fat-soluble and penetrate the skin barrier effectively. These compounds enter the bloodstream and interact with deeper tissues, including muscles, joints, and connective tissue, enhancing therapeutic effects.
- The warm oil and rhythmic massage trigger the production of nitric oxide (NO), a molecule that dilates blood vessels. This enhances blood flow, ensuring tissues receive more oxygen, nutrients, and immune cells, which support repair and function.
- Increased circulation allows better nutrient and oxygen delivery to tissues, which are vital for cellular energy production and healing.
- The pressure applied during the massage activates the lymphatic system, helping to clear toxins, metabolic waste, and cellular debris. This enhances detoxification and supports the immune system.
- The massage also stimulates the lymphatic pump, which accelerates the flow of lymph fluid, improving the body's ability to eliminate toxins and waste.
- The anti-inflammatory compounds in *Bala* oil help reduce pro-inflammatory cytokines like TNF-α and IL-6, which decrease inflammation in muscles and joints. This helps alleviate conditions like joint stiffness, muscle soreness, and arthritis.

5. Chest and legs *Lepam* with *Dashmool* and *Dashanga*[27]

Procedure

- Equal parts of *Dashmool* and *Dashanga* powders were mixed with water.
- The paste was applied to the chest and legs, starting from the chest and extending to the sides, upper back, and neck, and similarly on the legs, from the thighs to the feet. Gentle circular motions were used to ensure even coverage.
- The *Ayurvedic* medicinal paste was left on the skin for 20-30 minutes.
- After the paste was rinsed off with warm water, the skin was dried, and a light moisturizer was applied.

Physiology

- The active ingredients in *Dashmool* and *Dashanga* are absorbed through the skin, reaching muscles and joints to promote healing and detoxification.
- The warm paste and massage improve blood flow, helping deliver nutrients and remove waste, reducing muscle soreness and promoting detoxification.
- The Medicines have anti-inflammatory and pain-relieving properties, reducing swelling and pain in muscles and joints.
- The massage helps relax tight muscles and ease tension in the connective tissue (fascia), improving flexibility and reducing stiffness.
- The paste nourishes and hydrates the skin, while also improving joint mobility by boosting lubrication and reducing joint pain.

Mode of action

- Lipophilic compounds in *Dashmool* and *Dashanga* are absorbed through the skin, entering the bloodstream and reaching target tissues like muscles, joints, and skin.
- These medicines inhibit NF-κB, COX, and LOX enzymes, reducing pro-inflammatory cytokines (IL-1, IL-6, TNF-α) and preventing tissue damage.
- Active compounds interact with opioid receptors to enhance endorphin and encephalin release, reducing pain transmission. Saponins and glycosides reduce calcium influx into nerve cells, lowering pain fiber excitability.
- Flavonoids and terpenoids stimulate nitric oxide (NO) production, promoting vasodilation and improving microcirculation, aiding in nutrient delivery and waste removal.

6. *Sarwang Swedan* with *Bala* oil[28]

Procedure

- Warm *Bala* oil was applied to the entire body

with gentle, long strokes, focusing on joints, muscles, and pressure points.
- The massage lasts for 30-45 minutes, promoting circulation and relaxation.
- After the oil massage, the patient sits in the steam chamber or *Swedan* box for 10-15 minutes at a comfortable temperature.
- The patient rests for 20-30 minutes to cool down. A warm bath was taken to cleanse the skin and remove excess oil.
- This was followed by *Abhyangam* with *Bala* oil from May 16, 2024.

Physiology

- The warm *Bala* oil and steam therapy increase blood flow to the skin, muscles, and joints, helping to deliver nutrients and remove waste products more effectively.
- The steam opens the pores and encourages sweating, helping the body get rid of toxins and excess fluids, while also supporting lymphatic drainage to clear waste and improve immune function.
- *Bala* oil helps relax muscles and reduce tension by influencing muscle contractions. It eases pain and stiffness, improving flexibility and mobility.
- The combined massage and steam activate the parasympathetic nervous system, which reduces stress hormones, promotes calmness, and balances mood-regulating neurotransmitters.
- This hydrates and nourishes the skin, improving its softness and elasticity. It helps protect the skin from damage and supports skin repair through increased moisture and collagen production.
- The treatment stimulates the immune system, helping to clear toxins, fight infections, and support overall health and vitality.
- This treatment helps balance the *Vata* and *Pitta doshas* of body, reducing inflammation and preventing the buildup of toxins.

Mode of action

- Warm Bala oil and steam stimulate the Nitric Oxide (NO) pathway, leading to vasodilation and improved blood flow, enhancing nutrient delivery and waste removal in tissues.
- Sweating from the steam promotes toxin removal, while enhanced lymphatic drainage supports the elimination of metabolic waste and pathogens.
- Active compounds of Bala oil reduce muscle tension by modulating calcium ion flux and acetylcholine release, providing pain relief and improved flexibility.
- Bala oil inhibits COX, LOX, and NF-κB pathways, reducing inflammation and protecting tissues from oxidative damage.
- Bala oil neutralizes reactive oxygen species (ROS), reducing oxidative stress and promoting skin regeneration and repair.
- The treatment enhances immune cell activity through improved circulation and lymphatic flow, boosting overall immune function.

The Ayurvedic medications taken during IPD are listed in Table 6. Details of medications advised during the IPD is mentioned in Table 7. Medications advised during the time of discharge is mentioned in Table 8

Table 6 Medications taken during the IPD

Medicine name	Dosage	14-May	15-May	16-May	17-May	18-May	19-May	20-May
GFR Powder	Half a teaspoon BD (*Adhobhakta* with *koshna jala*)	✓	✓	✓	✓	✓	✓	✓
Chander Vati Tablet	2 Tablets BD (*Adhobhakta* with *koshna jala*)	✓	✓	✓	✓	✓	✓	✓
Asthiposhak Vati	2 Tablets BD (*Adhobhakta* with *koshna jala*)	✓	✓	✓	✓	✓	✓	✓

Table 7. Medications advised during IPD

Medicine Name	Ingredients	Dosage	Therapeutic Effects
GFR Powder	**Varun** (*Crateva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokshur** (*Tribulus terrestris*), **Kaasni** (*Cichorium intybus*), **Bhumi Amla** (*Phyllanthus niruri*), **Shirish** (*Albizia lebbeck*), **Shigru** (*Moringa oleifera*), and **Apamarg** (*Achyranthes aspera*).	Half a teaspoon BD (*Adhobhakta with koshna jala*)	Supports kidney function and reduces inflammation, helping with renal symptoms.
Chander Vati Tablet	**Kapoor Kachri** (*Hedychium spicatum*), **Vacha** (*Acorus calamus*), **Motha** (*Cyperus rotundus*), **Kalmegh** (*Andrographis paniculata*), **Giloy** (*Tinospora cordifolia*), **Devdaru** (*Cedrus deodara*), **Desi Haldi** (*Curcuma longa*), **Atees** (*Aconitum heterophyllum*), **Daru Haldi** (*Berberis aristata*), **Pipla Mool** (*Piper longum* root), **Chitraka** (*Plumbago zeylanica*), **Dhaniya** (*Coriandrum sativum*), **Harad** (*Terminalia chebula*), **Bahera** (*Terminalia bellirica*), **Amla** (*Phyllanthus emblica*), **Chavya** (*Piper chaba*), **Vayavidang** (*Embelia ribes*), **Pippal** (*Piper longum*), **Kalimirch** (*Piper nigrum*), **Sonth** (*Zingiber officinale* dried ginger), **Gaj Pipal** (*Scindapsus officinalis*), **Swarn Makshik Bhasma**, **Sajji Kshar**, **Senda Namak**, **Kala Namak**, **Choti elaichi** (*Elettaria cardamomum* - small cardamom), **Dalchini** (*Cinnamomum verum*), **Tejpatra** (*Cinnamomum tamala*), **Danti** (*Baliospermum montanum*), **Nishothra** (*Operculina turpethum*), **Banslochan**, **Loh Bhasam**, **Shilajit** (*Asphaltum punjabinum*), **Guggal** (*Commiphora wightii*).	2 tablets BD (*Adhobhakta with koshna jala*)	Improves urine outflow, boosts immunity, helps in cell rejuvenation, enhance digestion, boosts metabolism and cell rejuvenation
Asthiposhak	**Godanti**, **Shudh Shilajit** (*Asphaltum punjabianum*), **Ashwagandha** (*Withania somnifera*), **Tabaqsheer** (*Bambusa vulgaris*), **Pippali** (*Piper longum*), **Amba Haldi** (*Curcuma amada*), **Hadjorh** (*Cissampelos pareira*), **Maida Saq**.	2 tablets BD (*Adhobakta with koshna jala)*	Enhances bone strength, supports healing, and reduces joint pain.

Table 8. Medications advised after the discharge

Medicine Name	Ingredients	Dosage	Therapeutic Effects
GFR Powder	**Varun** (*Crateva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokshur** (*Tribulus terrestris*), **Kaasni** (*Cichorium intybus*), **Bhumi Amla** (*Phyllanthus niruri*), **Shirish** (*Albizia lebbeck*), **Shigru** (*Moringa oleifera*) and **Apamarg** (*Achyranthes aspera*)	Half a teaspoon BD (*Adhobhakta with koshna jala*)	Supports kidney function and reduces inflammation, helping with renal symptoms.
CKD Tablet	**Pashanbhed** (*Bergenia ciliata*), **Varun** (*Crataeva nurvala*), **Punarnava** (*Boerhavia diffusa*), **Gokhru** (*Tribulus terrestris*), **Apamarg** (*Achyranthes aspera*), **Haldi** (*Curcuma longa*), **Charila** (*Embelia ribes*), **Kulthi** (*Dolichos biflorus*), **Harad** (*Terminalia chebula*), **Bhumiawla** (*Pyrrosia piloselloides*), **Giloy** (*Tinospora cordifolia*), **Shitalchini** (*Vernonia cinerea*), **Anantmool** (*Hemidesmus indicus*), **Khas** (*Vetiveria zizanoides*), **Yab Kshar** (Alkaline substance, botanical origin unclear), **Muli Kshar** (*Raphanus sativus*), **Kalmi Shora** (Sodium bicarbonate), **Sajji Kshar** (Traditional alkaline substance, botanical origin unclear), **Shilajit** (*Asphaltum*), **Hajral Yahud** (*Silicon dioxide*), **Shwet Parpati** (Mercury-based preparation in Ayurvedic medicine).	2 tablets BD (*Adhobhakta with koshna jala*)	Used for treating kidney disease, urinary tract infections (UTI), burning micturition, and supporting liver health.
Renal support syrup	**Nimba** (*Azadirachta indica*), **Arjuna** (*Terminalia arjuna*), **Gokshura** (*Tribulus terrestris*), **Hareetaki** (*Terminalia chebula*), **Ashwagandha** (*Withania somnifera*), **Karanja** (*Pongamia pinnata*), **Chirayata** (*Swertia chirayita*).	20 ml BD (*Adhobhakta with koshna jala*)	Provide solution for kidney, bladder, urinary tract disease
Divya Shakti Powder	**Trikatu**, **Triphala**, **Nagarmotha** (*Cyperus rotundus*), **Vay Vidang** (*Embelia ribes*), **Chhoti Elaichi** (*Elettaria cardamomum*), **Tej Patta** (*Cinnamomum tamala*), **Laung** (*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** (*Ferula assafoetida*), **Kachnar** (*Bauhinia variegata*), **Ajmod** (*Trachyspermum ammi*), **Sazzikhar**, **Pushkarmool** (*Inula racemosa*), **Mishri** (*Saccharum officinarum*).	Half a teaspoon HS (*Nishikala with koshna jala*)	Deepan, pachan and detoxification

The patient returned for a follow-upon June 29, 2024, and was symptomatically improved. The medications advised after the follow up is mentioned in Table 9. The vitals investigated prior to the visit on June 12, 2024 is mentioned in Table 4 which depicts the blood urea is noticeably reduced after discharge.

Table 9. Medications advised after the follow up on June 29, 2024.

Medicine Name	Ingredients	Therapeutic effect	Dosage
Ladies Tonic	***Dashmoolaristha, Lodharasava, Patragasava, Kumariasava, Ashokaristha, Loasava***	Supports *Stree Swasthya* (female wellness) and helps in *Vriddhi* (enhancing vitality and overall well-being).	20ml BD (*Adhobhakta Samamatra* with *Koshnajala)*
Chander Vati	***Kapoor Kachri*** *(Hedychium spicatum),* ***Vach*** *(Acorus calamus),****Motha*** *(Cyperus rotundus),* ***Giloy*** *(Tinospora cordifolia),* ***Devadaru*** *(Cedrus deodara),* ***Daru Haldi*** *(Curcuma longa), Atees (Aconitum Heterophyllum),* ***Piplamool*** *(Piper longum),* ***Amla*** *(Phyllanthus emblica),* ***Chitrak*** *(Plumbago Zeylancia),* ***Dhaniya*** *(Coriandrum sativum),* ***Haritaki*** *(Terminalia chebula),* ***Vayavidhang*** *(Embelia ribes),* ***Pippal*** *(Ficus religiosa),* ***Kalimirch*** *(Piper nigrum),* ***Sonth*** *(Zingiber officinale),* ***Gaj Pipal*** *(Scindapus Officinalis),* ***Swarn Makshik Bhasma, SajiKshar, Senda Namak, Kala Namak, Choti Elaichi*** *(Elettaria cardamomum),* ***Dalchini*** *(Cinnamomum verum),* ***Tejpatta*** *(Cinnamomum tamala),* ***Danti*** *(Baliospermum montanum),* ***Nisoth*** *(Operculina turpethum),* ***Banslochan*** *(Bambusa arundinacea),* ***Loh bhasma, Shilajeet*** *(Asphaltum punjabianum),* ***Guggul*** *(Commiphora wightii)*	It acts as a *Mutral Dravya*, helping in removing *Ama* (toxins) through *Mutravaha Srotas* by increasing *Mutravaha Pravritti* (urine flow).	2 Tablet BD (*Adhobhakta* with *Koshnajala)*
Samavati	***Gokshura*** *(Tribulus Terrestris),* ***Shatavari*** *(Asparagus racemosus),* ***Kaunch*** *(Mucuna pruriens),* ***Amalaki*** *(Emblica officinalis),* ***Shunthi*** *(Zingiber officinale),* ***Jaiphal*** *(Myristica fragrans),* ***Ashwagandha*** *(Withania somnifera),* ***Vidarikand*** *(Pueraria tuberosa),* ***Beej band lal*** *(Sida cordifolia),* ***Akarkara*** *(Anacyclus pyrethrum),* ***Talmakhana*** *(Asteracantha longifolia),* ***Musli*** *(Chlorophytum borivilianum),* ***Swarn makshik, Shilajit*** *(Asphaltum punjabicum)*	Supports *Yakrit Vikar Shaman* (Liver Disorder Management), enhances *Agni Deepan-Pachan* (Appetite and Digestion Stimulation), aids in *Vibandh Nivarana* (Constipation Relief), boosts *Vyadhikshamatva* (Immunity), and helps in *Aruchi Shaman* (Loss of Appetite Management)	2 Tablet BD (*Adhobhakta* with *Koshnajala)*

GFR Powder	***Varun*** *(Crateva nurvala),* ***Punarnava*** *(Boerhavia diffusa),* ***Gokshur*** *(Tribulus terrestris),* ***Kaasni*** *(Cichorium intybus),* ***Bhumi Amla*** *(Phyllanthus niruri),* ***Shirish*** *(Albizia lebbeck),* ***Shigru*** *(Moringa oleifera),* ***Apamarg*** *(Achyranthes aspera)*	Supports *Vrikk Karya* (works)and acts as *Shoth* (Inflammation)*har*, helping alleviate renal symptoms	½ tsp BD (*Adhobhakta* with *Koshnajala)*
Fe Capsule	***Makoy*** *(Solanum nigrum),* ***Shilajeet*** *(Asphaltum punjabianum),* ***Yashad Bhasam***, ***Swarn Makshik Bhasam***, ***Mukta Shukti Pishti***	Boosts Iron Levels *(Rakta Vardhana)* and improves Energy *(Balya, Rasayana, Ojovardhana)*	2 Capsule BD (*Adhobhakta* with *Koshnajala)*

Patient reported relief from periorbital swelling, pain in lower limb and fungal infection. There was no shortness of breath on exertion during the follow up on June 29, 2024.

RESULT

Effectiveness of *Ayurvedic* Treatments: After 7 days of IPD, the patient experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CKD with hypertension. The graphical representation of the vitals is mentioned in Fig 1. Also the relief from the shortness of breath during exertion, pain in lower limb and periorbital swelling shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The pain scoring during the IPD is showed in Table 10. The condition of patient before and after treatment is mentioned in Table 11.

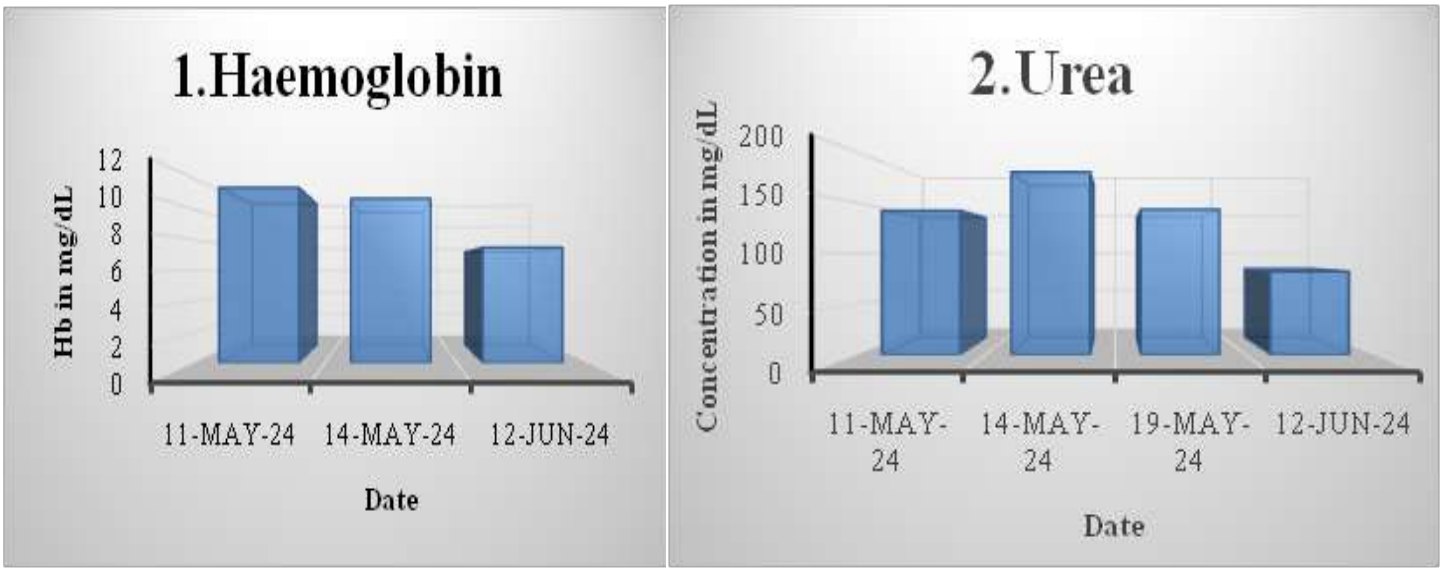
Table 11. Pain scoring during the IPD (0 to 10 degree)

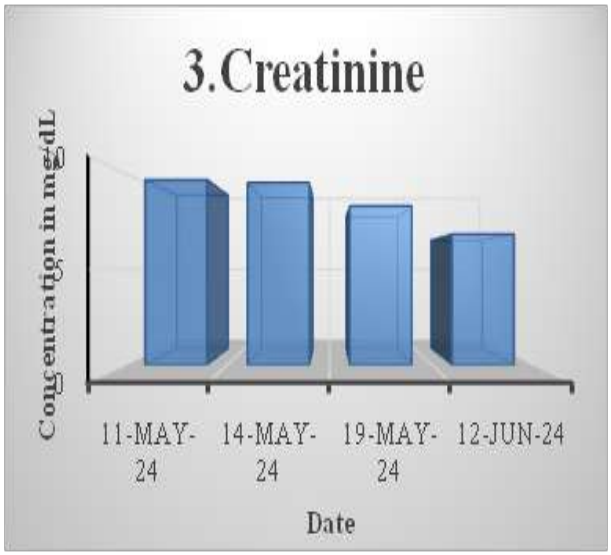
Date	Pain scoring chart (0 to 10)	
	Before therapy	After therapy
14-05-2024	1	1
15-05-2024	1	1
16-05-2024	2	1
17-05-2024	2	1
18-05-2024	1	1
19-05-2024	2	1
20-05-2024	1	_

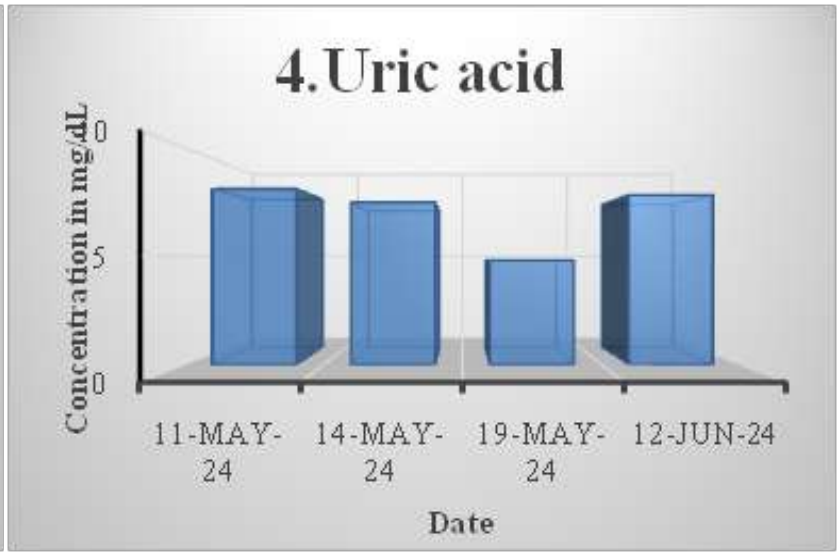
Table 12. The condition of patient before and after treatment

Condition before treatment	Condition after treatment
Periorbital swelling	Relief
Pain in lower limb	Relief
Mild SOB on exertion	No SOB
Fungal infection/ ring worm between thighs	Better

Fig.1 Graphical representation of the assessment of the patient's vital signs.







Future Research perspectives: This study was conducted on a 30 years old female patient with CKD and hypertension. The results of this case study was promising but an ardent evaluation and examination is needed because this study only involves one patient. Studies with larger number of randomized controlled trials are required to confirm the reliability, efficacy and safety of the integrated Ayurveda therapies used in this study for CKD to establish a standard protocol and guidelines for the clinical settings.

DISCUSSION

Managing CKD with integrated A*yurvedic* interventions for the treatment of CKD assures a promising alternative for conventionally practicing expensive treatment methods. This case report is about the procedure of combining *Ayurvedic* therapies and medications with conventional medications in a 31-year-old female, diagnosed with CKD for 2 years and hypertension for 6 months. The patient was on MHD twice a week, but not continuing dialysis during the visit. The patient presented symptoms such as periorbital swelling, pain in lower limb, mild shortness in breath and fungal/ringworm infection between thighs. The *samprapti* [29] of this case study is mentioned in Fig 2.

Fig 2 *Samprapti* of this case study

The patient underwent IPD treatment for 7 days. The *Ayurveda* treatment involved following Panchakarma procedures:

Awagah Swedan: This therapy involved immersing a patient in warm, medicated water at 42°C to induce sweating. It enhanced blood flow, toxin elimination, and absorption of medicinal properties. The therapy was discontinued on May 16, 2024. It promoted hyperthermia, increasing aerobic metabolism, oxygen demand, and fluid-electrolyte balance.

Matra Basti with Gokshuradi and Punarnavadi: A medicated decoction or oil prepared from Gokshura and Punarnava roots was administered rectally to improve kidney function, detoxification, and hormonal balance. Gokshura promoted diuresis and hormone production, while Punarnava enhanced GFR, modulated immune responses, and supported adrenal and pituitary function.

Shiropichu with Brahmi Oil: *Brahmi* oil, infused with *Bacopa monnieri*, was applied to the crown area with a warm cotton cloth for 20-30 minutes. The therapy enhanced scalp penetration, delivering bacosides for anti-inflammatory, antioxidant, and neurogenic effects. It improved memory, focus, mood, and reduced stress by activating the parasympathetic nervous system and balancing neurotransmitters.

Abhyangam with Bala Oil: This warm oil massage stimulated blood flow, relaxation, and muscle relief through circular kneading techniques. *Bala* oil nourished the skin, reduced oxidative stress, and supported cellular healing. The therapy activated nitric oxide production, improved circulation, and regulated cortisol levels for stress reduction.

Chest and Legs Lepam with Dashmool and Dashanga: Medicinal paste was applied to the chest and legs for 20-30 minutes to reduce pain, inflammation, and muscle tension. The active ingredients promoted lymphatic drainage,

endorphin release, and skin hydration while inhibiting inflammatory cytokines.

Sarwang Swedan with Bala Oil: A combination of warm oil massage and steam therapy enhanced circulation, detoxification, and relaxation. It balanced *Vata* and *Pitta doshas*, reduced inflammation, and supported immune function, while *Bala* oil improved skin hydration and elasticity.

The *Ayurvedic* treatment protocol for this case included *Ayurvedic* medicines such as GFR Powder, Chander Vati Tablet, Asthiposhak Vati, CKD Tablet, Renal support syrup, Divya Shakti Powder, Ladies tonic, FE Capsule and Sama vati, along with *Panchakarma* therapies. These interventions were intended to improve kidney health, alleviate symptoms and overall wellbeing for a female patient. The patient reported significant relief from key symptoms like periorbital swelling, lower limb pain and shortness of breath, which were also reflected in the vital sign investigations. GFR Powder supports kidney health, detoxification, and fluid balance with key ingredients like *Kasni*, *Gokshura*, and *Punarnava.* Chander Vati Tablet enhances digestion, immunity, and detoxification, providing antioxidants for improved gut health. Asthiposhak Vati strengthens bones, reduces osteoporosis risks, and improves flexibility with ingredients like *Gaodanti*, *Shilajeet*, and *Ashwagandha*. CKD Tablet supports kidney function, helps dissolve stones, and reduces inflammation with *Pashanbhed*, *Varun*, and *Giloy*. Renal Support Syrup enhances kidney function and detoxification with a blend of *Nimba*, *Arjuna*, and *Ashwagandha*. Divya Shakti Powder boosts nerve health, immunity, and circulation with *Dalchini.* Ladies Tonic is an *Ayurveda* formulation designed to support women's well-being, enriched with Aloe Vera and *Sonth*. FE Capsule improves hemoglobin levels, immunity, and skin health with *Shilajeet* and *Loh Bhasma*. Lastly, Sama Vati helps reduce anxiety and stress while enhancing cognitive function with *Ashwagandha* and *Shatavari*.

This case study suggests that combining *Ayurvedic* interventions with conventional treatments offers a promising alternative for managing CKD. Given that advanced diagnostic and treatment options for CKD are often inaccessible to many individuals, *Ayurvedic* therapies provide a more affordable and accessible option. These treatments not only help alleviate symptoms but also address underlying imbalances in the body, promoting improved renal health and overall well-being. While the results are encouraging, particularly for CKD associated with hypertension, further research and clinical trials are needed to standardize *Ayurvedic* treatment protocols and establish their efficacy in CKD management.

CONCLUSION

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

Symptoms: At the time of admission, the patient presented with symptoms such as periorbital swelling, lower limb pain, and mild shortness of breath upon exertion, along with a fungal/ringworm infection between the thighs. After 7 days of inpatient treatment followed by *Ayurvedic* care, the patient showed significant improvement. The periorbital swelling and limb pain subsided, and no new symptoms were reported, indicating notable improvement in kidney function and overall well-being.

Vitals: Blood pressure fluctuated during IPD but seems reduced to 120/80 mmHg during discharge. The weight of the patient was maintained at 37 kg, which reflects the healthy lifestyle and diet changes.

Investigations: Laboratory tests conducted during the treatment period represented the overall health improvement. The Serum urea levels decreased from 142 mg/dL to 82 mg/dL during regular follow-ups, indicating enhanced kidney function. The serum creatinine level also reduced from 9.66mg/dL to 6.82mg/dL. These investigation supports the reliability of *Ayurvedic* treatment methods for CKD.

This study concludes that the use of *Ayurvedic* therapies alongside previously prescribed allopathic treatments for CKD showed favorable results, including symptom relief, better vital signs, and improved laboratory test outcomes. This approach appears to enhance kidney function and overall patient health. However, further studies with larger, controlled trials are needed to validate these findings and establish standardized treatment protocols.

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Research Article

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Integrating *Ayurvedic* Therapies in Chronic Kidney Disease Management: A Case Report on Symptom Improvement and Renal Function Enhancement

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ABSTRACT

Chronic kidney disease (CKD) affects 10–15% of adults globally and is often underdiagnosed due to limitations in standard serum creatinine assessments. This case report presents a 56-year-old male with a 1.5-year history of CKD and 5 years of hypertension, treated at Jeena Sikho Lifecare Limited Hospital, Derabassi, with a comprehensive Ayurvedic regimen including medicines and Panchakarma therapies. The patient showed marked improvement in multiple clinical parameters: pedal oedema decreased from grade 4˚ to 1˚, pain resolved completely (3/10 to 0/10), sleep quality improved from 3/10 to 7/10, and itching, initially rated 6/10, was fully alleviated. Vital signs stabilized, with blood pressure maintained at 120/80 mmHg, and body weight reduced from 82 kg to 73 kg, reflecting positive effects of lifestyle and dietary modifications. Laboratory investigations demonstrated gradual improvement and stabilization, with haemoglobin ranging from 7.1 to 9.3 gm/dL, urea decreasing from 200.85 mg/dL to 66.5 mg/dL, creatinine improving from 7.25 mg/dL to 5.61 mg/dL, and uric acid declining from 9.87 mg/dL to 6.87 mg/dL. Overall, the patient achieved normalization of clinical and laboratory parameters, highlighting the potential of Ayurveda as a safe, cost-effective, and integrative approach for managing CKD, particularly for patients seeking holistic healthcare solutions.

INTRODUCTION

Chronic kidney disease (CKD) is a prevalent condition that affects 10-15% of adults and is characterized by progressive kidney damage or diminished function [1]. Approximately 7% of the general population is affected by CKD, which significantly contributes to morbidity and mortality, particularly due to its association with cardiovascular disease [2]. CKD has become a major global public health issue, marked by the gradual deterioration of kidney function [3]. The prevalence of CKD is rising, particularly among older populations. This disease impairs renal function and often goes undiagnosed because serum creatinine levels may not reliably indicate changes in glomerular filtration rate (GFR) [4]. Screening is recommended for individuals at high risk, including those with hypertension, diabetes and cardiovascular disease [5]. CKD is categorized into five stages based on estimated glomerular filtration rate (eGFR), with

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stage 3 being the most prevalent [6]. Most kidney diseases remain asymptomatic until significant loss of kidney function occurs, underscoring the importance of early detection and ongoing monitoring [7].

In India, the prevalence of CKD varies widely, ranging from 0.89% to 17.2%, with notable regional differences. Contributing factors include lifestyle diseases, poverty and limited access to healthcare, especially in rural areas, leading to delayed diagnosis and management difficulties [8]. The main causes of CKD include diabetes mellitus, systemic hypertension, and chronic glomerulonephritis, which together account for around 75% of adult CKD cases [9]. Diabetes and hypertension contribute to 40-50% of CKD cases in India. Early detection and screening of high-risk populations are essential, as around 100,000 patients develop End-Stage Renal Disease (ESRD) each year, with limited access to treatment [10]. Only 3-5% of ESRD patients receive treatment, highlighting the urgent need for preventive measures [11]. The prevalence of CKD in India is rising significantly, with mortality increasing from 0.59 million in 1990 to 1.18 million in 2016. Around 175,000 individuals are on chronic dialysis, resulting in a prevalence rate of 129 per million people [12]. Economic barriers limit access to treatment, with only 3-5% of ESRD patients receiving renal replacement therapy, underscoring the silent epidemic of CKD [13].

In *Ayurveda*, hypertension is not classified as a specific disease (*Vyadhi*) but is understood as a result of *Dosha* imbalances, affecting *Dushyas* and related *Srotas,* the *Samprapti Ghataka* (elements of pathogenesis) is mentioned in **Table 1**[14]. Blood pressure regulation in *Ayurveda* involves complex mechanisms, considering short-term neural responses and long-term renal, hormonal and vascular pathways [15]. The holistic approach of *Ayurveda* focuses on the balance of *Doshas*, strengthening the body's natural healing processes and improving kidney function through lifestyle modifications and *Ayurvedic* treatments [16].

Table 1 The Samprapti Ghataka

Ghataka	**Details**
Dosha	Predominantly *Vata* -type *Tridosha* imbalance *(Vata* is more affected than *Kapha,* and *Pitta* becomes involved in later stages)
Dushya **(The affected body tissues)**	*Rasa* (plasma), *Rakta* (blood), *Mamsa* (muscle), *Meda* (fat), *Majja* (bone marrow), *Shukra* (reproductive tissue), *Mutra* (urine)
Srotas **(The bodily channels affected)**	*Mutravaha* (urinary channels), *Raktavaha* (blood-carrying channels), *Medovaha* (fat-carrying channels), *Rasavaha* (plasma-carrying channels), *Udakavaha* (water-carrying channels)
Srotodushti **(Pathology of the channels)**	Obstruction *(Sanga),* Wrong passage or abnormal movement *(Vimarga gamana),* Nodular formations *(Granthi)*
Udbhava Sthana **(Place of origin of disease)**	Stomach *(Amashaya)*
Agni **(Digestive fire)**	Weak digestive fire *(Jatharagni mandya)* and defective tissue metabolism *(Dhatvagni dushti)* , especially affecting Rasa and Meda dhatus
Ama **(Toxins)**	Presence of toxins or undigested material, especially in early or *'saam'* (with *ama)* stages of the disease
Adhisthana **(Site of manifestation)**	*Vrikka (Kidneys)*
Vyadhi Swabhava **(Nature of the disease)**	Manageable with difficulty *(Yapya),* and curable with difficulty *(Krichchhra sadhya)*

Ayurvedic treatments focus on restoring balance in the body, addressing the root cause of kidney dysfunction and managing symptoms. For CKD patients, a specialized diet that limits protein, phosphorus and sodium intake is essential to slow the disease's progression [17]. *Ayurvedic* diet recommendations integrate these dietary restrictions while offering personalized guidance to manage symptoms and improve quality of life. *Ayurvedic* herbs such as turmeric, ginger and *Punarnava*, known for their anti-inflammatory and antioxidant properties, are particularly beneficial for supporting kidney health [18-24].

OBJECTIVE

This study aims to assess the impact of Ayurvedic interventions combined with allopathic medicines for CKD with hypertension in a 56-year-old male patient.

MATERIALS AND METHODS

CASE REPORT

A 56-year-old male with a history of CKD for 1 and a half years and hypertension for 5 years visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, India on March 4, 2024. A detailed and systematic examination was executed, including a whole medical history, family history, physical checkup and diagnostic assessments. His symptoms were weakness, itching, back ache, gastric issues and frothy urine. The patient has a history of stroke 25 years ago. The vital signs along with *Ashta vidh pariksha* examination report during admission and discharge is detailed in **Table 2**. The patient was admitted for 10 days, during that period he received consolidated *Ayurvedic* treatments. This treatment procedure encompassed *Panchkarma* therapies such as *Matra Basti* with *Gokshura* and *Punarnava oil*, *Shiroabhyangam* with *Brahmi oil* and *Ksheerabala* oil and *Awagah Swedan* and HDT. These therapies were revised after 5 days to therapies such as *Awagah Swedan*, *Punarnava* and *Varuna Siddha Sneha Basti*, *Guduchi* and *Varuna Kashaya Basti*, *Shiropichu* with *Brahmi* oil and *Vrikk Basti* with *Varunadi* oil. Laboratory investigations observed during investigations conducted on the May 05, 2024 are detailed in **Table 3**. Laboratory investigations conducted during the treatment are mentioned in **Table 4**. The patient was afterward discharged on March 13, 2024. The basic vital examinations done during the visits is noted in **Table 5**.

Table 2 Vitals during the initial examination on first day of the visit

Parameter	March 4, 2024	March 13, 2024
Temperature	96.8°F	98.2°F
Blood Pressure	110/80 mm of Hg	130/80 mm of Hg
Pulse Rate	90/min	68/min
Weight	82 Kg	81 Kg
Oxygen Saturation	99%	99%
Respiration/min	18	18
Nadi	*Pittaj Kaphaj*	*Vataj Pittaj*
Mutra (Urine)	*Phenil Mutra (Frothy)*	*Avikrit* (Normal)
Mala (Stool)	*Avikrit* (Normal)	*Avikrit* (Normal)
Jiwha (Tongue)	*(Saam)* Mild Coated	*Avikrit* (Normal)
Shabda (Voice)	*Spashta* (Clear)	*Spashta* (Clear)
Sparsha (Touch)	*Anushna sheet* (Normal)	*Anushna sheet* (Normal)
Drik (Eye)	*Avikrit* (Normal)	*Avikrit* (Normal)
Akriti (Physique)	*Madhyam*	*Madhyam*

Table 3 Laboratory investigations observed during the date of admission

Parameter	Findings
Date	05-03-2024
Haemoglobin	8.5 gm/dL
Intact PTH	476.30 pg/dL
Rapid Tests	Non-reactive for HIV, HBsAg, and HCV
Pus cells	1-2
Epithelial cells	2-3
Total RBC	2.84 Mill/Cumm
MCH	29.9 pg
MCHC	38.20%
PCV/HCT ratio	24.1
eGFR	08 ml/min/1.73m²
Lymphocytes	17%
Neutrophils	78%
Lipid Profile	
Total Cholesterol	144.87 mg/dL
HDL	34.27 mg/dL
LDL	73.13 mg/dL
VLDL	37.53 mg/dL
Cholesterol/HDL Ratio	4.23
Triglycerides	187.66 mg/dL

Table 4. Laboratory reports during the treatment period including follow ups (Fig 1)

Parameter	Findings								
Date	05 March 2024	08 March 2024	11 March 2024	19 March 2024	30 March 2024	14 April 2024	12 May 2024	26 May 2024	09 June 2024
Haemoglobin	**8.5 gm/dL**	**9.2 gm/dL**	**9.3 gm/dL**	**7.6 gm/dL**	-	**7.4 gm/dL**	**8.9 gm/dL**	**7.1 gm/dL**	**8.5 gm/dL**
Urea	**200.85 mg/dL**	**200.05 mg/dL**	**154.3 mg/dL**	**100 mg/dL**	**92 mg/dL**	**82 mg/dL**	**78.9 mg/dL**	**84 mg/dL**	**66.5 mg/dL**
Creatinine	**7.25 mg/dL**	**7.49 mg/dL**	**6.87 mg/dL**	**5.85 mg/dL**	**5.1 mg/dL**	**5.66 mg/dL**	**5.84 mg/dL**	**6.27 mg/dL**	**5.61 mg/dL**
Uric acid	**9.87 mg/dL**	**8.67 mg/dL**	**7.41 mg/dL**	**7.4 mg/dL**	6.5 mg/dL	6.8 mg/dL	**7.44 mg/dL**	4.6 mg/dL	6.87 mg/dL
Sodium	144 mEq/L	146.3 mEq/L	145.3 mEq/L	135 mEq/L	140 mEq/L	140 mEq/L	-	142 mEq/L	-
Potassium	4.43 mEq/L	4.73 mEq/L	5.20 mEq/L	5.1 mEq/L	5.2 mEq/L	5.0 mEq/L	-	5.0 mEq/L	-
Chloride	98.2 mEq/L	101.5 mEq/L	102.6 mEq/L	105 mEq/L	109 mEq/L	107 mEq/L	-	105 mEq/L	-
Calcium	-	-	-	**7.3 mEq/L**	**7.8 mEq/L**	**8.2 mEq/L**	-	**7.7 mEq/L**	**6.30 mEq/L**
Phosphorous	-	-	-	4.1 mEq/L	4.4 mEq/L	**4.8 mEq/L**	-	4.4 mEq/L	-

Table 5. The basic vital examinations done during the visits

Parameter	Findings						
Date	05 March 2024	08 March 2024	11 March 2024	14 April 2024	12 May 2024	27 May 2024	29 June 2024
Blood pressure	130/80 mmHg	130/90 mmHg	120/80 mmHg	140/100 mmHg	130/80 mmHg	110/70mmHg	130/90 mmHg
Pulse rate	74/ Min	92/Min	74/Min	64/Min	86/Min	86/Min	67/Min
Weight	82 Kg	78 Kg	77.7 Kg	81 Kg	79 Kg	80 Kg	73 Kg
SpO2	99%	99%	98%	98%	_	99%	99%

Treatment Plan

Ayurvedic and Disciplined and Intelligent Person's (DIP) Diet Plan [25]:

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital include the following key commendations:

.Avoid wheat, refined foods, dairy products, coffee, tea and packaged foods [26].
.Do not eat after 8 PM.
.When eating solid foods, take small bites and chew 32 times.

b. Hydration:

.Sip water slowly, ensuring you are mindful of the amount you consume each time.
.Drink approximately 1 liter of alkaline water 3 to 4 times a day.
.Make herbal tea, living water and turmeric-infused water a regular part of your daily routine.
.Boil 2 liters of water and reduce it to 1 liter before consuming.

c. Millet Intake[27] :

.Include five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*) and Browntop (*Urochloa ramose*) [28,29,30].
.Cook millets using mustard oil in steel cookware

d. Meal Timing and Structure: **(Table 6)**

Time	DIP Diet
Early Morning (5:45 AM)	Started with herbal tea, one curry leaf (for 1 minute) or five curry leav minutes), along with raw ginger and turmeric.
Breakfast (9:00-10:00 AM)	The patient had steamed seasonal fruits, *mugda yusha*, and a fermented mi (containing 4-5 varieties).
Morning Snacks (11:00 AM)	Red juice (150 ml) and soaked almonds will be provided.
Lunch (12:30 PM - 2:00 PM)	The patient received two plates: Plate 1 contained a steamed salad, while Pla cooked millet-based dish

e. Fasting:

. It was advised to observe one-day fasting.

f. Special Instructions:

.Express gratitude to the divine before consuming food or drinks.
.Sit in *Vajrasan* (a yoga posture) after each meal.
.10 minutes slow walk after every meal.

g. Diet Types:

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

Lifestyle Recommendations

1. Include meditation for relaxation.
2. Engage in Yoga (Sukhasan and Sukshm pranayam) from 6:00 AM to 7:00 AM
3. Practice barefoot brisk walk for 30 minutes.
4. Ensure 6-8 hours of quality sleep each night.
5. Adhere to a structured daily routine.

Panchkarma procedures administered to patients

1. *Awagah Swedan*[31]

- The patient was submerged in a tub of warm water, with the water level reaching the navel.
- Sweating was promoted by keeping the water temperature at 42˚ Celsius.
- The patient was instructed to undergo this procedure for 20 to 60 minutes.

2. HDT [31]

.The patient was placed on the therapy table that tilts the body so that the head is positioned below the level of the heart. The tilt angle usually ranges from 5-10 degrees.
.The patient remains in the tilted position for a set period, typically between 5 and 15 minutes.
.After the therapy, the patient is carefully and slowly returned to a neutral or upright position to prevent dizziness or discomfort.

3.*Matra Basti* with *Gokshura* and *Punarnava oil* [32]

.Before the procedure, *Punarnava* and *Gokshura* was prepared by indirectly heating in water.
.The patient was rested in a relaxed position, lying on their left side with knees drawn up.
.Using an enema bulb or *Basti* tube, the nozzle was gently inserted into the rectum and administered approximately 120 ml of the medicated oil.
.The patient was advised to hold the oil inside for 15–30 minutes to allow absorption and therapeutic effects.

.After the treatment, the patient was advised to avoid physical exertion, stay warm and ideally lie down for 30–45 minutes.

4. A*bhyangam* with *Brahmi* and *Ksheera-bala oil* [33,34]

.The therapy was started by applying Brahmi oil to the scalp and gently massaging in circular motions to soothe the mind. *Ksheerabala* oil was used for the body, applying it with long, flowing strokes along the limbs and using circular motions around the joints and muscles.
.Smooth and long strokes were done for the limbs and kneading motions on the joints and muscles to release tension. Particular attention was paid to *Vata*-sensitive areas such as the elbows, knees and ankles, helping to nourish and hydrate the tissues.
.The oil was allowed to remain on the body for 10-15 minutes to fully absorb, then recommended a warm bath to remove any excess oil.

5. *Punarnava* and *Varuna Siddha Sneha Basti* [35,36]

.The patient was rested on his left side with knees bent, in a relaxed state.
.A mixture of *Punarnava* and *Varuna* oils was prepared and warmed to a comfortable temperature.
.The warm medicated oil (90 ml) mixture was slowly administered into the rectum using an enema bulb or *Basti* tube.
.The patient retained the *Basti* for 15–30 minutes to allow absorption through the rectal mucosa, promoting detoxification and reducing edema.
.After retention, the patient gently emptied their bowels and rest for 30–45 minutes.
.This was done alternate with *Guduchyadi* and *Varunadi Kashaya Basti*.

6. *Guduchyadi* and *Varunadi Kashaya Basti* [37,38]

.*Guduchyadi* and *Varunadi Kashaya* were prepared by boiling in water until the liquid is reduced by one-fourth.
.The prepared *Kashaya* warmed to a comfortable temperature and administered the decoction (350ml) into the rectum using a *Basti yantra*.
.The patient was advised to retain the *Kashaya* inside the body for 15-30 minutes.
.This was done alternate with *Punarnavadi* and *Varunadi Siddha Sneha Basti*.

7. *Shiropichu* with *Brahmi* oil [39]

.*Brahmi* oil was warmed up to a comfortable temperature and apply it gently to the scalp, focusing on the crown of the head.
.Massage in circular motion was done to ensure the oil covers the entire scalp.
.A soft cloth or cotton pad soaked in the *Brahmi* oil and placed on the scalp and left for 20-30 minutes to allow the oil to nourish and penetrate the scalp.

8. *Vrikk Basti* with *Varunadi* oil [40]

.The patient lies in a prone position, a dough ring (made from black gram/wheat flour) was placed over the kidney region (L1–L3).
.Lukewarm *Varunadi* Oil (39–41°C) was poured inside the dough ring and retained for 20–30 minutes.
.The oil temperature was maintained by reheating if needed, ensuring continuous warmth and absorption.
.The oil was removed, the area was cleaned, and the patient rested for 15–30 minutes, followed by dietary and lifestyle recommendations.

Medicinal Interventions

Allopathic medications (Table 7):

Along with *Ayurvedic* medications, previously prescribed necessary allopathic medicines like Nifedipine (20mg), Sodium Bicarbonate (500mg), Febuxostat (40mg), Torasemide (10mg) and Metoprolol Succinate (23.75mg) were also administered.

Ayurvedic medications

The *Ayurvedic* treatment employed in this case included Divya Shakti Powder, GFR Powder, Chander Vati, Renal support syrup, Charma Rog Har Vati, URI Plus Tablet, FE Capsule, Dhatu Poshak Capsule, Sama vati, Yakrit Shoth Har Vati, Hemotone Syrup, GE- Liv Forte Syrup, Vrikka tonic and Asthiposhak. The medicines administered during the treatment period with Anupana is mentioned in **Table 8** and the description of medicines is provided in **Table 9.**

Table 7. Allopathic medicine taken during IPD

Medicine	Dose	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar	11-Mar	12-Mar
Nifedipine (20mg)	BD	SOS	×	×	×	×	×	×	×	×
Sodium Bicarbonate Tablet	TDS	✓	BD	BD	BD	BD	BD	BD	BD	BD
Febuxostat (40mg)	OD	✓	✓	BD	✓	✓	✓	✓	✓	✓
Torasemide (40mg)	BD	✓	✓	✓	✓	✓	✓	✓	✓	✓
Metoprolol Succinate (23.75mg)	HS	✓	✓	✓	✓	✓	✓	✓	✓	✓

Table 8. The *Ayurvedic* medicines administered during IPD

Date	Medicines	Dosage with *Anupana*
04-03-2024	Chander Vati	2 BD (*Adhobahkta* with *koshna jala*- After meal with lukewarm water)
	GFR Powder	Half a teaspoon BD (*Adhobhakta* with *koshna jala*)
	Renal Support Syrup	15 ml TDS (*Adhobhakta* with *sama matra koshna jala*- After meal with equal amount of lukewarm water)
	Blood Purifier Syrup	20 ml BD (*Adhobhakta* with *sama matra koshna jala*)
13-03-2024	Divya Shakti Powder	Half a teaspoon HS *(Nishikal with koshna jala*- Before bed with lukewarm water)
	GFR Powder	Half a teaspoon BD *(Adhobhakta with koshna jala)*
	Chander Vati	2 TAB BD (Adhobhakta with koshna jala)
	Renal support syrup	20 ml BD *(Adhobhakta with sama matra koshna jala)*
	Charma Rog Har Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
14-04-2024	Divya Shakti Powder	Half a teaspoon HS *(Nishikal with koshna jala*)
	GFR Powder	Half a teaspoon BD *(Adhobhakta with koshna jala)*
	Chander Vati Tablet	2 TAB BD (Adhobhakta with koshna jala)
	FE Capsule	2 Capsule BD *(Adhobhakta with koshna jala)*
	Dhatu Poshak Capsule	2 Capsule BD (*Adhobhakta with koshna jala*)

12-05-2024	Divya Shakti Powder	Half a teaspoon HS (*Nishikal with koshna jala*) (hold if loose stool)
	GFR Powder	Half a teaspoon BD (*Adhobhakta with koshna jala*)
	Chander Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Renal support syrup	20 ml BD (*Adhobhakta with samamatra koshna jala*)
	Sama vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Yakrit Shoth Har Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
27-05-2024	GFR Powder	Half a teaspoon BD (*Adhobhakta with koshna jala*)
	Chander Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Sama vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Hemotone Syrup	20 ml BD (*Adhobhakta with sama matra koshna jala*)
	GE- Liv Forte Syrup	20 ml BD (*Adhobhakta with sama matra koshna jala*)
29-06-2024	GFR Powder	Half a teaspoon BD (*Adhobhakta with koshna jala*)
	Vrikka tonic	20 ml BD (*Adhobhakta with sama matra koshna jala*)
	Asthiposhak	2 TAB BD *(Adhobakta* with *koshna jala*)
	Chander Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Sama vati	2 TAB BD (*Adhobhakta* with *koshna jala*)

Table 9. The details of *Ayurvedic* medicines

Medicine Name	Ingredients	Therapeutic Effects
Chander Vati	***Kapoor Kachri*** *(Hedychium spicatum),* ***Vacha*** *(Acorus calamus),* ***Motha*** *(Cyperus rotundus),* ***Kalmegh*** *(Andrographis paniculata),* ***Giloy*** *(Tinospora cordifolia),* ***Devdaru*** *(Cedrus deodara),* ***Desi Haldi*** *(Curcuma longa),* ***Atees*** *(Aconitum heterophyllum),* ***Daru Haldi*** *(Berberis aristata),* ***Pipla Mool*** *(Piper longum root),* ***Chitrak*** *(Plumbago zeylanica),* ***Dhaniya*** *(Coriandrum sativum),* ***Harad*** *(Terminalia chebula),* ***Bahera*** *(Terminalia bellirica),* ***Amla*** *(Phyllanthus emblica),* ***Chavya*** *(Piper chaba),* ***Vayavidang*** *(Embelia ribes),* ***Pippal*** *(Piper longum),* ***Kalimirch*** *(Piper nigrum),* ***Saunth*** *(Zingiber officinale dried ginger),* ***Gaj Pipal*** *(Scindapsus officinalis),* ***Swarn Makshik Bhasm*** *(Gold iron pyrite ash - Ayurvedic preparation),* ***Sajjikshar*** *(Potassium carbonate - traditional alkali preparation),* ***Sendha Namak*** *(Rock salt),* ***Kala Namak*** *(Black salt),* ***Choti Elaichi*** *(Elettaria cardamomum - small cardamom),* ***Dalchini*** *(Cinnamomum verum),* ***Tejpatra*** *(Cinnamomum tamala),* ***Danti*** *(Baliospermum montanum),* ***Nishothra*** *(Operculina turpethum),* ***Vanslochan*** *(Bamboo silica),* ***Loh Bhasm*** *(Iron ash - Ayurvedic preparation),* ***Shilajeet*** *(Asphaltum punjabinum),* ***Guggul*** *(Commiphora wightii).*	*Raktashodhana* (Blood purifier), *Pitta Shaman (Pitta* pacifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Vata-Pitta Shaman (Dosha* pacifier)
GFR Powder	***Punarnava*** *(Boerhavia diffusa),* ***Gokshur*** *(Tribulus terrestris),* ***Kaasni*** *(Cichorium intybus),* ***Bhoomi Amla*** *(Phyllanthus niruri),* ***Badi Hard*** *(Terminalia chebula),* ***Makoy*** *(Solanum nigrum) and* ***Apamarg*** *(Achyranthes aspera)*	*Mutral* (Diuretic), *Shoth har* (Anti-inflammatory), *Virechana* (Purgation), *Raktaprasadana* (Blood purifier), *Vatanulomana (Vata* regulator), *Mutravirechana* (Urinary purgation), *Rasayana* (Rejuvenator), *Amapachan* (Toxin digestant), *Kledahara* (Moisture remover), *Vrikkadoshahara* (Kidney toxin eliminator)

Renal Support Syrup	***Nimba*** *(Azadirachta indica),* ***Arjun*** *(Terminalia arjuna),* ***Gokshur*** *(Tribulus terrestris),* ***Hareetaki*** *(Terminalia chebula),* ***Ashwagandha*** *(Withania somnifera),* ***Karanja*** *(Pongamia pinnata),* ***Chiraita*** *(Swertia chirayita).*	*Mutravirajaniya (*Urine purifier), *Shoth har* (Anti-inflammatory), *Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Rasayana* (Rejuvenator)
Blood Purifier Syrup	***Khair Chaal*** *(Acacia catechu),* ***Babchi*** *(Psoralea corylifolia),* ***Devdaru*** *(Cedrus deodara),* ***Daru Haldi*** *(Curcuma aromatica),* ***Haritaki*** *(Terminalia chebula),* ***Bhera*** *(Terminalia bellerica),* ***Amla*** *(Phyllanthus emblica),* ***Mahamajishtha*** *(Rubia cordifolia),* ***Dhamasa*** *(Gmelina arborea),* ***Sariva*** *(Hemidesmus indicus),* ***Amba Haldi*** *(Curcuma amada),* ***Kutki*** *(Picrorhiza kurroa),* ***Chiraita*** *(Swertia chirata),* ***Rasont*** *(Ruta graveolens),* ***Satyanashi*** *(Cissampelos pareira),* ***Madhu*** *(Honey), and* ***Shaker*** *(Saccharum officinarum)*	*Raktashodhak* (Blood purifier), *Shoth har* (Anti-inflammatory), *Deepan* (Digestive stimulant), *Rasayana* (Rejuvenator), *Vata-Pitta Shaman* (Pacifier of *Vata* and *Pitta doshas), Kushtahara* (Anti-skin disease)
Divya Shakti Powder	***Trikatu*** *(Zingiber officinale, Piper nigrum and Piper longum),* ***Triphala*** *,* ***Nagarmotha*** *(Cyperus rotundus),* ***Vayavidang*** *(Embelia ribes),* ***Chhoti Elaichi*** *(Elettaria cardamomum),* ***Tej Patta*** *(Cinnamomum tamala),* ***Laung*** *(Syzygium aromaticum),* ***Nisoth*** *(Operculina turpethum),* ***Sendha Namak*** *,* ***Dhaniya*** *(Coriandrum sativum),* ***Pipla Mool*** *(Piper longum root),* ***Jeera*** *(Cuminum cyminum),* ***Nagkesar*** *(Mesua ferrea),* ***Amarvati*** *(Achyranthes aspera),* ***Anardana*** *(Punica granatum),* ***Badi Elaichi*** *(Amomum subulatum),* ***Hing*** *(Ferula assafoetida),* ***Kachnar*** *(Bauhinia variegata),* ***Ajmod*** *(Trachyspermum ammi),* ***Sajjikshar*** *,* ***Pushkarmool*** *(Inula racemosa),* ***Mishri*** *(Saccharum officinarum)*	*Ojakshaya* (Loss of vitality/immunity), *Agnimandya* (Low digestive fire), *Chakshukshaya* (Weak vision), *Deepan* (Appetizer), *Rasayana* (Rejuvenator)
Charma Rog Har Vati	***Amla*** *(Emblica officinalis),* ***Haritaki*** *(Terminalia chebula),* ***Behera*** *(Terminalia bellerica),* ***Giloy*** *(Tinospora cordifolia),* ***Guggal*** *(Commiphora wightii),* ***Sonth*** *(Zingiber officinale),* ***Mircha*** *(Piper nigrum),* ***Pippal*** *(Piper longum),* ***Nishoth*** *(Ipomoea turpethum),* ***Danti*** *(Baliospermum montanum).*	*Raktashodhak* (Blood purifier), *Twak Shodhana* (Skin cleanser), *Lekhana* (Scraping), *Shoth har* (Anti-inflammatory), *Kushtahara* (Anti-leprotic), *Stambana* (Astringent)
FE Capsule	***Makoy (****Solanum nigrum****), Shilajeet, Yasad Bhasam, Loh Bhasam, Swarn Makshik Bhasam, Mukta Shukti Pishti .***	*Raktavardhaka* (Haematinic), *Rasasatmaka* (Nutrient- rich), *Balyakara* (Strengthening), *Shukraposhana* (Semen nourisher), *Deepan* (Appetizer)
Dhatu Poshak Capsule	***Chuna Shuddh, Shankh Bhasm, Mukta Shukti, Prawal Pishti, Kapardika and Loh***	*Dhatuposhaka (*Tissue nourishing), *Rasayana* (Rejuvenative), *Balya* (Strengthening), *Srotoshodhak (*Channel cleansing), *Vata-Pitta shaman (Vata* and *Pitta* balancing), *shodhak* (Detoxifier), *Agni Deepan* (Digestive fire stimulant), *Lekhana* (Scraping / Lipolytic)
Sama vati	***Gokshur*** *(Tribulus terrestris),* ***Kaunch*** *(Mucuna pruriens),* ***Shatawar*** *(Asparagus racemosus),* ***Ashwagandha*** *(Withania somnifera),* ***Vidarikand*** *(Pueraria tuberosa),* ***Beej Band Lal*** *(Sida cordifolia),* ***Akarkara*** *(Anacyclus pyrethrum),* ***Talmakhana*** *(Hygrophila auriculata),* ***Musli*** *(Chlorophytum borivilianum),* ***Aawla*** *(Emblica officinalis),* ***Sonth*** *(Zingiber officinale),* ***Jaiphal*** *(Myristica fragrans),* ***Swarn Makshik*** *(Chalcopyrite),* ***Shilajeet Shuddh*** *(Asphaltum punjabianum).*	*Agnideepan* (Digestive stimulant), *Pachan* (Digestant), *Vatanulomana (Vata* regulator), *Shoth har* (Anti-inflammatory), *Raktashodhana* (Blood purifier), *Rasayana* (Rejuvenator), *Mutral* (Diuretic), *Srotoshodhana* (Channel cleanser), *Vishagna* (Detoxifier), *PittaShaman (Pitta* pacifier)
Yakrit Shoth Har Vati	***Punarnava*** *(Boerhavia diffusa),* ***Kalimirch*** *(Piper nigrum),* ***Pippali*** *(Piper longum),* ***Vayavidanga*** *(Embelia ribes),* ***Devdaru*** *(Cedrus deodara),* ***Kutha Haldi*** *(Picrorhiza kurroa),* ***Chitrak*** *(Plumbago zeylanica),* ***Harad*** *(Terminalia chebula)* ***, Bahera*** *(Terminalia chebula, Terminalia bellirica),* ***Amla*** *(Emblica officinalis),* ***Danti*** *(Baliospermum montanum),* ***Chavya*** *(Piper chaba),* ***Indra Jon*** *(Taraxacum officinale),* ***Pippla Mool*** *(Piper longum),* ***Motha Kalajira*** *(Nigella sativa),* ***Kayphal*** *(Myrica esculenta),* ***Kutaki*** *(Picrorhiza kurroa),* ***Nisoth*** *(Operculina turpethum),* ***Saunth*** *(Zingiber officinale),* ***Kakd Singhi*** *(Cucumis sativus),* ***Ajwain*** *(Trachyspermum ammi),* ***Mandur Bhasma*** *(Ferrum).*	*Raktashodhak* (Blood purifier), *Deepan* (Appetizer), *Pachan* (Digestant), *Shoth har* (Anti-inflammatory), *Vata-kapha shamaka (Dosha-*balancer), *Rasayana* (Rejuvenator), *Ojovardhaka* (Immunity enhancer)

Hemotone Syrup	***Draaksha*** *(Vitis vinifera),* ***Aamalaki*** *(Emblica officinalis),* ***Punarnnava*** *(Boerhaavia diffusa),* ***Ashokam*** *(Saraca asoca),* ***Jambu*** *(Syzygium cumini),* ***Shaariba*** *(Hemidesmus indicus),* ***Haritaki*** *(Terminalia chebula),* ***Lakshmana*** *(Ipomoea sepiaria),* ***Kantakaari*** *(Solanum xanthocarpum),* ***Thaamalaki*** *(Phyllanthus niruri),* ***Katuki*** *(Picrorrhiza kurroa),* ***Roheethakam*** *(Thespesia populnea),* ***Vidangam*** *(Embelia ribes),* ***Maricham*** *(Piper nigrum),* ***Pippali*** *(Piper longum),* ***Shundi*** *(Zingiber officinale),* ***Ealam*** *(Elettaria cardamomum), and* ***Sitha*** *(Sugar)*	*Raktavardhaka* (Blood builder), *Raktaprasadana* (Blood purifier), *Rasayana* (Rejuvenator), *Dhatuposhana* (Tissue nourisher), *Pitta Shaman (Pitta* pacifier), *Balya* (Strengthener), *Agnideepan* (Digestive stimulant), *Shramahara* (Anti-fatigue), *Pandughna* (Anti-anemic)
GE- LIV Forte Syrup	***Bhringraj*** *(Eclipta alba),* ***Kalmegh*** *(Andrographis paniculata),* ***Kutaki*** *(Picrorhiza kurroa),* ***Vidhang*** *(Argyreia nervosa),* ***Nisoth*** *(Operculina turpethum),* ***Daruharidra*** *(Berberis aristata),* ***Chitrak Mool*** *(Plumbago zeylanica),* ***Bhumi Amla*** *(Phyllanthus niruri), and* ***Shadashan*** *(Acorus calamus)*	*Raktashodhak* (Blood purifier), *Mutral* (Diuretic), *Agnideepan* (Digestive stimulant), *Vatanulomana (Vata* regulator), *Shoth har* (Anti-inflammatory), *Rasayana* (Rejuvenator), *PittaShaman (Pitta* pacifier), *Srotoshodhana* (Channel cleanser)
Vrikka tonic	***Punarnava*** *(Boerhavia diffusa),* ***Gokshura*** *(Tribulus terrestris),* ***Varuna*** *(Crataeva nurvala) and* ***Shilajeet***	*Raktashodhak (*Blood purifier), *Mutral* (Diuretic), *Agnideepan* (Digestive stimulant), *Shoth har* (Anti-inflammatory), *Vatanulomana (Vata* regulator), *Rasayana* (Rejuvenator)
Asthiposhak	***Godanti*** *,* ***Shudh Shilajit*** *(Asphaltum punjabianum),* ***Ashwagandha*** *(Withania somnifera),* ***Tabaqsheer*** *(Bambusa vulgaris),* ***Pippali*** *(Piper longum),* ***Amba Haldi*** *(Curcuma amada),* ***Hadjorh*** *(Cissampelos pareira),* ***Maida Saq*** *.*	*Asthishamaka* (Bone strengthener), *Rasayana* (Rejuvenator), *Vata-pitta Shaman (Vata-Pitta* pacifier), *Bala vardhaka* (Strength enhancer), *Shoth har* (Anti-inflammatory), *Brimhana* (Nourisher), *Raktashodhak* (Blood purifier), *Shukra vardhaka* (Semen enhancer)

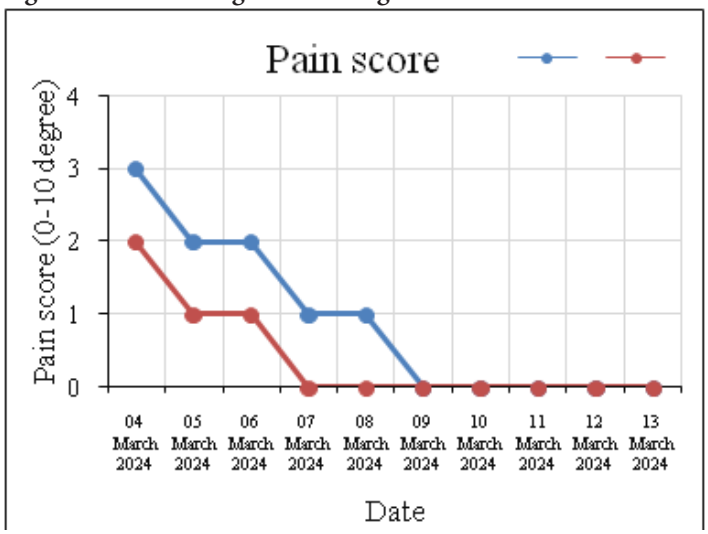
RESULT

After 10 days of IPD, the patient experienced noteworthy development in symptoms, which denotes the interventions used in the study are effective against CKD and hypertension. The graphical representation of pain and itching score during IPD are depicted in **Fig 2**. Graphical representation of the assessment of the patient's vital signs are represented in **Fig 3.** The DTPA scan is depicted in **Fig 4.** Also, the relief from the weakness, itching, gastric issues and frothy urine shows that the *Ayurvedic* interventions used in the case study are effective for CKD. The pain, itching, sleep and pedal oedema score during the treatment is showed in **Table 10**.

Table 10 The pain, itching, sleep and pedal oedema score during the treatment

Conditions	Before treatment	After treatment
Pedal oedema [41]	4˚	1˚
Pain [42]	3/10	0
Sleep [43]	3/10	7/10
Itching [44]	6/10	0

Fig 2 Pain and itching score during IPD before and after treatment



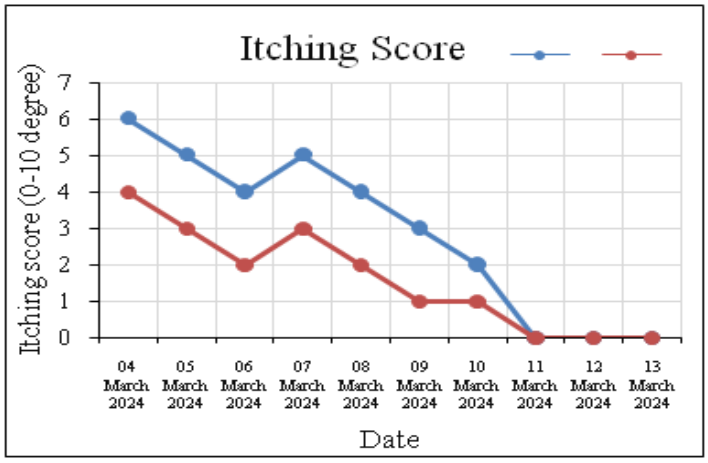
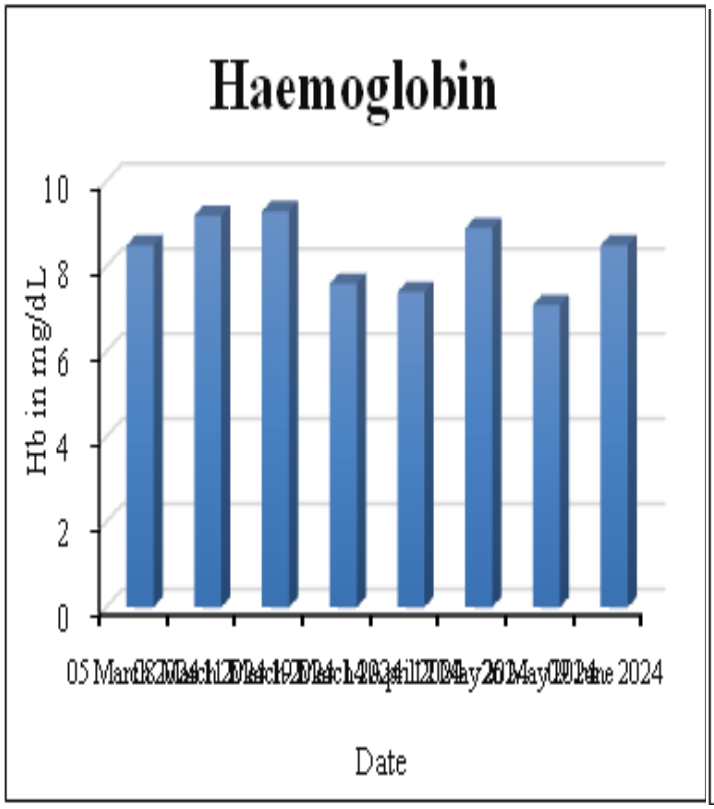
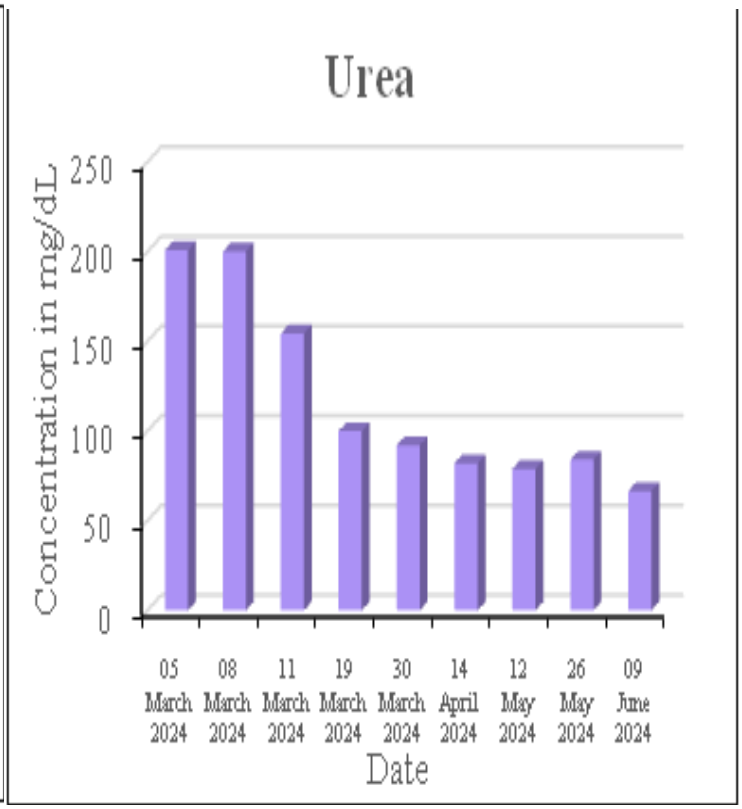
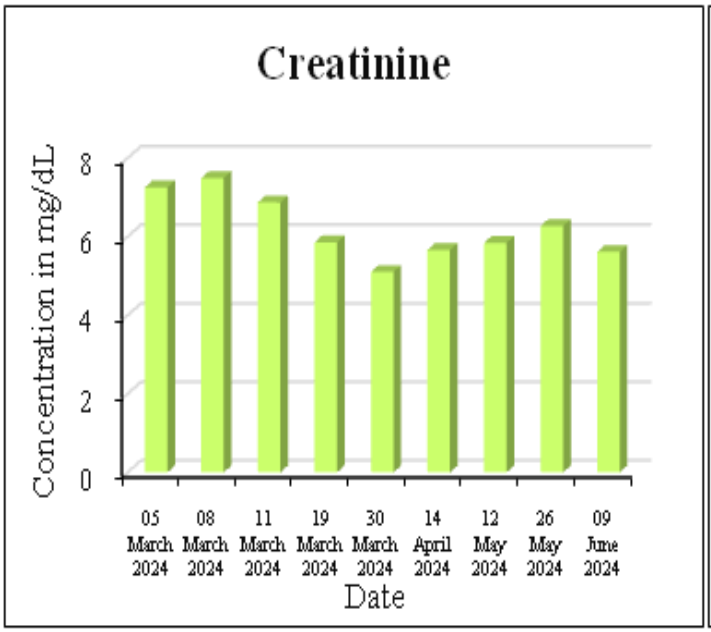
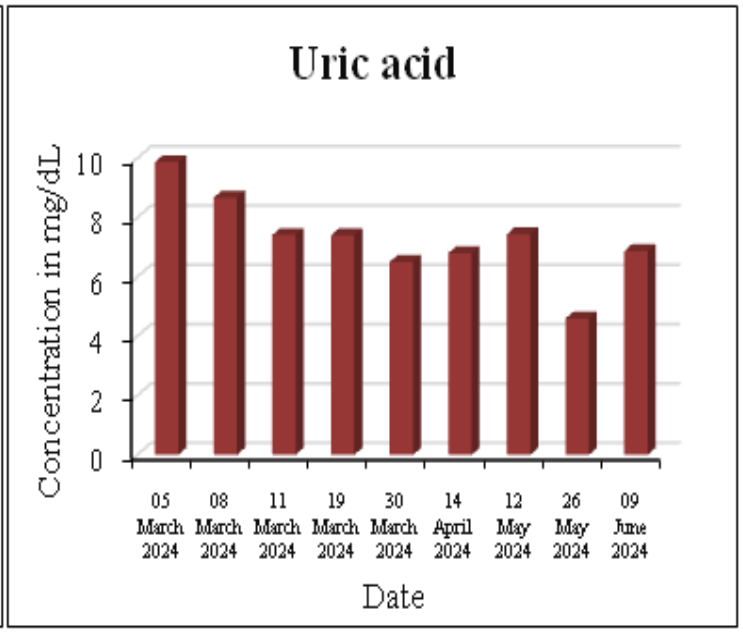


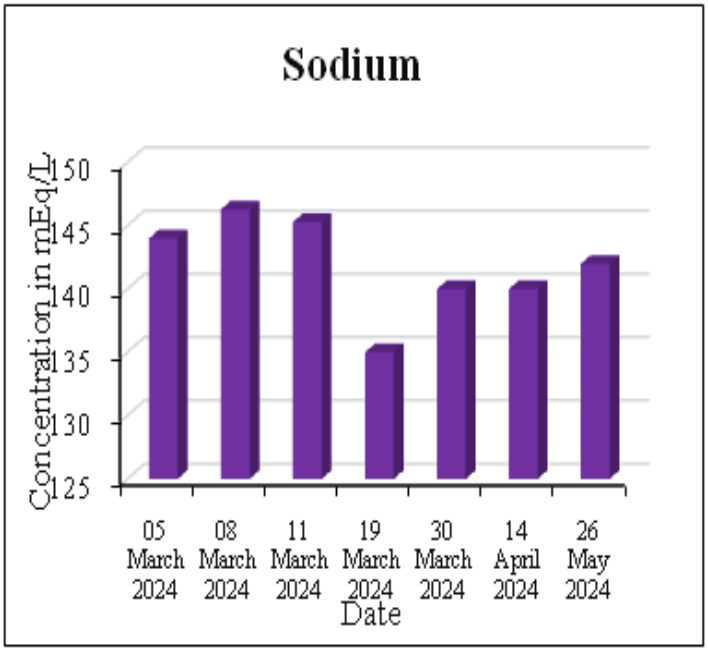
Fig.3 Graphical representation of the assessment of the patient's vital signs.

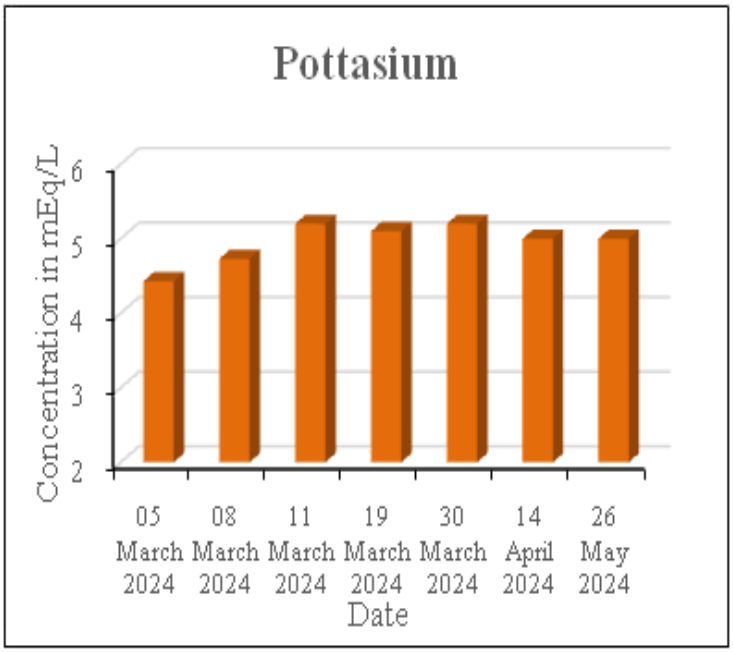


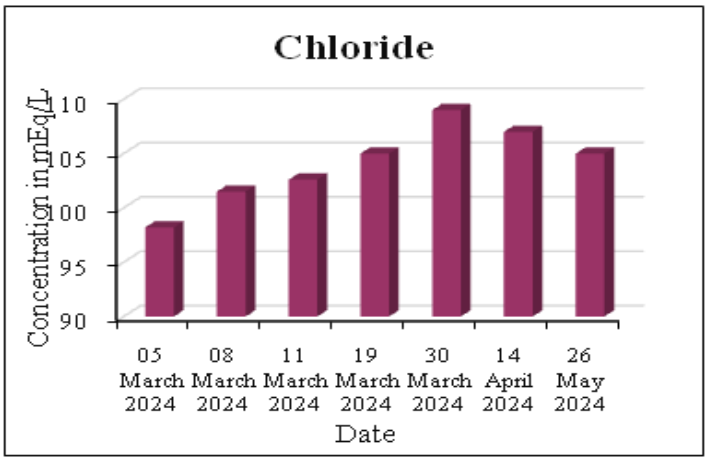


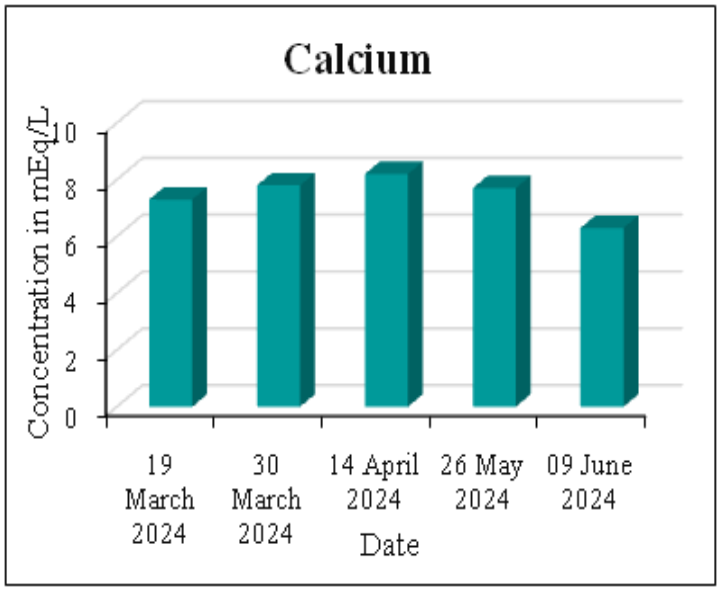

Creatinine
Concentration in mg/dL
0
2
4
6
8
05 March 2024
08 March 2024
11 March 2024
19 March 2024
30 March 2024
14 April 2024
12 May 2024
26 May 2024
09 June 2024
Date


Uric acid
Concentration in mg/dL
0
2
4
6
8
10
05 March 2024
08 March 2024
11 March 2024
19 March 2024
30 March 2024
14 April 2024
12 May 2024
26 May 2024
09 June 2024
Date


Sodium
Concentration in mEq/L
125
130
135
140
145
150
05 March 2024
08 March 2024
11 March 2024
19 March 2024
30 March 2024
14 April 2024
26 May 2024
Date


Pottasium
Concentration in mEq/L
2
3
4
5
6
05 March 2024
08 March 2024
11 March 2024
19 March 2024
30 March 2024
14 April 2024
26 May 2024
Date


Chloride
Concentration in mEq/L
90
95
100
105
110
05 March 2024
08 March 2024
11 March 2024
19 March 2024
30 March 2024
14 April 2024
26 May 2024
Date


Calcium
Concentration in mEq/L
0
2
4
6
8
10
19 March 2024
30 March 2024
14 April 2024
26 May 2024
09 June 2024
Date

DISCUSSION

Integrating *Ayurvedic* interventions for the symptomatic relief of CKD shows a promising alternative for the conventionally practicing treatment methods. This case report is about the procedure of incorporating different *Ayurvedic* therapies in a 56-year-old male, diagnosed with CKD for 1 and a half years and hypertension for 5 years. The patient presented symptoms such as general weakness, itching, back ache, gastric issue and frothy urination. The *Samprapti*[45] of this case study is depicted in **Fig 4**.

Fig 4 The *Samprapti* of this case study

1)The *Samprapti* and *Nidan Parivarjan*

CKD with hypertension can be understood in *Ayurveda* through the concepts of *Dosha-Dushya Sammurchana*. The primary *Nidana* (causative factors) include excessive intake of *Katu, Amla*, *Lavana Rasa, Guru, Abhishyandi Ahara,* suppression of natural urges, and chronic *Ajirna*. These factors vitiate *Vata* and *Kapha Dosha*, leading to *Rakta Dushti* and *Mutravaha Srotas Dushti*. Prolonged vitiation causes obstruction (*Sanga*) and degeneration (*Kshaya*) in *Mutravaha Srotas*, impairing kidney function. Hypertension further aggravates the pathology by increasing *Rakta Gati* and damaging delicate *Sira-Srotas* of the kidneys. Over time, this dual pathology manifests as *Vrikk Vikar* with reduced filtration capacity (GFR), accumulation of metabolic toxins (*Ama* and *Mala Upasthiti*), and systemic complications like pedal oedema, weakness, and disturbed urine formation [45].

The cornerstone of CKD management in *Ayurveda* is *Nidana Parivarjana*, which includes avoiding causative and aggravating factors. Patients are advised to refrain from high-salt, spicy, fermented, oily, and heavy-to-digest foods that aggravate *Kapha* and *Pitta* while following a kidney-friendly diet with easily digestible, light, and *Mutral Dravyas* [46]. Lifestyle modifications include avoiding overexertion, suppression of natural urges, day sleep, and excessive stress, as these aggravate *Vata* and *Kapha* [47]. Regular practice of mild yoga, pranayama, and meditation helps regulate *Rakta Gati* (blood pressure) and supports renal function [48]. Timely correction of digestive impairment (*Agni Sandharana*), maintaining *Ahara-Niyama* (dietary discipline), and adopting a balanced daily routine (*Dinacharya*) and seasonal regimen (*Ritucharya*) form the basis of preventing disease progression. Thus, *Nidana Parivarjana* not only slows CKD progression but also helps in controlling hypertension naturally.

2)The effect of *Ahar-Vihar*

The *Ahar-Vihar* regimen followed by the patient, as per the Disciplined and Intelligent Person's (DIP) Diet Plan, played a crucial role in supporting renal health, improving metabolism, and stabilizing overall wellbeing. The dietary protocol emphasized the avoidance of aggravating foods such as wheat, refined products, dairy, packaged foods, coffee, and tea, thereby reducing the burden of *Ama* (toxins) and preventing *Kapha* and *Pitta* aggravation [49]. Inclusion of millet varieties such as foxtail, barnyard, little, kodo, and browntop provided easily digestible, high-fiber, and low-glycemic nutrition, which supported kidney function and blood sugar control [51]. Hydration with alkaline, herbal, turmeric-infused, and reduced water helped maintain electrolyte balance, prevented fluid overload, and enhanced *Mutravaha Srotas* cleansing [52]. Timely meals, fasting, mindful chewing, gratitude practice, and *Vajrasana* after meals promoted digestive fire (*Agni*) and reduced metabolic stress. The diet's emphasis on steamed salads, seasonal fruits, fermented millet shakes, and juices provided antioxidants and essential micronutrients, which improved hemoglobin, reduced uremic load, and alleviated fatigue [52].

Complementing the dietary regimen, *Vihar* (lifestyle modifications) such as daily yoga (*Sukhasan*, *Sukshma Pranayam*), barefoot brisk walking, meditation, and adherence to a structured routine helped regulate blood pressure, pulse, and body weight, while also improving mental calmness and sleep quality [48,53,54]. Adequate rest, mindful movement, and controlled physical activity reduced *Vata* aggravation and strengthened cardiovascular

stability. Together, these *Ahar-Vihar* practices contributed to improved renal function, hemodynamic stability, and overall quality of life, showing *Ayurveda's* integrative potential in CKD management alongside conventional care.

3)The effect of *Panchakarma* therapies

The *Panchakarma* therapies administered to the patient provided multifaceted benefits in the management of CKD with hypertension by addressing *Dosha Dushti*, improving circulation, and enhancing renal function. *Awagaha Swedan* induced therapeutic sweating, helping in detoxification, relieving stiffness, and reducing fluid retention, while HDT (Head Down Tilt) therapy improved renal perfusion and supported hemodynamic balance [31]. *Matra Basti* with *Gokshura* and *Punarnava* oil, as well as alternate *Sneha* and *Kashaya Basti* with formulations like *Punarnava*, *Varuna*, and *Guduchi*, played a vital role in pacifying aggravated *Vata*, reducing edema, and facilitating removal of accumulated *Ama* through the colon, thereby improving urinary output and easing systemic toxin load [32,35,36,37,38]. *Abhyangam* with *Brahmi* and *Ksheerabala* oil nourished the tissues, improved joint flexibility, and calmed the nervous system [33,34], while *Shiropichu* with Brahmi oil provided mental relaxation, alleviated stress, and supported sleep regulation [39]. *Vrikk Basti* with *Varunadi* oil directly targeted the renal region, improving local circulation, reducing inflammation, and strengthening kidney function [40]. These therapies not only promoted detoxification and metabolic correction but also helped stabilize blood pressure, reduce pedal edema, improve urine quality, and enhance the patient's overall physical and mental wellbeing.

4)The effects of *Ayurvedic* medicines

The *Ayurvedic* formulations like Chander Vati, GFR Powder, Renal Support Syrup, Blood Purifier Syrup, Divya Shakti Powder, Charma Rog Har Vati, FE Capsule, Dhatu Poshak Capsule, Sama Vati, Yakrit Shoth Har Vati, Hemotone Syrup, GE-Liv Forte Syrup, Vrikka Tonic, and Asthiposhak are composed of herbs and minerals whose effects can be explained through their *Ras Panchaka (Rasa, Guna, Virya, Vipaka,* and *Prabhava*). Ingredients such as *Trikatu (Pippali, Marich, Saunth), Chitrak, Kalmegh, Kutki, Chiraita,* and *Daruharidra* possess *Katu-Tikta rasa, Laghu-Tikshna guna, Ushna virya,* and *Katu vipaka*, which make them potent *Deepana, Pachan*, and *Lekhana dravyas*, helping in *Ama pachana, Agni deepana*, and *Kapha-Vata shaman* [55-60]. Herbs like *Punarnava, Gokshura, Kaasni, Bhoomi Amla*, and *Varuna* are dominated by *Tikta-Kashaya rasa, Laghu-Ruksha guna, Sheeta virya,* and *Katu vipaka*, rendering them *Mutral, Shothahara*, and *Vrikkadoshahara*, beneficial in renal and urinary disorders [61-64]. *Rasayana dravyas* such as *Giloy, Amlaki, Haritaki, Ashwagandha, Shatavari,* and *Shilajit* exhibit *Madhura rasa, Guru-Snigdha guna, Sheeta virya*, and *Madhura vipaka*, providing *Ojovardhana, Dhatu poshana,* and *Balya* effects [65-69]. Blood-purifying drugs like *Neem, Manjishtha*, and *Babchi* with *Tikta-Kashaya rasa, Laghu-Ruksha guna, Sheeta virya*, and *Katu vipaka* act as *Raktashodhaka, Kushtahara,* and *Pitta shamaka* [70,71,72]. Minerals like *Loh Bhasma, Mandur Bhasma, Yasad Bhasma, Swarn Makshik*, and *Mukta Shukti* are *Raktavardhaka, Ojovardhaka*, and *Dhatu poshaka* due to their unique *Prabhava*. Thus, through their combined *Ras Panchaka* properties, these formulations act as *Raktashodhaka, Mutral, Shothahara, Deepana-Pachana, Rasayana*, and *Tridosha shamaka,* supporting digestion, blood purification, kidney function, immunity, and overall rejuvenation [73].

Future Research perspectives:

This study focused on a CKD patient with hypertension, and while the results were promising, a more thorough evaluation is necessary, as the study involved only one patient. Additional research with a larger sample size and randomized controlled trials is needed to validate the reliability, efficacy and safety of the integrated *Ayurveda* therapies used in this study for CKD. This will support establish standardized protocols and guidelines for clinical practice.

CONCLUSION

This case study for the treatment of symptomatic relief in CKD through *Ayurvedic* interventions can be concluded as follows:

Symptoms: The patient showed marked improvement in multiple clinical conditions after treatment. Pedal oedema, initially graded as 4˚, reduced to 1˚ post-treatment. Pain intensity decreased from 3/10 to complete relief (0/10). Sleep quality, which was previously poor at 3/10, improved significantly to 7/10. Additionally, itching, initially rated 6/10 [44], was completely resolved following the treatment.

Vitals: The patient's vital signs varied during the treatment period. Blood pressure stabilized at 120/80 during the inpatient care. The patient's weight dropped from 82 kg to 73 kg, there was a reduction in itching and pain, reflecting positive changes in lifestyle and diet.

Investigations: The patient's laboratory parameters show gradual improvement and stabilization over the course of follow-up. Haemoglobin levels fluctuated between 7.1 and 9.3 gm/dL. Urea levels decreased progressively from 200.85 mg/dL to 66.5 mg/dL, and creatinine improved from 7.25 mg/dL to 5.61 mg/dL. Uric acid levels reduced from 9.87 mg/dL to 6.87 mg/dL.

In conclusion, the integration of holistic *Ayurvedic* therapies alongside previously prescribed necessary allopathic treatments for CKD has shown promising results, including improvements in symptoms, vital signs and laboratory test outcomes. The combination of *Ayurvedic* interventions with prescribed medications appears to support better kidney function, reduce symptoms associated with CKD, contribute to the overall health and well-being of the patient. *Ayurvedic* therapies, through their focus on restoring balance and addressing underlying body imbalances, may play a crucial role in improving renal health.

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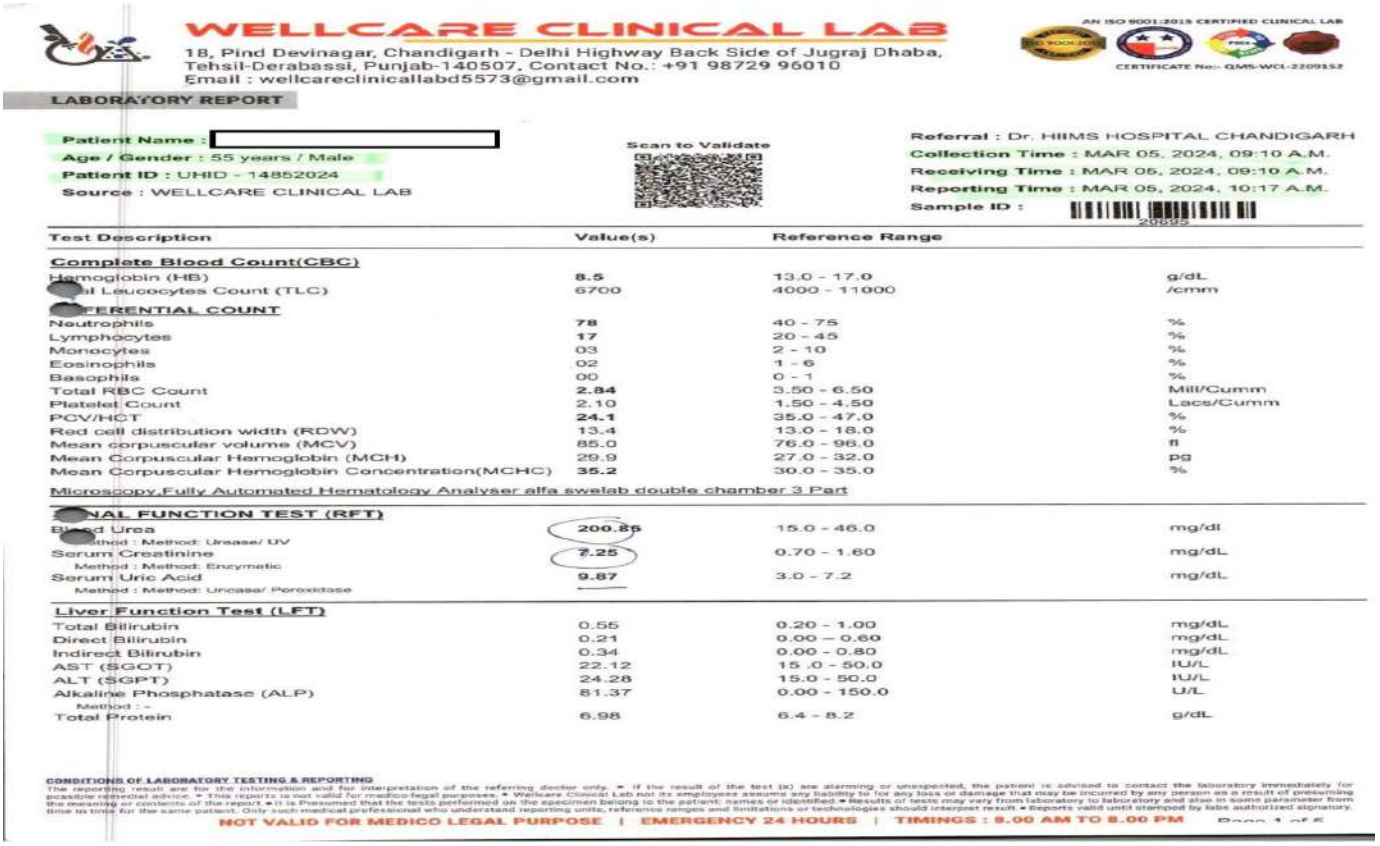
Fig 1 Laboratory investigation reports during the treatment

Fig 1a. Before treatment



WELLCARE CLINICAL LAB

18, Pind Devinagar, Chandigarh - Delhi Highway Back Side of Jugraj Dhaba, Tehsil-Derabassi, Punjab-140507, Contact No.: +91 98729 96010
Email : wellcareclinicallabd5573@gmail.com

AN ISO 9001:2015 CERTIFIED CLINICAL LAB

LABORATORY REPORT

Patient Name : [redacted]
Age / Gender : 55 years / Male
Patient ID : UHID - 14852024
Source : WELLCARE CLINICAL LAB

Scan to Validate

Referral : Dr. HIIMS HOSPITAL CHANDIGARH
Collection Time : MAR 05, 2024, 09:10 A.M.
Receiving Time : MAR 05, 2024, 09:10 A.M.
Reporting Time : MAR 05, 2024, 10:17 A.M.
Sample ID :

Test Description	Value(s)	Reference Range	
Complete Blood Count(CBC)			
Hemoglobin (HB)	8.5	13.0 - 17.0	g/dL
Total Leucocytes Count (TLC)	6700	4000 - 11000	/cmm
DIFFERENTIAL COUNT			
Neutrophils	78	40 - 75	%
Lymphocytes	17	20 - 45	%
Monocytes	03	2 - 10	%
Eosinophils	02	1 - 6	%
Basophils	00	0 - 1	%
Total RBC Count	2.84	3.50 - 6.50	Mill/Cumm
Platelet Count	2.10	1.50 - 4.50	Lacs/Cumm
PCV/HCT	24.1	35.0 - 47.0	%
Red cell distribution width (RDW)	13.4	13.0 - 18.0	%
Mean corpuscular volume (MCV)	85.0	76.0 - 96.0	fl
Mean Corpuscular Hemoglobin (MCH)	29.9	27.0 - 32.0	pg
Mean Corpuscular Hemoglobin Concentration(MCHC)	35.2	30.0 - 35.0	%
Microscopy,Fully Automated Hematology Analyser alfa swelab double chamber 3 Part			
RENAL FUNCTION TEST (RFT)			
Blood Urea Method : Method: Urease/ UV	200.85	15.0 - 46.0	mg/dl
Serum Creatinine Method : Method: Enzymatic	7.25	0.70 - 1.60	mg/dL
Serum Uric Acid Method : Method: Uricase/ Peroxidase	9.87	3.0 - 7.2	mg/dL
Liver Function Test (LFT)			
Total Bilirubin	0.55	0.20 - 1.00	mg/dL
Direct Bilirubin	0.21	0.00 — 0.60	mg/dL
Indirect Bilirubin	0.34	0.00 - 0.80	mg/dL
AST (SGOT)	22.12	15 .0 - 50.0	IU/L
ALT (SGPT)	24.28	15.0 - 50.0	IU/L
Alkaline Phosphatase (ALP) Method : -	81.37	0.00 - 150.0	U/L
Total Protein	6.98	6.4 - 8.2	g/dL

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 reports is not valid for medico-legal purposes. • Wellcare Clinical 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 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

Fig 1b. After treatment

Accuprobe Diagnostics
Accuracy Matters...

LAB REPORT

Customer Care Number
9599593622
9599593625

Barcode No	85956709	Lab No	01932406090005
Patient Name	[redacted]	Reg Date	09/Jun/2024 11:34AM
Age/Sex	56 YRS/Male	Sample Coll. Date	09/Jun/2024 10:38 AM
Refered By	SELF	Sample Rec.Date	09/Jun/2024 01:36 PM
Client Code/Name	AP021118 HEALTH CLUB & LABORATORY		
Ref. Lab/Hosp		Report Date	09/Jun/2024 03:21PM
Panel Address	SCF:85,Phase-5,SAS NAGAR Mohali-14005		

Test Name With Methodology	Result	Unit	Biological Ref.Interval
.IMMUNO BIOCHEMISTRY-1			
Kidney Profile Mini			
Blood Urea	**66.5**	mg/dL	21-40.0
Serum Creatinine.	**5.61**	mg/dL	0.7-1.2
Uric Acid	6.87	mg/dL	3.4 - 7.0
Calcium.	**6.30**	mg/dL	8.6-10.0
BUN (Blood Urea Nitrogen)	**31**	mg/dL	6.0-20.0
BUN/Creatinine Ratio	**5.53**	Ratio	10-20
eGFR			
eGFR (estimated Glomerular Filtration Rate)	**11.2**	mL/min/1.73 m2	>90

The National Kidney Foundation recommends using the Estimated GFR using MDRD Creatinine Equation (2021) to estimate GFR. (http://surl.li/lwaub)

Kindly correlate clinically. Advise for recheck from fresh sample in case, it is not correlation clinically, to rule out any pre-analytical error.

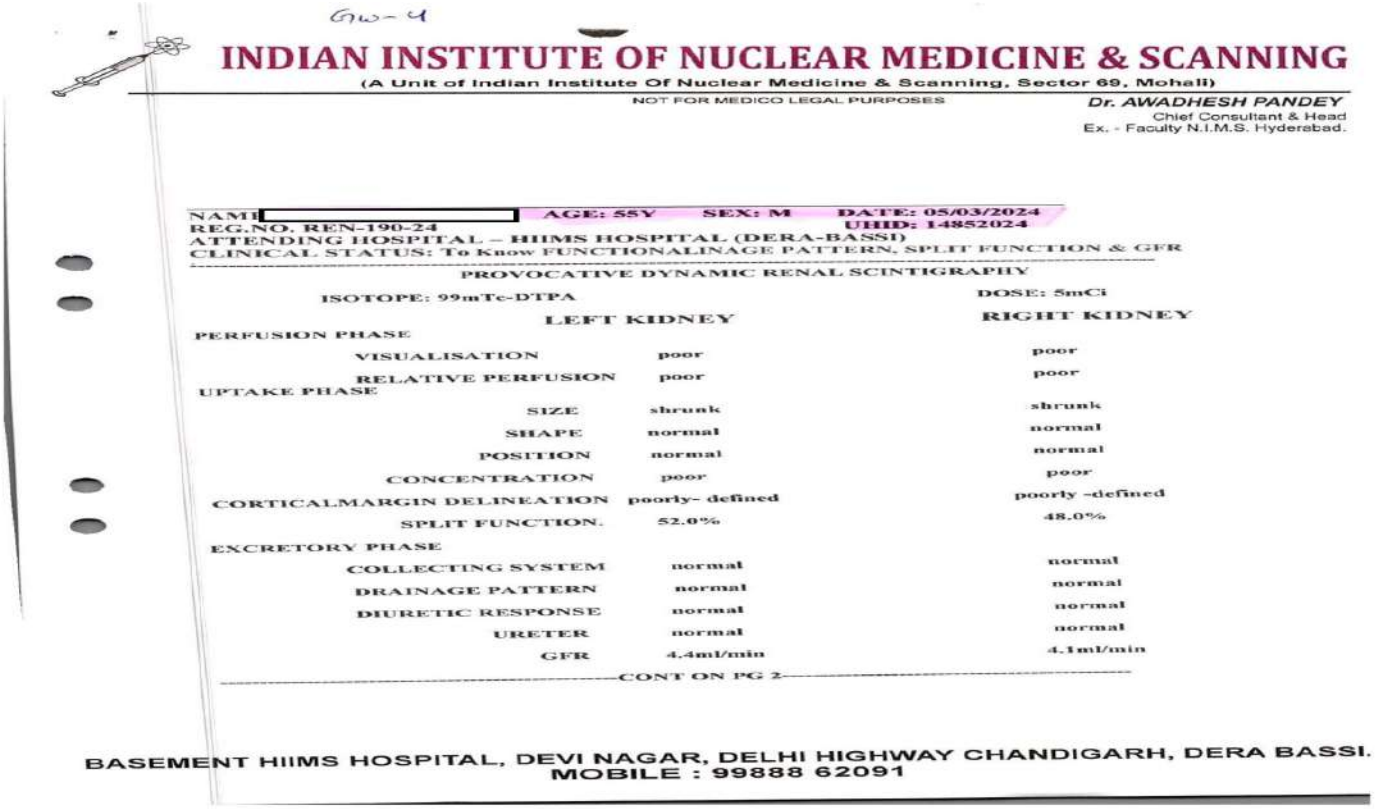
Dr. Vidhu Wadhwa, MD
(Consultant Pathologist)
Processed at: A.D. Regional Lab, Sector-34 Mohali, Punjab

Dr Prashant Goyal
(Chief Pathologist)

Page 3 of 6

Accuprobe Healthcare & Diagnostics Pvt. Ltd.
Corporate Office & Reference Lab:
Customer Care Number

Fig 4. The DTPA scan report



GW-4

INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

(A Unit of Indian Institute Of Nuclear Medicine & Scanning, Sector 69, Mohali)

NOT FOR MEDICO LEGAL PURPOSES

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. - Faculty N.I.M.S. Hyderabad.

NAME [redacted] AGE: 55Y SEX: M DATE: 05/03/2024
REG.NO. REN-190-24 UHID: 14852024
ATTENDING HOSPITAL – HIIMS HOSPITAL (DERA-BASSI)
CLINICAL STATUS: To Know FUNCTIONALINAGE PATTERN, SPLIT FUNCTION & GFR

PROVOCATIVE DYNAMIC RENAL SCINTIGRAPHY

ISOTOPE: 99mTc-DTPA DOSE: 5mCi

	LEFT KIDNEY	RIGHT KIDNEY
PERFUSION PHASE		
VISUALISATION	poor	poor
RELATIVE PERFUSION	poor	poor
UPTAKE PHASE		
SIZE	shrunk	shrunk
SHAPE	normal	normal
POSITION	normal	normal
CONCENTRATION	poor	poor
CORTICALMARGIN DELINEATION	poorly- defined	poorly -defined
SPLIT FUNCTION.	52.0%	48.0%
EXCRETORY PHASE		
COLLECTING SYSTEM	normal	normal
DRAINAGE PATTERN	normal	normal
DIURETIC RESPONSE	normal	normal
URETER	normal	normal
GFR	4.4ml/min	4.1ml/min

CONT ON PG 2

BASEMENT HIIMS HOSPITAL, DEVI NAGAR, DELHI HIGHWAY CHANDIGARH, DERA BASSI.
MOBILE : 99888 62091

INDIAN INSTITUTE OF NUCLEAR MEDICINE & SCANNING

(A Unit of Indian Institute Of Nuclear Medicine & Scanning, Sector 69, Mohali)

NOT FOR MEDICO LEGAL PURPOSES

Dr. AWADHESH PANDEY
Chief Consultant & Head
Ex. - Faculty N.I.M.S. Hyderabad.

Page 2

IMPRESSION:- 99m DTPA RENOGRAM REVEALS:

LEFT KIDNEY i) SHRUNK IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION.
iii) THERE IS NORMAL DRAINAGE SEEN.

RIGHT KIDNEY i) SHRUNK IN SIZE
ii) SEVERELY COMPROMISED CORTICAL FUNCTION
iii) THERE IS NORMAL DRAINAGE SEEN.

- GLOBAL GFR=8.5ml/min/ 1.96sq m BSA
(Normal range for BSA 75.0ml/min ± 17ml/min)

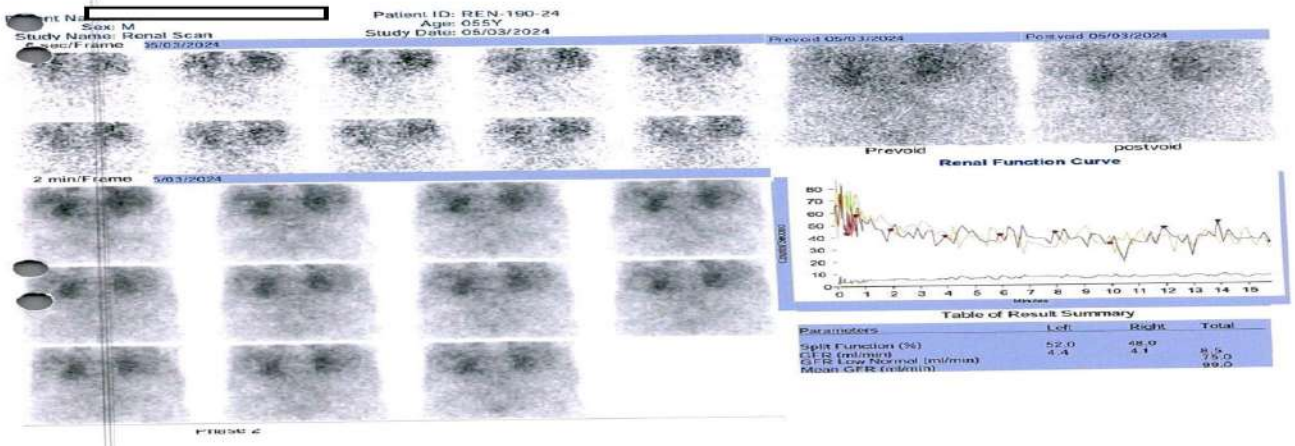
-SPLIT FUNCTION:. LEFT KIDNEY=52.0%
RIGHT KIDNEY=48.0%

- REPEAT DTPA SCAN AFTER 3 MONTHS (05/06/2024) TO SEE PROGRESSION OR REGRESSION.

Dr. AWADHESH PANDEY
Sr. CONSULTANT & HEAD

BASEMENT HIIMS HOSPITAL, DEVI NAGAR, DELHI HIGHWAY CHANDIGARH, DERA BASSI.
MOBILE : 99888 62091

[redacted] 55Y/M ID: REN-190-24 SEX: M
STUDY: Renal Scan STUDY DATE: 05/03/2024



Prakriti- The International Multidisciplinary Research JournalYear 2025, Volume-2, Issue-2 (Jul-Dec)

Ayurvedic Approach to Diabetes Mellitus Associated With Pancreatitis: A Case Study

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2. Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India
3. Senior Research officer, BAMS, PGDIP, CICR, CAIM, CMW, Jeena Sikho Lifecare Limited, India
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KEYWORDS

Diabetes associated with pancreatitis, *Madhumeha*, *Agni Dushti*, *Panchakarma*, *Basti*, *Nasyam*, *Shiropichu*

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ABSTRACT

Diabetes associated with pancreatitis is an increasingly recognized health concern, primarily arising secondary to pancreatic diseases, with chronic pancreatitis being the most prevalent cause. In *Ayurvedic* terms, diabetes mellitus (*Prameha*) is associated with *Kapha* and *Pitta* vitiation, whereas pancreatitis is linked to aggravated *Pitta* disrupting *Agni* (digestive fire) and leading to *Ama* accumulation. *Ayurvedic* management integrates dietary modifications, *Ayurvedic* formulations, and *Panchakarma* therapies to restore metabolic balance and enhance pancreatic function. This study presents the case of a 29-year-old male diagnosed with Diabetes Mellitus associated with pancreatitis, who sought treatment at Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab. He underwent *Panchakarma* therapies, including *Awagah Swedan*, *Madhu Tailik Basti*, *Shiropichu* with *Brahmi* oil, and *Nasyam* with *Anutaila*, alongside *Ayurvedic* formulations. Following *Ayurvedic* treatment, the patient experienced significant symptom relief, improved glycemic control, and better laboratory parameters, including reduced HbA1C levels and improved liver enzyme markers. These findings highlight the potential of *Ayurvedic* interventions in managing diabetes associated with pancreatitis. However, further clinical trials are necessary to validate these outcomes and establish standardized treatment protocols for enhanced patient care.

INTRODUCTION

Diabetes associated with pancreatitis is increasingly recognized as a significant health concern which arises secondary to pancreatic diseases [1]. This type of diabetes is linked to both acute and chronic pancreatitis, with chronic pancreatitis being the most common cause. The relationship between pancreatitis and diabetes is complex, involving both the endocrine and exocrine functions of the pancreas [2]. The incidence of diabetes following acute pancreatitis (AP)

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varies, with studies indicating that up to 40% of patients may develop diabetes within five years of an AP episode [3]. The risk factors for developing diabetes post-pancreatitis include the severity of pancreatitis, recurrent attacks, and pancreatic necrosis, among others [4].

The relationship between diabetes mellitus (DM) and pancreatitis has been extensively investigated, revealing a bidirectional association [5]. Individuals with type 2 diabetes have been found to have an increased risk of developing acute pancreatitis [6]. A study published in Diabetes Care reported a nearly threefold increased risk of acute pancreatitis in patients with type 2 diabetes. Similarly, a meta-analysis indicated that type 2 diabetes is associated with a 74% increased risk of acute pancreatitis and a 39% increased risk of pancreatitis overall [8,9]. Pancreatitis can lead to the development of diabetes, particularly T2DM, also known as pancreatogenic diabetes [10]. The severity and outcomes of acute pancreatitis may also be influenced by the presence of diabetes. A study found that diabetic patients with acute pancreatitis had a 58% higher risk of intensive care unit admission and a 30% higher risk of local complications compared to non-diabetic patients. These findings underscore the complex interplay between diabetes and pancreatitis, emphasizing the need for vigilant monitoring and tailored management strategies for patients affected by both conditions [11]. Studies suggest that approximately 20% of patients develop diabetes within five years of an AP episode, increasing to 40% over time [3,7]. Impaired synthesis and secretion of insulin and glucagon due to pancreatic damage contribute to unstable glycemic control [11]. While the association between pancreatitis and diabetes is well-documented, the exact pathogenesis remains poorly understood, necessitating further research. Understanding the unique characteristics of pancreatic diabetes compared to other types is essential for improving patient care and quality of life [12].

In *Ayurveda*, the relationship between diabetes and pancreatitis is understood through the lens of *doshic* imbalances and the disease's pathogenesis [13]. Diabetes mellitus (*Prameha*) is primarily associated with the vitiation of *Kapha* and *Pitta doshas*, leading to metabolic disturbances, while pancreatitis, characterized by pancreatic inflammation, is viewed as a disorder involving aggravated *Pitta dosha*, which governs digestion and metabolism [14]. When *Pitta* becomes imbalanced, it disrupts *Agni* (digestive fire), resulting in the accumulation of *Ama* (toxins) and subsequent inflammation of pancreatic tissue. The *Samprapti Ghataka* [15] is mentioned in **Table 1**.

Table 1. The *Samprapti Ghataka*

Samprapti Ghataka	**Details**
Dosha	*Kapha -Pitta* with later *Vata* involvement
***Dushya* (Affected Tissues)**	*Rasa , Rakta , Meda, Udakavah, Mutravah Srotas*
***Agni* (Digestive Fire)**	*Jatharagni, Dhatvagni Mandya* (Impaired metabolism)
***Srotas* (Channels)**	*Medovah, Mutravah, Agnivah, Udakavah Srotas*
***Sroto Dushti* (Channel Affliction)**	*Sanga (Obstruction), Vimarg-gamana (Abnormal flow)*
***Udbhava Sthana* (Origin Site)**	*Pakvashaya*
***Vyakta Sthana* (Manifestation Site)**	*Agnashaya, Rasa-Rakta Medo Dhatu*
***Roga Marga* (Pathway)**	*Abhyantara* (internal pathway), affecting internal organs

Ayurvedic management of diabetes associated with pancreatitis focuses on balancing aggravated *Pitta* and *Kapha doshas* through dietary modifications, *Ayurvedic* treatment, and lifestyle adjustments [16]. A *Pitta*-pacifying diet, including cooling and non-spicy foods, helps reduce pancreatic inflammation, while a *Kapha*-pacifying diet, emphasizing low glycemic index foods like whole grains and bitter melon, aids in glycemic control [17]. *Ayurvedic* herbs such as turmeric, licorice root, bitter melon, and fenugreek have anti-inflammatory and hypoglycemic effects beneficial for both pancreatitis and diabetes [18].

Ayurveda emphasizes the importance of daily routines (*Dinacharya*) and seasonal regimens (*Ritucharya*) to maintain *dosha* balance. Regular physical activity, stress management techniques like yoga and meditation, and adequate sleep are integral components of managing diabetes associated with pancreatitis. Detoxification therapies (*Panchakarma*) such as *Virechana* (therapeutic purgation) and *Basti* (medicated enema) are recommended to eliminate toxins and restore digestive balance [19]. Integrating *Ayurvedic* treatments with conventional medical approaches can provide a holistic strategy for managing this complex condition. By adopting these *Ayurvedic* practices, individuals may achieve better glycemic control and overall well-being. This study aims to assess the impact of *Ayurvedic* interventions for Diabetes Mellitus associated with pancreatitis in a 29-year-old male patient.

CASE REPORT

A 29-year-old male visited Jeena Sikho Lifecare Limited Hospital, Derabassi, Punjab, on January 10, 2025. He had a history of Diabetes Mellitus associated with pancreatitis since childhood. A comprehensive medical history, family history, physical examination and diagnostic evaluations were all part of the methodical and thorough examination. He had Diabetes Mellitus since last 4 to 5 years and no addiction related to the condition. The conditions presented were hair loss and general body weakness. The *Ashta-sthana pariksha* during the visits are mentioned in **Table 2.** The basic vitals during the treatment period is mentioned in **Table 3.** He was admitted for IPD treatment for 10 days and later on discharged during January 19, 2025. The patient underwent *Panchakarma* therapies *including Awagah swedan, Madhu tailik basti, Shiropichu* with *Brahmi* oil and *Nasyam* with *Anutaila*. The diabetes chart during the IPD is mentioned in **Table 4.** The laboratory investigations during the treatment period is mentioned in **Table 5.**

Table 2. The *Ashta-sthana pariksha* during the visits

Parameter	Findings		
Date	10-01-2025	19-01-2025	21-03-2025
Naadi	*Vataj pittaj*	*Vataj Pittaj*	*Vataj Pittaj*
Mala	*Malsangh*	*Nirama*	*Avikrit*
Mutra	*Prakrit*	*Saam*	*Prakrit*
Jiwha	*Lipta*	*Lipta*	*Lipta*
Shabdha	*Spashta*	*Spashta*	*Spashta*
Sparsh	*Sama*	*Samsheetoshma*	*Samasheetoshma*
Drika	*Prakrit*	*Prakrit*	*Prakrit*
Akriti	*Madhyam*	*Madhyam*	*Madhyam*

Table 3 The basic vitals during the treatment period

Parameter	Findings		
Date	10-01-2025	19-01-2025	21-03-2025
Blood Pressure	120/75 mmHg	110/70 mmHg	110/80 mmHg
Weight	59 Kg	59 Kg	60 Kg
Pulse	86/ min	-	62/ min

Table 4 The diabetes chart during the treatment period

Date	Time	Sugar (mg/dL)
10-01-2025	-	RBS-206 mg/dL
11-01-2025	5:00 AM	FBS-110 mg/dL
	1:00 PM	RBS-138 mg/dL
	4:00 PM	RBS-206 mg/dL
12-01-2025	5:30 AM	FBS-111 mg/dL
	5:00 PM	RBS-112 mg/dL
	8:00 PM	RBS-234 mg/dL
	9:00 PM	RBS-271 mg/dL
13-01-2025	5:00 AM	FBS-145 mg/dL
	1:00 PM	RBS-170 mg/dL
	5:00 PM	RBS-220 mg/dL
	8:00 PM	RBS-209 mg/dL
14-01-2025	5:00 AM	FBS-131 mg/dL
	1:00 PM	RBS-240 mg/dL
	8:40 PM	RBS-146 mg/dL
15-01-2025	5:30 AM	FBS-143 mg/dL
	1:00 PM	RBS-86 mg/dL
	4:00 PM	RBS-171 mg/dL
	8:30 PM	RBS-220 mg/dL
16-01-2025	5:30 AM	FBS-111 mg/dL
	1:00 PM	RBS-172 mg/dL
	4:00 PM	RBS-160 mg/dL
	8:30 PM	RBS-200 mg/dL
17-01-2025	5:00 AM	FBS-210 mg/dL
	8:00 PM	RBS-203 mg/dL
18-01-2025	9:40 AM	RBS-176 mg/dL
	3:30 PM	RBS-200 mg/dL
	8:00 PM	RBS-151 mg/dL
19-01-2025	5:30 AM	FBS-92 mg/dL

Table 5 The laboratory investigations during the treatment period

Parameter	10-01-2025	17-01-2025	19-03-2025
D3 Hydroxy Vit D	-	22.50 ng/ml	93.00 ng/ml
C-Peptide Fasting	1.68 ng/ml	-	0.78 ng/ml
HbA1C	8.60%	-	6.70%
SGOT	28.20 IU/L	28.81 IU/L	-
SGPT	44.27 IU/L	40.36 IU/L	-
ALP	173.41 IU/L	114.35 IU/L	-

Treatment Plan

I. Diet Plan:

Dietary Guidelines from Jeena Sikho Lifecare Limited Hospital:

The patient adhered to a meticulously designed Disciplined and Intelligent Person (DIP) Diet to complement the *Ayurvedic* treatments for Diabetes Mellitus associated with pancreatitis [20].

Treatment Plan for Diabetes Mellitus associated with pancreatitis Management

I. Dietary Recommendations

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

Table 6. Key recommendations, Meal Timing & Structure:

Timings	Meal structure
Early morning (5:30 AM)	Herbal tea and curry leaves
Breakfast (09 AM - 10 AM)	4 types of Fruits [Body weight (in Kg) x 10 = Grams of Fruits] and Fermented millets + Red juice
Lunch (12:30 PM to 02:00 PM)	**Plate 1**: 4 types of raw vgetables [Body weight (in Kg) x 5 = Grams of Vegetables] **Plate 2**: Millet recipe + Alkaline or living water
Evening (4 PM)	Green juice and soaked almonds
Dinner (06:15 PM to 7:30 PM)	**Plate 1**: 4 types of raw vgetables [Body weight (in Kg) x 5 = Grams of Vegetables] **Plate 2**: Cooked Standard Meal
Additional Dietary Components	Soaked nut and sprouts (calculated based on body weight) and Fruit juices (Natural sugar with no added sugar)

II Fig 1. Lifestyle Recommendations

III. *Panchakarma* procedures administered to patients

1. Awagah Swedan

Procedure:

- 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.

Physiology and mode of action

- Immersion in warm water causes vasodilation, increasing blood flow to the skin and stimulating sweating (*Swedan*), which helps to eliminate toxins and metabolic waste, while improving oxygen and nutrient delivery to tissues.
- The heat opens skin pores, allowing better absorption of *Ayurvedic* components that reduce inflammation, fight oxidative stress and promote healing by modulating pathways like NF-κB.
- The warmth activates the parasympathetic nervous system, lowering cortisol levels, relaxing muscles and enhancing vagal tone to reduce stress and promote a sense of calm and overall body balance.
- Improved circulation and sweating stimulate the lymphatic system, aiding detoxification and supporting immune function to eliminate accumulated toxins and enhance overall health. [21]

2. Madhutailik Basti

Procedure:

- In order to clear the digestive tract and get rid of toxins, the therapy started with preemptive measures such a mild purgative (*Virechana*) and/or emetics (*Vamana*).
- For best absorption and therapeutic efficacy, a medicated enema with a mixture of honey (*Madhu*) and medicated oil (*Taila*) is given via the rectal channel in a regulated amount, temperature, and pressure.
- The patient is constantly watched for any negative reactions during the course of treatment.

Physiology and Mode of action:

- *Madhutailika Basti* uses honey and medicated oil to stimulate prostaglandin synthesis, relaxing smooth muscles and enhancing absorption.
- It increases lymphatic flow, helping to reduce inflammation and promoting detoxification.
- The medicated oil inhibits pro-inflammatory cytokines and enzymes, reducing inflammation and swelling.
- Honey contains antioxidants that neutralize free radicals, reducing oxidative stress.
- The combination of oil and honey may influence gut microbiota, improving neurotransmitter balance and stress response, enhancing mental clarity and mood.
- Nitric oxide production relaxes smooth muscles, improving blood circulation and enhancing the therapy's therapeutic effects.
- *Madhutailika Basti* helps balance the *Vata, Pitta*, and *Kapha doshas*, promoting overall *dosha* harmony, removing accumulated toxins, and strengthening the digestive fire [22].

3. Shiropichu with *Brahmi* oil

Procedure

- *Brahmi* oil was indirectly heated to lukewarm temperature.
- The warmed *Brahmi* oil was gently applied to the forehead and scalp. A cloth pad soaked in the oil was placed on the forehead, covering the *Ajna Chakra* and crown, and left in place for 15-30 minutes.
- The patient was encouraged to remain still, focus on deep breathing, and enjoy the calming effects of the oil.

Physiology and Mode of action:

- The lipophilic nature of *Brahmi* oil allows its active compounds, like bacosides, to be absorbed through the scalp, directly influencing brain function and enhancing cognitive abilities.
- Bacosides improve neurotransmission by increasing the release of acetylcholine, boosting memory, focus, and mental clarity.
- *Brahmi* oil's antioxidant properties help neutralize reactive oxygen species (ROS) in the brain, preventing neuronal damage and supporting brain health.
- *Brahmi* oil reduces cortisol levels, alleviating stress, while its anti-inflammatory properties help protect against neu-

roinflammation, supporting cognitive function.

- The warm oil improves blood flow to the brain, enhancing the delivery of oxygen and nutrients, promoting overall brain rejuvenation and optimal function [23,24].

5. *Nasyam* with *Anutaila*

Procedure

- *Anutaila* was warmed to a lukewarm temperature.
- The patient lay down with the head tilted back, and 2–6 drops of lukewarm *Anutaila* were instilled into each nostril.
- Excess oil/mucus was expelled, and the patient avoided exposure to cold.
- The patient was advised to avoid cold exposure.

Physiology and Mode of action

- *Murivenna*, with its *Snigdha* and *Ushna Guna*, pacifies aggravated *Vata* in *Janu Sandhi*, reducing *Rukshata*, *Stambha*, and *Shoola*, while enhancing joint lubrication and restoring synovial balance.
- The *Ayurvedic* herbal ingredients, possessing *Shothahara* and *Vranaropaka* qualities, help in reducing *Shotha*, repairing *Dhatu Kshaya*, and promoting Sandhi *Dhatu Poshana*.
- The *Swedana* induced by warm oil enhances *Rakta Sanchara*, promoting *Mamsa Dhatu Balya*, reducing *Kshaya*, and relaxing knee muscles.
- The deep penetration of the oil through *Sukshma Guna* alleviates *Vedana* (pain), enhances *Sandhi Gati*, and facilitates *Prakrita Vat Gati*, improving knee function and overall joint health [25,26].

Medicinal Interventions

The *Ayurvedic* treatment employed in this case included Divya Shakti Powder, DM Capsule, Prameh Rog Har, Carcinex Capsule, Madhumeh Nashak Syrup, Liv DS capsule, Vasant Kusumakar Ras, Dhatu Poshak Capsule, Dr. Madhumeh, Arogya Vati tablet and S*ama* vati. The *Ayurvedic* medications advised during the treatment period are described in **Table 7**. The details of the medicines advised during the treatment period is in **Table 8.**

Table 7 The *Ayurvedic* medications advised during the treatment period

Date	Medicines	Dosage with *Anupana*
10-01-2025 to 19-01-2025 (IPD)	Divya Shakti Powder	Half a teaspoon HS (*Nishkala* with *koshna jala*)
	DM Capsule	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Prameh Har Powder	A teaspoon BD (*Adhobhakta* with *koshna jala*)
	Carcinex Capsule	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Madhumeh Nashak Syrup	15 ml BD (*Adhobhakta* with *sama matra koshna jala)*
	Liv-DS Capsules	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Vasant Kusumakar Ras Tablet	1 TAB OD (*Adhobhakta* with *koshna jala*)
19-01-2025 (Discharge)	Prameh Har Powder	A teaspoon TDS (*Adhobhakta* with *koshna jala*)
	DM Capsule	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Vasant Kusumakar Ras Tablet	1 TAB OD (*Adhobhakta* with *koshna jala*)
	Divya Shakti Powder	Half a teaspoon HS (*Nishkala* with *koshna jala*)
	Dhatu Poshak	1 CAP BD (*Adhobhakta* with *koshna jala*)
	Dr. Madhumeh	1 TAB BD (*Adhobhakta* with *koshna jala*)
21-03-2025	Dr. Madhumeh	1 TAB BD (*Adhobhakta* with *koshna jala*)
	Prameh Har Powder	Half a teaspoon BD (*Adhobhakta* with *koshna jala*)
	Arogya Vati	2 TAB BD (*Adhobhakta* with *koshna jala*)
	Sama Vati	1 CAP BD (*Adhobhakta* with *koshna jala*)

Table 8. The details of the medicines advised during the treatment period

Medicine name	Ingredients	Therapeutic Effects
Divya Shakti Powder	**Trikatu, Triphala, Nagarmotha** (*Cyperus rotundus*), **Vaya Vidang** (*Embelia ribes*), **Chhoti Elaichi** (*Elettaria cardamomum*), **Tej Patta** (*Cinnamomum tamala*), **Laung** (*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** (*Ferula assafoetida*), **Kachnar** (*Bauhinia variegata*), **Ajmod** (*Trachyspermum ammi*), **Sazzikhar, Pushkarmool** (*Inula racemosa*), **Mishri** (*Saccharum officinarum*).	Deepan. pachana and detoxification
DM Capsule	**Amba Haldi** (*Curcuma amada*), **Giloy** (*Tinospora cordifolia*), **Safed Musli** (*Chlorophytum borivilianum*), **Methi** (*Trigonella foenum-graecum*), **Neem** (*Azadirachta indica*), **Karela** (*Momordica charantia*), **Jamun** (*Syzygium cumini*), **Bilva Patra** (*Aegle marmelos*), **Gudmar** (*Gymnema sylvestre*), **Shuddh Shilajeet**.	Beneficial for managing blood sugar levels and increases metabolism and energy levels
Prameh Rog Har	**Kutaki** (*Picrorhiza kurroa*), **Chiraita** (*Swertia chirata*), **Neem** (*Azadirachta indica*), **Karela** (*Momordica charantia*), **Rasonth** (*Berberis aristata*), **Imli Beej** (*Tamarindus indica*), **Kala Namak**, **Giloy** (*Tinospora cordifolia*), **Sonth** (*Zingiber officinale*), **Babool Chhaal** (*Vachellia nilotica*), **Sarpgandha** (*Rauvolfia serpentina*), **Trivang Bhasm**, **Yashad Bhasm**, **Revend Chinni** (*Rheum emodi*), **Sodhit Guggulu** (*Commiphora mukul*), **Methi** (*Trigonella foenum-graecum*), **Jamun** (*Syzygium cumini*), **Babool Fruit** (*Vachellia nilotica*), **Karanj** (*Millettia pinnata*), **Shilajeet**, **Haldi** (*Curcuma longa*), **Harad** (*Terminalia chebula*), **Inderjaun** (*Holarrhena antidysenterica*), **Vanshlochan** (*Bambusa arundinacea*), **Bahera** (*Terminalia bellirica*), **Amla** (*Phyllanthus emblica*), **White Musli** (*Chlorophytum borivilianum*), **Gurmar** (*Gymnema sylvestre*).	Helps in lowering blood sugar levels
Carcinex Capsule	**Guduchi powder** (*Tinospora cordifolia*), **Kirattikt powder** (*Andrographis paniculata*), **Maricha powder** (*Piper nigrum*), **Paneer Dodi powder** (*Hedychium spicatum*), **Amlaki rasayan powder** (*Phyllanthus emblica*), **Tamra bhasm powder**, **Swarnamakshik Bhasm**, **Kalmegha** (*Andrographis paniculata*), **Neem powder** (*Azadirachta indica*), **Laung powder** (*Syzygium aromaticum*), **Abhrak Bhasm powder**	Used for Arbud/Granthi, LRTI, cell rejuvenation and boosts immune system
Madhumeh Nashak Syrup	**Karela** *(Momordica charantia)* , **Jamun** (*Syzygium cumini)* , **Neem** *(Azadirachta indica)* , **Chirata** *(Swertia chirata)* , **Gurmar** *(Gymnema sylvestre)* , **Kutaj** (*Holarrhena antidysenterica)*	Helpe in managing blood sugar levels
Liv DS capsule	**Bhumiamla Ext.** (*Barleria prionitis*), **Kasani Ext.** (*Cichorium intybus*), **Himsra** (*Leptadenia reticulata*), **Punarnava Ext.** (*Boerhavia diffusa*), **Guduchi Ext.** (*Tinospora cordifolia*), **Kakamachi** (*Solanum nigrum*), **Arjun** (*Terminalia arjuna*), **Biranjasipha** (*Berberis aristata*), **Kasamarda Jhavuka** (*Solanum xanthocarpum*), **Vidanga** (*Embelia ribes*), **Chitraka** (*Plumbago zeylanica*), **Kutaki** (*Picrorhiza kurroa*), **Haritaki** (*Terminalia chebula*), **Bhringraj** (*Eclipta prostrata*).	Used for liver disease, GIT, GERD and loss of appetite
Vasant Kusumakar Ras	**Swarna bhasm, Rajath bhasm, Vanch bhasm, Naga bhasm, Loh bhasm, Abhrak bhasm, Praval bhasm and Mukta bhasm**	Improves heart health, Balances blood sugar, and Manages stress
Dhatu Poshak Capsule	**Chuna Shuddh, Shankh Bhasm, Mukta Shukti, Prawal Pishti, Kapardika and Loh**	Boosts immunity and cell rejuvenation
Dr. Madhumeh	**Gudmar** (*Gymnema sylvestre*), **Methi** (*Trigonella foenum-graecum*), **Giloy** (*Tinospora cordifolia*), **Neem** (*Azadirachta indica*), **Haritaki** (*Terminalia chebula*), **Karela** (*Momordica charantia*), **Chiraita** (*Swertia chirayita*), **Jamun** (*Syzygium cumini*), **Vijaysar** (*Pterocarpus marsupium*), **Daruhaldi** (*Berberis aristata*), **Karanj** (*Pongamia pinnata*)	Helps in lowering blood sugar levels
Arogya Vati tablet	**Kajan** (*Carthamus tinctorius*), **Loh Bhasm** (*Ferrum*), **Abhrak Bhasm** (*Mica*), **Tamra Bhasm** (*Copper*), **Amalaki** (*Emblica officinalis*), **Vibhitak** (*Terminalia bellirica*), **Haritaki** (*Terminalia chebula*), **Chitrak** (*Plumbago zeylanica*), **Katuka** (*Picrorhiza kurroa*), **Nimb Patra** (*Azadirachta indica*)	Boosts immunity and helps in cell rejuvenation
Sama vati	**Gokshur** (*Tribulus terrestris*), **Kaunch** (*Mucuna pruriens*), **Shatawar** (*Asparagus racemosus*), **Ashwagandha** (*Withania somnifera*), **Vidarikand** (*Pueraria tuberosa*), **Beej Band Lal** (*Sida cordifolia*), **Akarkara** (*Anacyclus pyrethrum*), **Talmakhana** (*Hygrophila auriculata*), **Musli** (*Chlorophytum borivilianum*), **Aawla** (*Emblica officinalis*), **Sonth** (*Zingiber officinale*), **Jaiphal** (*Myristica fragrans*), **Swarn Makshik** (*Chalcopyrite*), **Shilajeet Shuddh** (*Asphaltum punjabianum*).	Assist the regular function of the cardiovascular system, enhance digestion and improves immunity

RESULT

After 10 days of IPD he has experienced noteworthy development in symptoms which was further reduced after the follow up, which denotes the interventions used in the study are effective against Diabetes Mellitus associated with pancreatitis**.** The patient experienced relief from weakness and hair loss, which shows that the *Ayurvedic* interventions used in the case study are effective for Diabetes Mellitus associated with pancreatitis. The pain score reduced from 2/10 to 1/10. The conditions before and after treatment is mentioned in **Table 9** & laboratory findings are mentioned in **Table 5.**

Table 9. Conditions of the patient before and after treatment

Before treatment	After Treatment
Hair loss	Reduced
General weakness	Relief

Implications for Future Research

This study examined a single patient diagnosed with Diabetes Mellitus associated with pancreatitis, showcasing significant improvements following *Ayurvedic* treatment. However, given the single-case nature of this study, its findings may have limited generalizability. Further research is crucial to establish the efficacy, safety, and consistency of these treatments. Standardized, evidence-based treatment protocols will be essential for integrating *Ayurvedic* interventions into conventional healthcare.

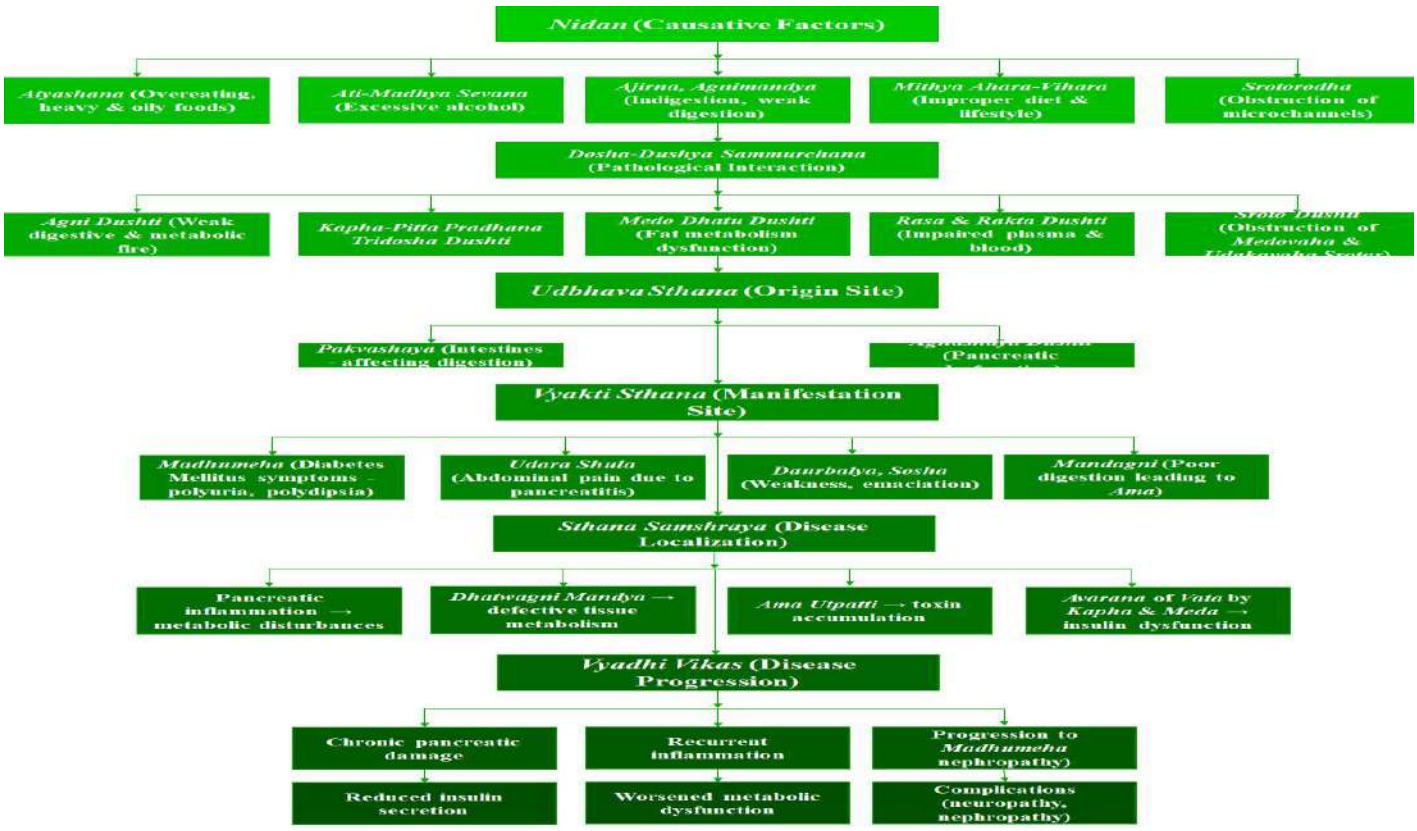
DISCUSSION

Ayurvedic treatment for Diabetes Mellitus associated with pancreatitis offers a viable substitute for conventional medical methods. This case study describes the application of several *Ayurvedic* treatments to a 29-year-old male who had been diagnosed Diabetes Mellitus associated with pancreatitis. There was a reduction in weakness and hair loss. The *samprapti* [27,28,29,30] for this case study is depicted in **Fig 2**.

"गुरुं स्नग्धिं अम्ललवणातमिात्रं सदा श्नतः

नवभोजनं च पानं च नदि्राभ्यासं सुखासनं च॥७८॥" [31]

Fig 2 The *samprapti* for this case study



During his 10 days of IPD treatment, he underwent *Ayurvedic* therapy regimen provided by Jeena Sikho Lifecare Limited Hospital, Derabassi. **The following medicines help in breaking this pathological cycle:**

Diabetes mellitus associated with pancreatitis is primarily a *Pitta-Kapha* predominant disorder affecting *Agni*, *Meda Dhatu,* and *Ojas*, leading to impaired glucose metabolism, pancreatic inflammation, and insulin resistance. The *Samprapti* involves causative factors such as excess consumption of heavy, oily, spicy, and salty foods, alcohol, stress, and a sedentary lifestyle, which aggravate *Pitta* and *Kapha*, leading to *Agnimandya*, *Ama*, and *Medovaha Srotodushti*. The affected tissues include *Rasa*, *Rakta*, *Meda*, *Majja*, and *Ojas*, with dysfunction in *Jatharagni*, *Bhutagni*, and *Dhatvagni*, leading to poor carbohydrate metabolism and insulin secretion issues. The *Vyadhi Sthana* primarily includes the pancreas (*Agnashaya*), liver (*Yakrit*), and digestive system, making the disease chronic (*Akshepaka*) and difficult to reverse but manageable (*Yapya*).

To address this pathogenesis, *Panchakarma* therapies play a crucial role in *Samprapti Vighatana*. *Awagah Swedan* (Up to navel) improves peripheral circulation, reduces pancreatic inflammation, and alleviates insulin resistance by detoxifying *Medovaha* and *Annavaha Srotas. Madhu Tailik Basti* helps in regulating *Apana Vayu*, improving digestion and insulin action, while also reducing oxidative stress and systemic inflammation. *Shiropichu* with *Brahmi* oil strengthens the HPA axis, modulates neuroendocrine functions, and prevents diabetic neuropathy by reducing stress-induced hyperglycemia. *Nasyam* with *Anutaila* further supports hypothalamic regulation, improving endocrine balance, insulin signaling, and microvascular function, thus preventing diabetic complications. By integrating these *Panchakarma* therapies, the expected outcomes include reduced pancreatic inflammation, improved insulin secretion and glucose metabolism, lower oxidative stress, enhanced nerve function, and better microcirculation, ultimately preventing complications such as diabetic neuropathy and retinopathy. This holistic approach not only targets the root cause of diabetes associated with pancreatitis but also strengthens metabolic and endocrine regulation, promoting overall well-being.

Ayurvedic treatment focuses on pacifying aggravated *Doshas*, detoxifying *Srotas*, strengthening *Agni*, and improving pancreatic function through specific formulations. Divya Shakti Powder and Liv DS Capsule restore Agni, ensuring proper digestion and preventing toxin accumulation. DM Capsule, Madhumeh Nashak Syrup, and Prameh Rog Har regulate glucose metabolism and insulin sensitivity, reducing blood sugar fluctuations. To control *Pitta*-induced pancreatic inflammation and oxidative stress, Carcinex Capsule and Sama Vati protect beta-cell function, preventing complications like diabetic neuropathy and retinopathy. Prameh Rog Har and Liv DS Capsule detoxify *Medovaha* and *Mutravaha Srotas*, supporting liver function and preventing excessive *Kapha-Meda* accumulation. Vasant Kusumakar Ras and Dhatu Poshak Capsule serve as *Rasayana*, aiding in tissue repair, immune modulation, and microvascular protection, while Arogya Vati Tablet enhances immune resilience to prevent infections. This holistic approach helps restore digestive fire, regulate blood sugar, reduce pancreatic inflammation, enhance liver detoxification, and prevent diabetic complications, ensuring long-term metabolic stability and organ protection.

CONCLUSION

This case study assessing the *Ayurvedic* management of Diabetes Mellitus associated with pancreatitis presents the following key findings:

Symptoms: Initially, the patient experienced general weakness and hair loss. Following *Ayurvedic* treatment, there was significant relief, with the patient reporting reduced weakness and no new symptoms, indicating substantial improvement in his condition.

Vitals: A marked reduction in hair loss and weakness were observed, likely due to positive lifestyle and dietary modifications.

Laboratory Investigations: The test reports showed increase in 25-hydroxy vitamin D from 22.50 ng/ml to 93.00 ng/ml. The HbA1C reduced from 8.60% to 6.70 %. The SGPT and ALP reduced from 44.27 IU/L to 40.36 IU/L and 173.41 U/L to 114.35 IU/L, respectively.

Ayurvedic treatments showed positive results, evidenced by symptom relief, better laboratory markers, and stable vital signs. These therapies help by correcting imbalances and restoring harmony in the body, contributing to overall health improvement. However, additional clinical trials are necessary to confirm these outcomes and develop standardized treatment guidelines for managing Diabetes Mellitus associated with pancreatitis.

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