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Dear Sir/Madam,

In reference to captioned subject, we would like to update National Stock Exchange of India Limited (the "NSE") that following Research Articles, Case Report prepared by Acharya Manish Ji (Managing Director, Meditation Guru, Jeena Sikho Lifecare Limited), Ms. Gitika Chaudhary (Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ay.), Jeena Sikho Lifecare Limited), Ms. Richa (Research Officer, BAMS, PGDIP, Jeena Sikho Lifecare Limited, Derabassi), Mr. Suyash Pratap Singh (Medical Superintendent, BAMS, PGDIP, DNYT, CCMC, Jeena Sikho Lifecare Limited, Derabassi), Mr. Manjeet Singh (Consultant, BAMS, PGDIP, CCDN, Jeena Sikho Lifecare Limited, Derabassi).

| S. No. | Type | Name |
|---|---|---|
| 1. | Research Article | Evaluating the Efficacy of Ayurvedic Treatments in Stage V Chronic Kidney Disease: A Case Report |
| 2. | Research Article | Evaluating the Impact of Ayurvedic Interventions on Renal Health in Chronic Kidney Disease: A Case Study Analysis |
| 3. | Case Report | Integrative Management of Chronic Kidney Disease: An Ayurvedic Approach |

Further, Research Articles, Case Report is attached as **Annexure A, B and C.**

This is for your kind information and record purpose.

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**For Jeena Sikho Lifecare Limited**

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**Manish Grover**
**Managing Director**
**DIN: 07557886**
**Place: Zirakpur, Punjab**
**Date: 20.02.2025**

Research Article

Advances in Applied Biological Research Year 2024, Volume-1, Issue-2 ( (July - December))

# Evaluating the Efficacy of Ayurvedic Treatments in Stage V Chronic Kidney Disease: A Case Report

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***ABSTRACT***

Chronic kidney disease (CKD) is a progressive condition characterized by a gradual loss of kidney function over time, often leading to end-stage renal disease if not managed effectively. Stage V CKD, also known as end-stage renal disease, typically requires dialysis or kidney transplantation. However, there is growing interest in exploring alternative and complementary therapies, such as Ayurveda, for the management of CKD.

This case study focuses on a 32-year-old male diagnosed with Stage V CKD, who presented with symptoms including vertigo, muscle cramps, itching, and weakness. Over the course of treatment, these symptoms significantly improved. The patient's key laboratory parameters, such as serum creatinine, urea, and serum uric acid, also showed marked improvement, trending toward normal levels at the time of discharge. The treatment regimen included Ayurvedic oral medications like Tab. Asthipurak, Tab. Chander Vati, Renal Support syrup, and GFR powder, complemented by Panchakarma procedures such as Awgaha Swedan, Matra Basti, Kashaya Basti, and Shiroabhyanga.

The results of this case indicate that Ayurvedic interventions can lead to significant improvements in both biochemical markers and clinical symptoms in patients with Stage V CKD. These findings suggest that Ayurveda may offer a promising complementary or alternative approach to conventional CKD treatment, highlighting the need for further research in this area.

## INTRODUCTION

Chronic kidney disease (CKD) is increasingly becoming a major global concern among non-communicable diseases. It reduces life expectancy, diminishes the number of productive years an individual can enjoy, and substantially raises healthcare costs, thereby placing a significant financial burden on society. Consequently, both individuals and communities suffer adverse effects[1]. Diseases of Basti are considered in Madhyamrogmarg[2], the treatment of which is difficult compared to other rogmarg.

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CKD is defined by impaired kidney function lasting longer than three months. It is characterized by a glomerular filtration rate (GFR) of less than 60 mL/min per 1.73 $m^2$ and elevated biomarkers, such as albuminuria, abnormalities in urine sediment, electrolyte imbalances, histological changes, structural abnormalities, and a history of kidney transplants (Kidney Disease: Improving Global Outcomes [KDIGO] 2013 Clinical Practice Guideline)[3]. In explaining Mutrakshay, various symptoms are listed, including difficulty in micturition, discoloration of urine, and thirst with a shrunken face[4].

# Case Report

A 32-year-old male with a recent history of hypertension over the past 4–5 months was diagnosed with Stage V Chronic Kidney Disease (CKD). On 5th May 2024, he presented to Jeena Sikho Lifecare Ltd. Hospital, Derabassi, with symptoms including vertigo, muscle cramps, itching, and generalized weakness. On admission, his weight was 49 kg.

The initial laboratory findings are presented in Table 1.

| Parameter | Findings on 5/5/24 (BEFORE TREATMENT) | Findings on 11/5/24 (POST TREATMENT) |
|---|---|---|
| Blood Pressure | 120/80 mmHg | 120/80 mmHg |
| Pulse Rate | 120/min | 84/min |
| Weight | 49 kg | 49 kg |
| Nadi | Vataj Pittaj | Vataj Kaphaj |
| Mala | Avikruta | Avikruta |
| Mutra | Avikruta | Avikruta |
| Jivha | Saam (Coated) | Niram |
| Shabda | Spashta | Spashta |
| Sparsha | Anushna | Avikruta |
| Akruti | Madhyam | Madhyam |
| Drik | Avikruta | Avikruta |
| Kshudha | Madhyam | Madhyam |
| Agni | Mandya | Madhyam |
| Nidra | Abhadhita | Abhadhita |

The patient was taking an allopathic treatment regimen that included alpha-ketoglutarate to enhance muscle protein synthesis, febuxostat (a xanthine oxidase inhibitor) to manage elevated uric acid levels, a calcium channel blocker for hypertension, a proton pump inhibitor for hyperacidity, and additional supplements such as calcium and probiotics.

Clinically, there was no significant family history or personal medical history linked to his current condition. His symptoms, including muscle cramps, weakness, and itching, suggested the possibility of uremia. A comprehensive physical examination, along with laboratory tests, confirmed the diagnosis of Stage V CKD, necessitating prompt medical intervention.

## Treatment Plan

### *I. Diet Plan:*

The diet regimen provided by Jeena Sikho Lifecare Ltd. Hospital, Derabassi, includes the following essential guidelines:

#### *a.* Avoidance of Certain Foods:

Refrain from consuming wheat, processed foods, refined items, dairy and animal products, coffee, and tea.
Avoid eating after 8 PM.

#### *b. Hydration:*

Drink alkaline water 3-4 times daily.
Incorporate herbal tea, living water, and turmeric-infused water into your daily routine.
Limit water intake to small sips whenever the patient feels thirsty, ensuring that only a limited amount is consumed at each instance.

#### *c.* Millet Intake:

Include five millets in your diet: foxtail, barnyard, little, kodo, and browntop.
Use only steel cookware when preparing millets.

#### *d.* Meal Timing and Structure:

**Breakfast (9:00-10:00 AM):** The patient was provided with Plate 1, which included a variety of fruits.
**Lunch (12:30 PM - 2:00 PM):** The patient was served Plate 1 and Plate 2. Plate 1 contained a steamed vegetable salad or steamed sprouts, while Plate 2 consisted of a cooked millet-based diet.
**Dinner (6:15-7:30 PM):** The patient was served the same as lunch, with both Plate 1 and Plate 2. However, dinner was scheduled for an earlier time.

#### *e.* Fasting:

It is recommended to fast once a week or once every 3-4 days.

#### *f.* Special Instructions:

Offer gratitude to the divine before eating or drinking.
Sit in *vajrasana* (a yoga posture) after every meal.

#### *g.* Diet Types:

The diet includes solid, semi-solid, and smoothie options without added salt.

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

**II. Lifestyle Recommendations**

***a. Practice sungazing daily for at least 30 minutes.***
***b. Engage in yoga from 6:00 AM to 7:00 AM (****Sukhasana + Sukhasana Pranayama****).***
***c. Incorporate meditation for relaxation.***
***d. Walk briskly for 30 minutes barefoot.***
***e. Ensure 6-8 hours of quality sleep each night.***
***f. Follow a structured daily routine (****Dincharya****).***

***III. Panchakarma Procedures***

Awgaha Swedan
Procedure:
The patient sits in a tub filled with warm water infused with medicinal herbs.
The water temperature is maintained at 42 degrees to induce sweating.
The duration of the treatment typically lasts for 30-60 minutes.
Physiology:
The warm water causes vasodilation, increasing blood flow to the skin.
Sweating helps in the expulsion of metabolic wastes and toxins.
Enhances the absorption of herbal properties through the skin.

## Mode of Action:

When a patient sits in a tub filled with hot water at a temperature of 42°C, the body's temperature rises, leading to vasodilation. This dilation of blood vessels enhances sympathetic nervous system activity, which triggers the release and activation of epinephrine, norepinephrine, and hormones from the thyroid gland. As a result, the metabolic rate and lipolysis (fat breakdown) increase, leading to a higher demand for oxygen. This process also promotes the release of metabolic wastes, such as urea, creatinine, ammonia, and uric acid. The elevated body temperature induces sweating, which aids in the expulsion of these toxins through the skin. Here is the formatted content for the journal article while preserving the original details:

**स्नग्धिस्य सूक्ष्मेष्वयनेषु लीनं**
**स्वेदस्तु दोषं नयति द्रवत्वम्।**
[Cha..Siddhi Sthana 1/8][5]

**Awagaha Sweda**

***As described by Acharya Charak, Awagaha Sweda is a type of*** *Sagni Sweda* ***therapy that helps to liquefy and mobilize the*** *Doshas* ***lodged within the microchannels of the body.***

***2. Gokshuradi Siddha Sneha Matra Basti***

Procedure:
A medicated oil (Dose: 90 ml) (Gokshuradi Siddha) is warmed.
The patient is positioned comfortably, and the oil is administered through the rectum.
The procedure may involve retention of the oil for a specified duration.
Physiology:
The oil penetrates the rectal mucosa, enhancing absorption.
It lubricates the intestines and promotes bowel movements.

***Mode of Action:***

Matra basti normalizes Vata, leading to proper elimination of flatus, feces, urine, etc., and causes better physiological functioning of Vata dosha. Basti dravya spreads all over the body, pacifying the aggravated Vata dosha. Basti works on the whole body after entering Pakvashaya (large intestine) or Guda (anus). Guda (anus) is said to be the root of the body (Sharira Mula), having Sira (veins) and Dhamani (arteries), which spread all over the body[6]. It exerts local as well as systemic effects.

***3. Gokshuradi Kashaya Niruha Basti***

Procedure:
A decoction (300 ml) of *Gokshuradi* herbs is prepared and strained.
The warm decoction is administered through the rectum.
The patient may retain the decoction for a specific time.

***Physiology:***

*Niruha Basti*, on entering *Pakvashya*, terminates morbid *Vata dosha* at its roots. When *Vata* is controlled in *Pakvashya*, which is the center for the administration of *Vata*, the other subtypes of *Vata* located in different parts of the body will also be automatically controlled. For example, just as the flowers, fruits, leaves, and branches of a tree get destroyed when the root of the tree is cut off, in the same way, when *Vata dosha* is controlled in *Pakvashya*, it cures all *Vata* disorders by balancing *Vata dosha* existing all over the body.

**Mode of Action:**

Acharya Sushruta states that the *Virya* of the *Basti* drug reaches all over the body through *Strotas*, in the same way as water poured at the root of a plant reaches up to the leaves. When *Basti* is administered in *Pakvashya*, its *Virya* is taken up by *Samana Vayu* with the help of *Apana Vayu*. Then it reaches other types of *Vayu* as well. The transport

of *Basti dravya* follows *Kedarikulya Nyaya*, which spreads it throughout the body via different types of *Vata*.
In *Gokshura Siddha Sneha* and *Kashaya Basti*, *Gokshura* is diuretic, balances *Tridosha*, and promotes strength.

### *4. Shiroabhyanga (Head Massage)*

Procedure:
Warm medicated oil (*Brahmi oil*) is gently massaged onto the scalp and neck.
The duration is usually around 20-30 minutes.
Physiology:
Stimulates blood flow to the scalp and promotes relaxation.
Enhances lymphatic drainage in the head and neck region.

**Mode of Action:**

*Abhyanga* enhances local lymphatic drainage, leading to an increase in lymphatic flow, which contains amino acids like tryptophan. Elevated tryptophan levels stimulate the pineal gland, resulting in the secretion of melatonin and serotonin. Melatonin induces sedation and a sense of well-being, while serotonin promotes sleep and helps regulate mood. Consequently, *Abhyanga* can relieve anxiety, improve sleep quality, alleviate depression, and enhance overall metabolism.

### *5. Patra Potli Swedan*

Procedure:
*Eranda* and *Nirgundiadi* leaves are heated or fried in *Mahanarayan oil*, then tied in a bolus and heated at a constant temperature.
The heated bolus is continuously rubbed over pain-affected areas.
The fomentation lasts for 5-10 minutes in each posture.
A uniform temperature of the bolus is maintained throughout the procedure by dipping it in the heated mixture of medicated decoction.
Physiology:
Improves blood circulation in the body.
Soothes the nerves and offers relief from neuralgic pain caused by nerve disorders.
Helps to eliminate toxins from the body through sweating.
Improves sensory and motor functions.

**Mode of Action:**

After topical sudation, the absorption of ingredients through the skin directly benefits the localized application. This therapy opens *microchannels (Strotas)*, melts *Shleshma* (located in *Shakha*), and induces sweating over the localized area, facilitating the excretion of metabolic waste like urea, creatinine, and uric acid. It increases peripheral blood supply, relieving body ache, inflammation, and stiffness.

### *Medicinal Interventions*

*Asthipurak Vati*: 2 tablets BD (*Adhobhakt* with *Koshna jala*).
*Chandar Vati*: 2 tablets BD (*Adhobhakt* with *Koshna jala*).
*GFR Powder*: ½ tsp BD (*Adhobhakt* with *Koshna jala*).
*Cap. JS BP Cure*: 2 capsules BD (*Adhobhakt* with *Koshna jala*).
*Syrup Renal Support*: 20 ml BD (*Adhobhakt* with *Samamatra Koshna jala*).

On Discharge Medication
*Chandar Vati*: 2 tablets BD (*Adhobhakt* with *Koshna jala*).
*Mutravardhak*: 2 tablets BD (*Adhobhakt* with *Koshna jala*).
*Renal Support Syrup*: 20 ml BD (*Adhobhakt* with *Samamatra Koshna jala*).
*DS Powder*: ½ tsp HS (*Nishakal* with *Koshna jala*).
*GFR Powder*: ½ tsp BD (*Adhobhakt* with *Koshna jala*).
*Sama Vati*: 1 tablet BD (*Adhobhakt* with *Koshna jala*).

## Patient Progress:

During admission, the patient's blood pressure remained stable, and his $SpO_2$ levels stayed above 95%. His initial complaints of burning micturition and a burning sensation in the anal region declined over the following days. There was no shortness of breath, and other symptoms continued to improve. The patient's water intake and urine output were balanced at 1000 ml/day, and his appetite and bowel movements remained stable.

## Diagnostic Assessment

The diagnostic assessment based on laboratory investigations is presented in Table 2.

Table 2: Diagnostic Assessment and Laboratory Investigations

| Parameter | 5/5/24 | 6/5/24 | 11/5/24 |
|---|---|---|---|
| **Hb (g/dL)** | 8.3 | - | 8.4 |
| **Urea (mg/dL)** | - | 98 | 80.92 |
| **Creatinine (mg/dL)** | - | 8.9 | 6.51 |
| **Uric Acid (mg/dL)** | - | 10.57 | 6.31 |
| **Na+ (mEq/L)** | 139.5 | - | 143 |
| **K+ (mEq/L)** | 4.03 | - | 5.41 |
| **Cl- (mEq/L)** | 104.1 | - | 105 |

### *Treatment Protocol Administered During Hospitalization*

The patient was treated with a combination of Ayurvedic therapies designed to balance the *Vata dosha*, along with *Pitta* and *Kapha*, which are believed to be involved in CKD. The treatment included various herbal decoctions, powders, tablets, and dietary modifications as follows:

After a thorough examination of the patient, an Ayurvedic treatment regimen included Avgaha Sweda (up to the navel), Gokshuradi Siddha Sneha (90ml), and Kashaya Basti (300ml) (medicated enemas) on alternate days, and Shiro-abhyanga with Bramhi Taila and Eranda Patra potli swedan for 3 days. The patient had a burning sensation around the anal region after defecation. Guda pichu (placing an oil-dipped cotton swab in the anal region) with Jatyadi oil was advised for the same.

Pain was in the mild category at the time of admission, which got lessened a bit after the therapy procedures. Blood pressure fluctuated between 150/90 mmHg and 110/70 mmHg. Other vital parameters, such as temperature, pulse, and oxygen saturation, remained in a healthy range throughout. During most of the hospital stay, urine output equaled the water intake (1000 ml/day).

### *Follow-up and Outcome:*

Daily rounds conducted by physicians at the hospital consistently demonstrated a reduction in all symptoms the patient presented with at the time of admission.

**Table 3: Symptoms Observed Before and After Treatment with Scores**

| SYMPTOMS | BEFORE TREATMENT on 13/5/24 | POST TREATMENT on 23/5/24 |
|---|---|---|
| **Vertigo** | 1/10 | 0/10 |
| **Weakness** | 5/10 | 0/10 |
| **Itching** | 4/10 | 0/10 |
| **Muscle cramps** | 5/10 | 0/10 |
| **Burning Micturition** | 3/10 | 0/10 |
| **Pain in Ankle joint** | 3/10 | 1/10 |

## DISCUSSION:

The Ayurvedic treatment regimen, along with previously prescribed necessary allopathic medicines, demonstrated a significant positive impact on the patient's clinical and biochemical parameters. Treatment was given considering the Ayurvedic pathology of Mutraghat. Kleda plays an important role in the causation of CKD. All the medicines and therapies were directed to effectively manage Kleda.

Creatinine levels, a key indicator of kidney function, decreased from 8.9 mg/dL at the start to 6.5 mg/dL by the end of the treatment period. Similarly, urea levels, which were initially very high at 98 mg/dL, reduced to 81 mg/dL. Hemoglobin levels showed stabilization and slight improvement, indicating better overall health and reduced anemia. These improvements suggest that Ayurvedic treatments could be a viable alternative or complementary therapy to conventional CKD treatments. Comparisons with existing literature on conventional treatments for CKD show that while modern medicine often stabilizes the condition, Ayurvedic treatments may offer additional benefits in reducing biochemical parameters and improving quality of life without significant side effects.

The Ayurvedic treatment protocol for the patient diagnosed with chronic kidney disease (CKD) stage V, correlated with Mutraaghata in Ayurveda, was strategically designed to leverage the therapeutic properties of various Ayurvedic herbs known for their efficacy in managing renal disorders. The treatment was initiated with formulations that possess diuretic, anti-inflammatory, rejuvenative, and detoxifying properties, which collectively aim to restore kidney function and balance the Doshas.

GFR Powder, comprising Bhoomi Amalaki, Haritaki, Vibhitaki, Kaasni, Punarnava, and Gokshur, is known for its diuretic and anti-inflammatory effects. These herbs help in reducing the accumulated fluids and inflammation in the kidneys, which is critical in managing the symptoms of CKD. The Tikta and Kashaya guna, along with the sheeta virya of these herbs, aid in pacifying Pitta and Kapha doshas, thus addressing the pathophysiology of Mutraaghat.

Chandar Vati includes a blend of Vacha, Kalmegh, Devdaru, Guduchi, Haridra, and other potent herbs that exhibit detoxifying and rejuvenative actions. The Ushna virya and Katu Vipaka of these herbs enhance metabolic processes and promote the elimination of toxins, thereby supporting kidney health. This formulation is particularly beneficial in reducing the oxidative stress and inflammation associated with CKD.

URI Plus combines Triphala, Gokshura, Shodhita Guggulu, and Guduchi, which are known for their diuretic and anti-inflammatory properties. This formulation enhances urine output, reduces fluid retention, and alleviates inflammation, thereby supporting kidney function. The Madhura Vipaka of these herbs also helps in pacifying Pitta dosha.

JS BP Cure with Sarpagandha, Arjun, Shigru, Triphala, and Godanti Bhasma is designed to manage hypertension, a common comorbidity in CKD. The sheeta virya and madhura vipaka of these herbs help in reducing blood pressure and preventing further renal damage, thereby supporting overall kidney function.

Gokshuradi siddha sneha basti and Kashaya basti were administered on alternate days. Matra basti, in general,

normalizes vata, leading to proper elimination of flatus, feces, urine, etc., and causes better physiological functioning of vata dosha. Basti dravya spreads all over the body and pacifies the aggravated vata dosha. Basti works on the whole body after entering pakvashaya (large intestine) or guda (anus). Guda (anus) is said to be the root of the body (shariramula) having sira (veins) and dhamani (arteries), which spread all over the body. It exerts local as well as systemic effects. Gokshura (Tribulus terrestris) is considered as bastishodhak by Bhavprakash and also possesses rejuvenative properties.
There is an important role of diet to play in cases of chronic kidney disease. The importance of HWI, HDT, and DIP diet is already established.

## CONCLUSION:

The case report demonstrates that Ayurvedic interventions can be a promising complementary or alternative approach in the management of Stage V Chronic Kidney Disease (CKD). The 32-year-old male patient exhibited significant improvements in both clinical symptoms and laboratory parameters throughout the treatment period.
Improvements Observed:
Symptoms:
The patient reported a considerable reduction in symptoms such as vertigo, muscle cramps, itching, and generalized weakness, which were prominent at the time of admission.
Vital Signs:
Blood pressure remained stable around 150/90 mmHg throughout the hospitalization, and SpO2 levels were consistently above 95%.
The patient's appetite and bowel movements were stable, and he experienced no shortness of breath during the treatment.
Laboratory Investigations:
Creatinine levels decreased from 8.9 mg/dL at admission to 6.5 mg/dL by discharge.
Urea levels improved from 98 mg/dL to 81 mg/dL.
Hemoglobin levels showed stabilization and slight improvement, indicating better overall health and reduced anemia.
These findings suggest that the Ayurvedic treatment regimen not only alleviated the patient's symptoms but also contributed to the improvement of key biochemical parameters, highlighting the potential efficacy of Ayurvedic treatments in managing CKD. Further research is warranted to explore the broader applicability of these findings in clinical practice.

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JFDR

Research Article

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# Evaluating the Impact of Ayurvedic Interventions on Renal Health in Chronic Kidney Disease: A Case Study Analysis

**Acharya Manish Ji[1], Dr. Gitika Chaudhary[2], Dr. Richa[3], Dr. Suyash Pratap Singh[4], Dr. Manjeet Singh[5]**

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## *ABSTRACT*

Chronic kidney disease (CKD) is a global health issue that has attracted attention owing to its increasing mortality rate. The disease is classified into five stages according to the glomerular filtration rate (GFR). It is difficult to diagnose CKD in its early stages (stages I and II) because the GFR might remain normal. The exact cause of CKD remains unclear; however, lifestyle changes and dietary factors are often associated with its development. A multidisciplinary treatment approach is considered the most effective for managing CKD. Panchakarma encompasses detoxification and rejuvenation techniques that aim to balance the doshas, enhance kidney function, and promote overall wellness. Despite the availability of advanced technologies and treatments, early detection remains elusive in developing and middle-income countries. This case report focuses on a 69-year-old male patient with CKD for 7 months and hypertension for 20 years who received Ayurvedic treatment at Jeena Sikho Lifecare Limited Hospital, Derabassi. CKD is prevalent in the elderly population owing to age-related physiological changes, increased comorbidities, and cumulative exposure to risk factors such as hypertension and diabetes. The treatment regimen administered to him integrated personalized Ayurvedic principles and Panchakarma therapies, resulting in a significant improvement in his symptoms, kidney function, and overall quality of life. After six days of therapy, the patient demonstrated an improved glomerular filtration rate (GFR) and reported considerable relief from pain and other related symptoms. These results highlight Ayurveda's potential as an affordable treatment modality that can complement or even replace conventional therapies, particularly in individuals with limited financial resources seeking advanced healthcare options. Despite these promising findings, additional stuies incorporating larger randomized controlled trials are necessary to further assess the efficacy and safety of these Ayurvedic approaches for CKD.

**Keywords**:Chronic Kidney Disease (CKD), Glomerular Filtration Rate (GFR), Ayurveda therapies, Panchakarma, Hypertension, Nocturia

## Introduction

The explanation of Chronic Kidney Disease (CKD) has changed over time. According to current international guidelines, CKD is defined as a glomerular filtration rate (GFR) of less than 60 mL/min per 1.73 $m^2$, the presence of a kidney damage marker, or both symptoms, with at least 3 months' duration, irrespective of the primary cause [1]. CKD is classified into five stages according to GFR. Patients may be asymptomatic or have common symptoms, such as loss of appetite, itching, and lethargy. In most cases, the diagnosis is made after the symptoms become more severe. Based on these studies, hypertension is prevalent in CKD patients, approximately 60% to 90%, depending on the stage and cause of CKD [2]. Age is a key factor in the development of CKD. After 65 years, individuals with or without diabetes or hypertension show a GFR that falls under stage 3 or above, but the reason behind this remains unclear. The prevalence in individuals aged >65 years in

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the US was much higher (39.4%) than in those aged <60 years [3].

CKD is a growing health concern among older adults, and its prevalence increases with age. This is due to age-related physiological changes, comorbidities, and the complexity of diagnosing CKD in the older population. The prevalence of CKD increases with age and is often underdiagnosed because of misconceptions about kidney function decline as a normal part of aging [4]. Older adults often have higher rates of comorbid conditions such as diabetes and hypertension, which exacerbate kidney impairment [5,6]. Diagnostic challenges include the use of biomarkers, such as eGFR and albuminuria, which may be misleading due to age-related physiological changes. Lifestyle factors, such as improved cardiovascular health, also have a negative association with CKD, particularly in those aged ≥65 years [7,8].

CKD is a complex condition that is influenced by a combination of medical conditions and environmental factors. Diabetes and hypertension are the most common conditions, accounting for two-thirds of the cases. Other causes include glomerulonephritis, polycystic kidney disease, autoimmune diseases, and chronic use of pharmaceuticals. Environmental factors, such as heavy metals and agrochemicals, particularly in low- to middle-income countries, have been linked to CKD. The major medical causes include diabetes, hypertension, and glomerulonephritis. Environmental factors such as heavy metals and agrochemicals, particularly in rural areas, also contribute to CKD. Further research is required to understand these factors [9,10].

Studies have suggested integrated treatment for CKD through immunotherapies, combination therapies, and targeted interventions, focusing on 32 proteins involved in immunity-related pathways and protein-protein inter-actions [11]. A multidisciplinary approach includes nutri-tional management, early nephrologist referral, social support, exercise, and mental health.

Collaboration among renal dietitians, social workers, and healthcare providers is essential for comprehensive patient care [12]. An inte-grated approach considers biological, psychological, social, cultural, and economic aspects, promoting dietary guide-lines, healthy eating practices, and understanding individ-ual patient needs [13].

Integrated Ayurveda treatment for CKD involves a holis-tic approach that includes dietary modifications, herbal remedies, detoxification techniques, and lifestyle changes. Panchakarma, a detoxification technique, is crucial for expelling uremic toxins and improving kidney health [14]. Personalized dietary plans and lifestyle changes are also essential for managing CKD [15]. Clinical outcomes show significant improvements in kidney function markers following Ayurvedic interventions. This case study emphasizes the derivation of a holistic treatment method for CKD with Ayurveda.

## CASE REPORT

A 69-year-old male with a history of CKD for 7 months and hypertension for 20 years with premature coronary artery disease visited Jeena Sikho Lifecare Limited Hospital, Derabassi (Chandigarh) on May 10, 2024. He reported symptoms such as constipation, backache, and nocturia. His condition initially presented with general weakness and frothy urine. He was diagnosed with hypertension 20 years prior to his hospital admission. A thorough and methodical evaluation was carried out, together with medical history, physical checkup, and diagnostic tests. The vital signs and investigation report during the first day of the visit are 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 | 168/92 mm of Hg |
| Pulse Rate | 86/min |
| Weight | 62 Kg |
| Oxygen Saturation | 99% |
| Nadi | VatajKaphaj |
| Mala | Vibandha |
| Nidra | Prakruta |
| Mutra | Phenila Mutra |
| Agni | Mandya |

The patient was admitted for 6 days, during that period he received Ayurvedic treatments including Panchakarma therapy. This therapy encompassed Panchakarma therapies such as Awagaha Swedan, Gokshuradi and Punarnava Siddha Sneha Basti, Kashaya Basti, chest and back lepam with Dashmool and Dashang and Shiropichu &Shiroabhyangam with Brahmi oil.

The patient was advised to take Chander Vati tablet, Castor oil, Renal support syrup and GFR powderthroughout the IPD Treatment. Vitals observed throughout the treatment are detailed in **Table 2**. The medications taken during IPD are listed in **Table 3**. The pain scoring during the IPD is showed in **Table 4**. Ecosprin tablet is given once in a day orallyduring IPD period as prescribed previously. After 6 days of treatment, the patient got relief from pain, frothy urine, nocturia and constipation with mild general weakness.

Table 2 Vitals observed throughout the treatment

Investigation on the date of admission

| Parameter | Findings | | | |
|---|---|---|---|---|
| Date | 10/05/2024 | 11/05/2024 | 14/05/2024 | 15/06/2024 |
| Haemoglobin | 8.7 gm/dL | - | 8.1 gm/dL | 8.5 gm/dL |
| Pulse | 80/min | 86/min | 74/min | 88/min |
| SpO2 | 99% | 99% | 99% | 98% |
| Blood Pressure | 150/80 mmHg | 130/80 mmHg | 140/90 mmHg | 160/80 mmHg |
| Urea | 145.01 mg/dL | - | 173.27 mg/dL | 117.0 mg/dL |
| Creatinine | 8.64 mg/dL | - | 8.99 mg/dL | 4.39 mg/dL |
| Uric acid | 2.09 mg/dL | - | 5.93 mg/dL | 7.18 mg/dL |
| Sodium | 137.7 mEq/L | 135.8 mEq/L | 136.3 mEq/L | - |
| Potassium | 6.05 mEq/L | 5.50 mEq/L | 5.34 mEq/L | - |
| Chloride | 104.9 mEq/L | 102.6 mEq/L | 101.6 mEq/L | - |
| Total RBC count | 3.18 Mill/Cumm | - | 2.96 Mill/Cumm | - |
| PCV/HCT | 27.80% | - | 25.30% | - |
| MCH | 27.2 pg | - | 27.5 pg | - |
| MCHC | 31.20% | - | 32.10% | - |

**Table 3 Medications taken during the IPD**

| **Medicine name** | **Ingredients** | **Dosage** | **Dates of intake** |
|---|---|---|---|
| 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*), Gaj Pipal (*Scindapsus officinalis*), Swarn Makshik Bhasma, Sujji Kshar, Senda Namak, Kala Namak, Choti Llayachi (*Elettaria cardamomum*), Dalchini (*Cinnamomum verum*), Tejpatra (*Cinnamomum tamala*), Danti (*Baliospermum montanum*), Nishothra (*Operculina turpethum*), Banslochan, Loh Bhasam, Shilajit (*Asphaltum punjabinum*), Guggal (*Commiphora wightii*). | 2 TAB BD (Adhobhakta with koshna jala) | 10/05/2024-15/05/2024 |

| | | | |
|---|---|---|---|
| GFR Powder | Bhoomi Amla (*Phyllanthus niruri*), Badi Harad (*Terminalia chebula*), Bahera (*Terminalia bellirica*), Kasni (*Cichorium intybus*), Makay (*Zea mays*), Punarnava (*Boerhavia diffusa*), Gokshur (*Tribulus terrestris*) | Half a teaspoon BD (Adhobhakta with koshna jala) | 10/05/2024-15/05/2024 |
| 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 samamatra koshna jala) | 10/05/2024-15/05/2024 |
| Castor oil | _ | 50 ml HS (Nishikal with koshna jala) | 10/05/2024-15/05/2024 |

**Table 4. Pain scoring during the IPD (0 to 10 degrees)**

| Date | Pain scoring chart (0 to 10) | |
|---|---|---|
| | Before therapy | After therapy |
| 10/05/2024 | 2 | 1 |
| 11/05/2024 | 2 | 1 |
| 12/05/2024 | 2 | 1 |
| 13/05/2024 | 1 | 0 |
| 14/05/2024 | 1 | 0 |
| 15/05/2024 | 0 | 0 |

The vitals observed during the IPD treatment on a daily basis are detailed in **Table 5**.Investigations were conducted on May11, 2024, on the2nd day of treatment as mentioned in**Table 2**. The vitals fluctuated throughout the IPD treatment. Vitals including Nadi during the date of discharge is mentioned in **Table 6**.The patient was afterward discharged on 15May 2024. Medication advised during the time of discharge is given in **Table 7**.

**Table 5. Daily vitals observed during the IPD treatments**

| Date | Time | Weight in Kg | Temperature | Blood Pressure (mmHg) | Pulse per min | Respiration/min | SpO2 |
|---|---|---|---|---|---|---|---|
| 10/05/2024 | 2:00 PM | 61 Kg | 98.2˚ F | 150/80 | 80 | 18 | 99% |
| | 9:00 PM | 61 Kg | 98.2˚ F | 140/80 | 82 | 18 | 99% |
| 11/05/2024 | 9:00 AM | 61 Kg | 98.2˚ F | 130/80 | 86 | 18 | 99% |
| | 7:00 PM | 61 Kg | 98˚ F | 160/100 | 84 | 16 | 99% |
| 12/05/2024 | 5:00 AM | 61 Kg | 98˚ F | 130/80 | 80 | 16 | 99% |
| | 9:00 AM | 61 Kg | 98.2˚ F | 130/80 | 82 | 18 | 99% |
| | 8:00 PM | 60 Kg | 98˚ F | 130/80 | 76 | 16 | 99% |
| 13/05/2024 | 5:00 AM | 60 Kg | 98˚ F | 130/80 | 76 | 16 | 99% |
| | 9:00 AM | 60 Kg | 98.2˚ F | 130/80 | 76 | 18 | 99% |
| | 8:00 PM | 61 Kg | 98.4˚ F | 130/80 | 78 | 18 | 99% |
| 14/05/2024 | 5:00 AM | 61 Kg | 98.2˚ F | 120/80 | 84 | 18 | 99% |
| | 10:00 AM | 60 Kg | 98.2˚ F | 140/90 | 74 | 18 | 99% |
| 15/05/2024 | 8:00 PM | 60 Kg | 98.4 F | 130/80 | 86 | 18 | 99% |
| | 5:00 AM | 60 Kg | 98.2˚ F | 120/80 | 84 | 18 | 99% |
| | 10:00 AM | 60.4 Kg | 98.2˚ F | 120/80 | 86 | 18 | 99% |

**Table 6. Vitals during the Date of Discharge**

| Parameter | Findings |
|---|---|
| Temperature | 98 ˚F |
| Blood Pressure | 160/80 mm of Hg |
| Pulse Rate | 84/min |
| Weight | 62 Kg |
| Oxygen Saturation | 99% |
| Nadi | Vata Pitta |
| Mala | Avikruta |
| Nidra | Avikruta |
| Mutra | Ishatapeeta |
| Agni | Madhyama |

**Table 7. Medicine given at the time of Discharge 15/05/2024**

| Medicine Name | Ingredients | Dosage | Therapeutic Effects |
|---|---|---|---|
| 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*), Gaj Pipal (*Scindapsus officinalis*), Swarn Makshik Bhasma, Sujji Kshar, Senda Namak, Kala Namak, Choti Llayachi (*Elettaria cardamomum*), 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) | Alleviates urinary tract symptoms and promotes healthy urine flow. |
| 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 samamatra koshna jala) | Provide solution for kidney, bladder, urinary tract disease |
| GFR Powder | Bhoomi Amla (*Phyllanthus niruri*), Badi Harad (*Terminalia chebula*), Bahera (*Terminalia bellirica*), Kasni (*Cichorium intybus*), Makay (*Zea mays*), Punarnava (*Boerhavia diffusa*), Gokshur (*Tribulus terrestris*) | Half a teaspoon BD (Adhobhakta with koshna jala) | Supports kidney function and reduces inflammation, helping with renal symptoms. |

| | | | |
|---|---|---|---|
| Divya Shakti Powder | Trikatu, Triphala, Nagarmotha (*Cyperusrotundus*), Vaya Vidang (*Embeliaribes*), Chhoti Elaichi (*Elettariacardamomum*), Tej Patta (*Cinnamomumtamala*), Laung (*Syzygiumaromaticum*), Nishoth (*Operculinaturpethum*), Sendha Namak, Dhaniya (*Coriandrumsativum*), Pipla Mool (*Piperlongum* root), Jeera (*Cuminumcyminum*), Nagkesar (*Mesuaferrea*), Amarvati (*Achyranthesaspera*), Anardana (*Punicagranatum*), Badi Elaichi (*Amomumsubulatum*), Hing (*Ferulaassafoetida*), Kachnar (*Bauhiniavariegata*), Ajmod (*Trachyspermumammi*), Sazzikhar, Pushkarmool (*Inularacemosa*), Mishri (*Saccharumofficinarum*). | Half a teaspoon HS (Nishikal with koshna jala) | Enhances overall vitality and energy levels, addressing fatigue and weakness. |
| Dr. Immune tablet | Kesar (*Crocus sativus*), Shudh Kuchla (*Strychnos nux-vomica*), Ashwagandha Ext. (*Withania somnifera*), Shatawari Ext. (*Asparagus racemosus*), Pipali (*Piper longum*), Tulsi (*Ocimum sanctum*), Laung (*Syzygium aromaticum*), Choti Elaichi (*Elettaria cardamomum*), Sonth (*Zingiber officinale*), Haldi (*Curcuma longa*), Loh Bhasam, Swaran Makshik Bhasam (*Chalcopyrite*), Mukta Shukti Bhasam (*Pinctada margaritifera*). | 2 tablets BD (Adhobhakta with koshna jala) | Helps to flush out toxins from the body, Boost immunity and Improves the blood flow |

The patient returned for a follow-up after 1 month on June17, 2024, and was symptomatically better and the vital test reports show that the serum urea and creatinine levels reduced significantly.The uric acid level also alleviated from previous reports. The vitals report on June 15, 2024 is mentioned in **Table 2**.The medications advised after the follow up is mentioned in**Table 8**.

**Table 8. Medications advised after follow up visit17/06/2024**

| **Medicine Name** | **Ingredients** | **Dosage** | **Therapeutic Effects** |
|---|---|---|---|
| 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*), Gaj Pipal (*Scindapsus officinalis*), Swarn Makshik Bhasma, Sujji Kshar, Senda Namak, Kala Namak, Choti Llayachi (*Elettaria cardamomum*), 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) | Alleviates urinary tract symptoms and promotes healthy urine flow. |
| GFR Powder | Bhoomi Amla (*Phyllanthus niruri*), Badi Harad (*Terminalia chebula*), Bahera (*Terminalia bellirica*), Kasni (*Cichorium intybus*), Makay (*Zea mays*), Punarnava (*Boerhavia diffusa*), Gokshur (*Tribulus terrestris*) | Half a teaspoon BD (Adhobhakta with koshna jala) | Supports kidney function and reduces inflammation, helping with renal symptoms. |

| | | | |
|---|---|---|---|
| Aarogya Vati tablet | Kajan (*Carthamus tinctorius*), Loh Bhasma, Abhrak Bhasma, Tamra Bhasma, Amalaki (*Emblica officinalis*), Vibhitaki (*Terminalia bellirica*), Haritaki (*Terminalia chebula*), Chitrak (*Plumbago zeylanica*), Katuka (*Picrorhiza kurroa*), Nimba Patra (*Azadirachta indica*). | 2 tablet BD (Adhobhakta with koshna jala) | Boosts immunity, Supports respiratory health, Promotes detoxification and Aids in the management of infections |
| Divya Shakti Powder | Trikatu, Triphala, Nagarmotha (*Cyperus rotundus*), Vaya Vidang (*Embeliaribes*), Chhoti Elaichi (*Elettariacardamomum*), Tej Patta (*Cinnamomumtamala*), Laung (*Syzygiumaromaticum*), Nishoth (*Operculinaturpethum*), Sendha Namak, Dhaniya (*Coriandrumsativum*), Pipla Mool (*Piperlongum* root), Jeera (*Cuminumcyminum*), Nagkesar (*Mesuaferrea*), Amarvati (*Achyranthesaspera*), Anardana (*Punicagranatum*), Badi Elaichi (*Amomumsubulatum*), Hing (*Ferulaassafoetida*), Kachnar (*Bauhiniavariegata*), Ajmod (*Trachyspermumammi*), Sazzikhar, Pushkarmool (*Inularacemosa*), Mishri (*Saccharumofficinarum*). | Half a teaspoon HS (Nishikal with koshna jala) | Enhances overall vitality and energy levels, addressing fatigue and weakness. |
| Kidney Shuddhi Ark | Punarnava (*Boerhavia diffusa*), Varuna (C*rataeva nurvala*), Gokshura (*Tribulus terrestris*), Bhumyamalaki (*Phyllanthus niruri*), Palash Pushp (*Butea monosperma*) and Shigru (*Moringa oleifera*) | 15 ml BD (Adhobakt with samamatra koshna jala) | Kidney detoxification, Maintain urinary tract health and Support for kidney stones |

An accurately designed DIP Diet was provided to the patient to complement the Ayurvedic treatments administered for CKD[16,35]:

**Treatment Plan**

**I. Diet Plan:**

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

a. Foods to Avoid:

- Do not consume wheat, packed food, refined food, milk and milk products, coffee and tea.
- Avoid eating after 8 PM.

b. Hydration:

- During water intake, take sip by sip and drink slowly.
- 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 seasonal fruits, a fermented millet shake (4 to 5 types) and steamed sprouts.
3. Morning Snacks (11:00AM): The patient will be givenred juice (150 ml) and 4-5 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-

based dish along with raw ginger and turmeric.

5. Evening Snacks (4:00 PM-4:20 PM): Green juice (100-150 ml) accompanied by 4-5 almonds.

6. Dinner (6:15-7:30 PM): The patient will be served a raw salad, chutney, soup and green garden delight as Plate 1, along with millet khichdi, as Plate 2 along with raw ginger and turmeric.

e. Fasting:

- It is advised to observe a fast once a week.

f. Special Instructions:

- Express gratitude to the divine before consuming food or drinks.
- Sit in Vajrasana (a yoga posture) after each meal.

g. Diet Types:

- The diet comprises salt-less 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 Dhyāna (meditation) for relaxation.
2. Engage in Yoga (Sukhasana and Sukshma pranayama) 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.

**III. Panchakarma procedures were administered to patients**

## 1. Awagah Swedan

**Procedure:** The patient was immersed up to the navel in a tub filled with warm water infused with selected medicinal herbs. To induce sweating, the water temperature was maintained at 42˚ Celsius. This treatment procedure typically lasted between 20 to 60 minutes.

**Physiology:** The warm water in Awagah Swedan dilates blood vessels, enhancing circulation, which facilitates the delivery of oxygen and nutrients to the kidneys while promoting the excretion of toxins through sweating. This process helps reduce the burden on renal function. The therapy aids in balancing Vata and Kapha doshas, which can alleviate symptoms like water retention and swelling, while also stimulating the kidneys to improve filtration and urine output, thus supporting better fluid and electrolyte balance. The warmth from the treatment relaxes muscles in the lumbar region, alleviating pain and tension associated with kidney issues. Additionally, it promotes relaxation and reduces stress, which is crucial for individuals with CKD, as stress can exacerbate the condition.

**Mode of Action:** When the patient immerses themselves in a tub of water at 42°C, their body temperature rises, leading to vasodilation, which enhances blood flow and circulation to vital organs. This response activates the sympathetic nervous system, triggering the release of hormones such as epinephrine, norepinephrine, cortisol, oxytocin, serotonin, and melatonin. These hormones play various roles, including regulating metabolism, managing stress, promoting relaxation, and supporting mood. The increase in body temperature and metabolic rate raises oxygen demand and stimulates lipolysis, the breakdown of fats for energy. This process supports immediate energy needs and aids in weight management. Awagah Swedan promotes the elimination of metabolic wastes through sweating, enhancing the skin's detoxification role. By expelling byproducts like urea, creatinine, ammonia, and uric acid, the treatment alleviates renal burden, supports kidney function, and enhances overall health and homeostasis.

## 2. Gokshuradi and Punarnavadi Siddha Sneha Basti (90ml)

**Procedure:**The patient was prepared in a comfortable environment and advised to follow a light diet prior to the procedure. The patient was then positioned in a left lateral position to facilitate the administration of the enema. Using a clean, lubricated enema device, the nozzle was gently inserted into the rectum, and the oil was slowly administered. The patient was instructed to retain it for 30 minutes to 1 hour for optimal absorption. Post-procedure, the patient was advised to hydrate adequately, rest, and consume a light diet to support recovery and detoxification.

**Physiology:**The diuretic properties of Gokshura and Punarnava enhance kidney filtration, increasing urine output and facilitating the elimination of toxins, excess fluids and metabolic waste from the body, which reduces Kapha dosha and helps relieve conditions such as edema and urinary disorders. Additionally, Punarnava's anti-inflammatory compounds inhibit pro-inflammatory cytokines, reducing inflammation and swelling, which provides

pain relief, particularly beneficial for musculoskeletal and urinary tract inflammation. The *basti* also balances Kapha and Vata doshas, helping to alleviate fluid retention and support digestive health. By promoting the elimination of metabolic wastes, it enhances nutrient absorption and overall metabolic function, supporting optimal health and well-being.

**Mode of Action:**The phytochemicals in Gokshura and Punarnava, such as flavonoids, alkaloids, and saponins, promote kidney filtration and increase urine output, facilitating the removal of toxins and excess fluids, which helps balance *Kapha dosha* and reduce symptoms like edema[23]. Punarnava's anti-inflammatory compounds, including boeravinones, inhibit pro-inflammatory cytokines, thereby reducing inflammation and pain, particularly in the joints and urinary tract[24]. Additionally, the antioxidant properties of these herbs decrease oxidative stress, protecting cells and supporting tissue health[25]. By targeting *Kapha* and *Vata doshas*, the basti also aids digestion and detoxification, encouraging the elimination of metabolic waste and improving nutrient absorption. This process enhances liver and kidney function, supporting the body's natural detoxification pathways and overall metabolic health [26].

**3.Gokshuradi and Punarnavadi Kashaya Basti (350ml)**

Procedure: The preparation of the herbal decoction (kashaya) involved boiling selected herbs in water until the volume was reduced to one-fourth of the original amount, followed by straining to obtain a clear liquid for administration. The patient was positioned comfortably in a left lateral position, and a clean, lubricated enema device was used to gently insert the nozzle into the rectum. Three hundred fifty ml of the kashaya was administered, and the patient was instructed to retain it for 30 minutes to 1 hour for optimal absorption. Post-procedure care included advising the patient to hydrate, rest, and maintain a light diet.

**Physiology:** The procedure stimulates peristalsis in the colon, which promotes the elimination of toxins (ama) and waste directly through the rectum, bypassing the upper digestive tract. This helps remove excess Kapha and Pitta doshas, improving metabolic function and reducing symptoms like digestive discomfort and lethargy associated with toxin buildup. By primarily balancing Vata dosha, Kashaya Basti alleviates issues like bloating, gas, and constipation, while the medicated decoction soothes the colon's mucosal lining, supporting nutrient absorption and a balanced digestive system. Additionally, the herbal decoction provides targeted nourishment to the colon, enhancing immune support, improving nutrient assimilation, and calming the nervous system for relaxation and overall well-being.

**Mode of action:** The herbal decoction used in Kashaya Basti contains bioactive compounds, such as alkaloids and flavonoids, which are absorbed through the rectal mucosa[27]. This process helps neutralize toxins and reduces inflammation in the colon by inhibiting pro-inflammatory cytokines. Kashaya Basti regulates electrolyte levels, supporting fluid balance and aiding in the management of Kapha and Pitta doshas, while specifically targeting Vata dosha to stabilize intestinal motility and relieve symptoms like constipation, gas, and bloating[28]. Furthermore, the bioactive compounds nourish the cells of the colon and surrounding tissues, enhancing the integrity of the mucosal lining and stimulating local immune responses in the gut-associated lymphoid tissue (GALT), thereby supporting overall digestive and immune health.

**4. Chest and Back Lepam with Dashmool and Dashang**

**Procedure:** A thick herbal paste was prepared by mixing Dashmool and Dashang powders with a warm liquid medium. The patient was positioned comfortably, and the paste was applied evenly across the chest and back to ensure optimal absorption of the herbs. The paste was then left on for 20–30 minutes. Then the paste was gently removed with a damp cloth, and the skin was cleansed.

**Physiology:** The bioactive compounds in Dashmool and Dashang provide anti-inflammatory and analgesic benefits, which, when absorbed through the skin, reduce inflammation and relieve muscle and joint pain, alleviating stiffness and discomfort. The paste's warming effect enhances blood flow to the chest, helping to loosen mucus and ease respiratory congestion. Additionally, Dashmool's decongestant properties help balance excess *Kapha* and *Vata*, promoting clearer airways and supporting lung health. The soothing warmth of the paste also relaxes chest and back muscles, fostering a sense of relaxation, which reduces stress and aids in easier, more relaxed breathing.

**Mode of action:** The bioactive compounds in Dashmool and Dashang, including alkaloids, saponins and tannins, reduce inflammation by inhibiting pro-inflammatory cytokines, which alleviates localized pain, stiffness, and discomfort in the chest and back when absorbed through the skin[29,30]. The warming effect of the paste enhances blood flow, supporting the breakdown of mucus and reducing chest congestion. Dashmool's decongestant properties help balance excess *Kapha*, clearing respiratory passages and improving lung function[31]. The warmth and active compounds promote relaxation of the chest and back muscles, calming the nervous system, reducing stress, and facilitating easier, deeper breathing, which supports respiratory comfort and overall relaxation.

**5. Shiropichu and Shiroabhyangam with Brahmi oil**

**Procedure:** The oil was warmed to a comfortable temperature, and a cotton cloth was soaked in the oil for Shiropichu,

with additional oil set aside for the Shiroabhyangam massage. The treatment started with **Shiropichu**, where the soaked cloth was placed on the scalp, ensuring it covered the entire area while the patient lay down comfortably. This cloth was left in place for 30 to 60 minutes, allowing the oil to penetrate the scalp. Following the Shiropichu, the process continued with **Shiroabhyangam**, where the warm Brahmi oil was applied directly to the scalp using gentle, rhythmic strokes. The massage started from the forehead and moved toward the back of the head, incorporating the neck and shoulders as well. This massage was performed for 30 to 45 minutes, promoting relaxation and facilitating the absorption of the oil.

**Physiology:** The application of warm Brahmi oil leads to localized heat, which causes vasodilation. This enhances blood circulation to the scalp, improving the delivery of nutrients and oxygen to the tissues while promoting the removal of metabolic wastes.The treatment stimulates the parasympathetic nervous system, which promotes relaxation and reduces stress. This activation triggers the release of neurotransmitters like serotonin and endorphins, which enhance the well-being.The elevated temperature from the warm oil application increases the metabolic rate, leading to enhanced lipolysis to provide energy. This process also stimulates lymphatic drainage, facilitating detoxification by helping the body eliminate waste products through the skin and lymphatic system.

**Mode of action:** Shiropichu with Shiroabhyangam involves several key mechanisms rooted in Ayurvedic principles. The application of warm Brahmi taila enhances transdermal absorption of bioactive constituents such as bacosides and flavonoids, which exhibit neuroprotective properties and mitigate oxidative stress (*rakta dushti*)[32]. Additionally, these treatments stimulate the parasympathetic nervous system, promoting the release of neurotransmitters like serotonin and endorphins that elevate mood and regulate cortisol levels, thereby optimizing the body's response to psychological stressors[33]. Furthermore, the local heat increases *agni* (metabolic fire) and promotes *srotas* (channels) through vasodilation, enhancing the *dhatus* (tissue) delivery while facilitating the excretion of metabolic waste[34]. This thermogenic effect also stimulates lipolysis for energy and encourages apana vata, supporting lymphatic drainage and detoxification processes. Collectively, these actions contribute to the therapeutic efficacy of Shiropichu with Shiroabhyangam, promoting both physical (*Sharira)* and mental (*Manasa*) well-being.

**Medicinal Interventions**

The Ayurvedic treatment employed in this case included Chander vati tablet, GFR Powder, Renal support syrup, Castor oil, Divya Shakti Powder, Dr. Immune tablet, Aarogya Vati tablet and Kidney Shuddhi Ark along with Panchakarma therapies.

**Allopathic medicine administered during the treatment**

Ecosprin tablet is administered once in a day orally during IPD period as prescribed previously. It is a widely used medication for its cardioprotective and analgesic properties.

## RESULT

**Effectiveness of Ayurvedic Treatments:**The patient experienced progress in the symptoms and vitals after 6 days of IPD, from which it canbe concluded that the Ayurvedic interventions used in this study are effective against CKD. The decrease in pain after IPD shows significant improvement, which emphasizes that the Ayurvedic interventions used in the case study are effective against CKD.

**Future ResearchPerspectives:**The findings from this study showed promising potential; however, it is crucial to approach these results with caution since the investigation was conducted with just one patient. To validate the effectiveness and safety of these integrated Ayurvedic therapies for CKD, further research involving a larger patient population is essential. Additionally, conducting randomized controlled trials will provide a more robust framework for assessing these treatments. Establishing a standard protocol and clinical guidelines will require comprehensive studies that can ensure the reliability and applicability of these therapeutic approaches in clinical practice.

## DISCUSSION

Incorporating Ayurvedic medicine into the management of CKD provides a promising alternative to conventional treatment options. This case report details the application of various Ayurvedic therapies & Ayurvedic medicine for a 69-year-old male patient who had been diagnosed with CKD for the past seven months and had a history of hypertension lasting 20 years. The patient exhibited a range of symptoms, including constipation, back pain, frothy urine, nocturia, and general weakness. To address these issues, the Ayurvedic treatment plan included a series of Panchakarma procedures

**Awagaha Swedan**: It is a therapeutic procedure in which the patient is immersed up to the navel in a tub of warm water infused with medicinal herbs, with the water temperature maintained at 42°C to promote sweating for a duration of 20 to 60 minutes. This therapy enhances circulation through vasodilation, improving the delivery of oxygen

and nutrients to the kidneys while aiding in toxin excretion via sweating, thereby alleviating the burden on renal function and helping to balance *Vata* and *Kapha doshas*. As the body temperature rises, the sympathetic nervous system is activated, leading to the release of various hormones that regulate metabolism and promote relaxation, ultimately facilitating the elimination of metabolic wastes like urea and creatinine, supporting kidney function, and improving overall health.

**Gokshuradi and Punarnavadi Siddha Sneha Basti:** This involves preparing the patient in a comfortable environment with a light diet, positioning them in a left lateral position, and gently administering 90 ml of a prepared herbal oil via a lubricated enema device, with instructions to retain the liquid for 30 minutes to 1 hour for optimal absorption. This therapy harnesses the diuretic properties of Gokshura and Punarnava to enhance kidney filtration, increase urine output, and eliminate toxins, which effectively balances *Kapha dosha* and alleviates symptoms like edema and urinary disorders, while also providing anti-inflammatory benefits that relieve pain. Additionally, the herbal components promote detoxification and improve nutrient absorption, thereby supporting liver and kidney function, enhancing overall metabolic health, and contributing to the patient's well-being.

**Gokshuradi and Punarnavadi Kashaya Basti:** This involves preparing an herbal decoction by boiling selected herbs until the volume is reduced to one-fourth, followed by straining to obtain a clear liquid i.e. 350ml, which is then administered via a lubricated enema device while the patient is positioned in a left lateral position, with instructions to retain the liquid for 30 minutes to 1 hour. This procedure promotes peristalsis in the colon, facilitating the elimination of toxins and waste while balancing *Kapha* and *Pitta doshas*, thus alleviating symptoms like digestive discomfort and lethargy, and primarily targeting *Vata dosha* to relieve bloating, gas, and constipation. The bioactive compounds in the decoction not only nourish the colon and enhance its mucosal lining but also stimulate local immune responses, ultimately supporting digestive health, nutrient absorption, and overall well-being.

**Chest and Back Lepam with Dashmool and Dashang**: In this treatment a thick herbal paste made from Dashmool and Dashang powders is mixed with warm liquid and applied to the chest and back for 20–30 minutes before being gently wiped off. This herbal paste helps reduce inflammation and pain by absorbing through the skin, improving blood flow, and easing respiratory congestion. The warmth of the paste relaxes the muscles and helps balance the body's energies, leading to better lung function and overall relaxation.

**Shiropichu and Shiroabhyangam with Brahmi Oil:** This therapy involves warming Brahmi oil, soaking a cotton cloth in it for the Shiropichu, and then applying the oil directly to the scalp during the Shiroabhyangam massage. The soaked cloth is placed on the scalp for 30 to 60 minutes to allow the oil to penetrate, followed by a 30 to 45-minute massage that promotes relaxation and absorption of the oil. This treatment enhances blood circulation, stimulates the release of feel-good neurotransmitters, and supports detoxification, resulting in improved mental and physical well-being.

The Ayurvedic treatment protocol for this case included a variety of remedies such as included Chander vati tablet, GFR Powder, Renal support syrup, Castor oil, Divya Shakti Powder, Dr. Immune tablet, Arogya Vati tablet and Kidney Shuddhi Ark along with Panchakarma therapies. These interventions were designed to improve kidney function and alleviate symptoms. The patient reported significant relief from key symptoms like pain and frothy urine, which were also reflected in the DTPA scan parameters, indicating improved renal perfusion and filtration.

**Arogya Vati tablet:** It is composed of Ayurvedic herbs including Kajan (*Carthamus tinctorius*), Loh Bhasma (Ferrum), Abhrak Bhasma (Mica), Tamra Bhasma (Copper), Amalaki (*Emblica officinalis*), Vibhitaki (*Terminalia bellirica*), Haritaki (*Terminalia chebula*), Chitrak (*Plumbago zeylanica*), Katuka (*Picrorhiza kurroa*), Nimba Patra (*Azadirachta indica*). This combination of herbs enhances immunity, supports respiratory health, promotes detoxification, and assists in managing infections.

**Chander Vati tablet**: The tablets contain ingredients such Kapoor Kachri (*Hedychium spicatum*), Vacha (*Acoruscalamus*), Motha (*Cyperusrotundus*), Kalmegh (*Andrographispaniculata*), Giloy (*Tinosporacordifolia*), Devdaru (*Cedrusdeodara*), Desi Haldi (*Curcumalonga*), Atees (*Aconitumheterophyllum*), Daru Haldi (*Berberisaristata*), Pipla Mool (*Piperlongum* root), Chitraka (*Plumbagozeylanica*), Dhaniya (*Coriandrumsativum*), Harad (*Terminaliachebula*), Bahera (*Terminaliabellirica*), Amla (*Phyllanthusemblica*), Chavya (*Piperchaba*), Vayavidang (*Embeliaribes*), Pippal (*Piperlongum*), Kalimirch (*Pipernigrum*), Sonth (*Zingiberofficinale* dried ginger), Gaj Pipal (*Scindapsusofficinalis*), Swarn Makshik Bhasma (Gold iron pyrite ash), Sujji Kshar (Potassium carbonate - traditional alkali preparation), Senda Namak (Rock salt), Kala Namak (Black salt), Choti Elayachi (*Elettariacardamomum* - small cardamom), Dalchini (*Cinnamomumverum*), Tejpatra (*Cinnamomumtamala*), Danti (*Baliospermummontanum*), Nishothra (*Operculinaturpethum*), Banslochan (Bamboo silica), Loh Bhasam, Shilajit (*Asphaltumpunjabinum*), Guggal (*Commiphorawightii*). These Ayurvedic herbs help balance Pitta Dosha, which is essential for alleviating urinary tract infections (UTIs). Additionally, they promote detoxifica-

tion and have diuretic properties that aid in the effective management of CKD.

**Divya Shakti Powder**: This formulation includes ingredients such as Trikatu, Triphala, Nagarmotha (*Cyperusrotundus*), Vaya Vidang (*Embelia ribes*), Chhoti Elaichi (*Elettariacardamomum*), Tej Patta (*Cinnamomumtamala*), Laung (*Syzygiumaromaticum*), Nishoth (*Operculinaturpethum*), Sendha Namak (Sodium chloride), Dhaniya (*Coriandrumsativum*), Pipla Mool (*Piperlongum* root), Jeera (*Cuminumcyminum*), Nagkesar (*Mesuaferrea*), Amarvati (*Achyranthesaspera*), Anardana (*Punicagranatum*), Badi Elaichi (*Amomumsubulatum*), Hing (*Ferulaassafoetida*), Kachnar (*Bauhiniavariegata*), Ajmod (*Trachyspermumammi*), Sazzikhar (Sodium carbonate), Pushkarmool *(Inularacemosa*), Mishri (*Saccharumofficinarum*). This formulation is designed to enhance energy levels, strengthen immunity, support digestion, reduce stress, and promote rejuvenation.

**GFR Powder**: This powder enhances kidney function by minimizing inflammation and removing accumulated toxins. Its anti-inflammatory properties help reduce renal inflammation, supporting overall kidney health and detoxification.

**Renal support syrup**:This typically contains ingredients such as Nimba (*Azadirachtaindica*), Arjuna (*Terminaliaarjuna*), Gokshura (*Tribulusterrestris*), Hareetaki (*Terminaliachebula*), Ashwagandha (*Withaniasomnifera*), Karanja (*Pongamiapinnata*), Chirayata (*Swertiachirayita*), which work together to enhance kidney function, reduce inflammation and promote detoxification while supporting overall renal health.

**Castor oil**: Castor oil may be used in the management of CKD due to its potential to stimulate intestinal motility, promote detoxification and support the elimination of metabolic wastes.

**Dr. Immune tablet**: This is formulated to support kidney health in CKD, typically contain a blend of herbal ingredients such as Ashwagandha (*Withania somnifera*), Shatawari (*Asparagusracemosus*), and other antioxidants and adaptogens that help enhance immunity, reduce inflammation and improve overall renal function.

**Kidney Shuddhi Ark**: This is an herbal formulation designed for CKD that includes ingredients such as Kakmachi (*Solanum nigrum*), Shweta Punarnava (*boehravia diffusa*), Kasani (*Cichorium intybus*), Varun (*Crateva religiosa*), and other supportive herbs, which work synergistically to promote renal detoxification, enhance kidney function and reduce inflammation.

From this study it is inferred that integrating Ayurvedic treatment opens a novel alternate to advanced conventional treatment methods for CKD which is nearly unattainable to common people. The Ayurvedic therapies addresses the underlying imbalances along with curing the symptoms. This treatment method also improves the overall wellbeing of the patient.

## CONCLUSION

This case studyfor the treatment of CKD through Ayurvedic interventions can be concluded as follows:

**Symptoms:**Before treatment, the symptoms experienced by the patient includesconstipation, backache, frothy urine, nocturia and general weakness. After 6 days of IPD, the patient got relief from almost all the symptoms, only mild weakness was present and follow-up Ayurvedic care, the patient seems symptomatically better with mild general weakness. The patient reported relief from pain, relief from constipation, backache and nocturiawith no new complaints, which shows a noticeable advance in kidney function and overall wellness.

**Vitals:** The patient's vital signs fluctuated throughout the treatment period. Blood pressure remained fluctuated throughout the treatment period. The patient's weight remained 62 kg, the urination also become clear from frothy urination, which reflects the positive lifestyle and diet changes and development of the kidney function.

**Investigations:** Laboratory tests conducted during the treatment period depicted the renal function improvement. The Serum urea levels decreased from 145.01 mg/dL to 117.0 mg/dL during regular followups, indicating enhanced kidney function. Serum creatinine level also reduced from 8.64 mg/dL to 4.39 mg/dL. These study supports the dependability of Ayurvedic treatment methods for CKD.

This study concludes that, Ayurvedic medicines & Panchakarma therapies along with previously prescribed necessary allopathic medicine for CKD provided positive results, such as improvement in symptoms, vitals and laboratory investigation results. Hence, this proves the ability of traditional therapies for increase the health and function of kidney along with the overall well-being of the patient. However, further research with more controlled trails are essential to authenticate the conclusions and standardize treatment protocol establishment.

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Case Report

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# A Case Report on the Integrative Management of Chronic Kidney Disease: An Ayurvedic Approach

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## ABSTRACT

Chronic Kidney Disease (CKD) is a progressively debilitating condition, primarily affecting individuals with diabetes mellitus and hypertension, contributing significantly to global morbidity and mortality rates. As of 2021, CKD has emerged as the 9th leading cause of death worldwide. In patients with CKD, renal function declines gradually over time, often resulting in severe complications. Conventional treatments like dialysis and renal replacement therapy remain financially inaccessible to many, leading to a growing interest in alternative medical systems such as Ayurveda.

Ayurveda provides a unique perspective on CKD, categorizing it under *Madhyama rogamarga vyadhi*, associated with accumulated *kleda* (excessive bodily fluids) throughout the body. Though the kidney is not explicitly mentioned in classical Ayurvedic texts, it can be correlated with *vrikka*. The embryological origin of *vrikka* is linked to *medas* (adipose tissue) and *rakta* (blood), which, when disturbed by improper diet and lifestyle, contribute to the pathogenesis of CKD. Ayurvedic management focuses on restoring balance in these *dhatus*, offering a holistic treatment approach that may complement conventional therapies.

A case report of a 57-year-old male diagnosed with CKD stage V in 2010 illustrates the effectiveness of Ayurvedic interventions. The patient, presenting with recurrent vomiting, loss of appetite, decreased urine output, disturbed sleep, constipation, and right lower limb cellulitis, underwent Panchakarma therapy at Jeena Sikho Lifecare Limited Hospital, Derabassi, Chandigarh, in April 2024. He followed an Ayurvedic diet, practiced yoga and made lifestyle modifications, along with Ayurvedic medication, leading to positive clinical outcomes. This case underscores the potential of an integrative Ayurvedic approach to managing CKD effectively.

## INTRODUCTION

Chronic Kidney Disease (CKD) has become an increasingly significant global health issue, now ranking as the 9th leading cause of death worldwide as of 2021.**1** This reflects a sharp rise from 19th place in 2000, with deaths attributed to CKD

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increasing by 95% over the same period.**2** The condition remains closely associated with diabetes mellitus and hypertension, the two major contributors to its pathogenesis. The global prevalence of CKD is estimated at 9.13%,**3**affecting millions across the globe, particularly in low and middle-income countries where access to treatments like dialysis remains limited.

Chronic Kidney Disease (CKD) encompasses a range of pathological conditions that lead to impaired kidney function, often accompanied by a slow and steady decline in glomerular filtration rate (GFR).**4**If not properly managed, CKD can progress to end-stage renal disease (ESRD). In India, the prevalence of CKD has been on the rise, driven by shifts in lifestyle, dietary habits, hypertension and poorly controlled diabetes. The restoration of kidney function is typically only achievable through dialysis or kidney transplantation, both of which are expensive and out of reach for many, especially for individuals from economically disadvantaged backgrounds. This financial burden makes it difficult for most of the population to afford such treatments. As a result, there is growing interest in alternative medical systems, particularly Ayurveda. In light of this, exploring an Ayurvedic understanding of CKD becomes imperative, particularly from an etiological standpoint.

This case report highlights the remarkable potential of Ayurveda in the management of CKD, demonstrating its ability to correct the root imbalances contributing to the disease while enhancing the overall well-being of the patient. It emphasizes the holistic approach of Ayurveda, which not only addresses the physical symptoms but also promotes long-term improvements in quality of life.

# CASE REPORT

A 57-year-old male with a known diagnosis of CKD stage V presented to Jeena Sikho Lifecare Ltd Hospital, Derabassi, on 24th April 2024, with complaints of recurrent vomiting for 10 days, along with loss of appetite, reduced urine output, disturbed sleep and constipation. The patient also had a history of right lower limb cellulitis, which occurred 20 days ago. He had a 15-year history of hypertension and was receiving regular antihypertensive therapy. He was diagnosed with CKD stage V in 2018 but had not been initiated on maintenance haemodialysis (MHD). The patient had no history of alcohol consumption or smoking. The findings from the patient's initial evaluation on day one is presented in Table 1.

**Table 1: Initial Assessment Observations of the Patient on Day One**

| Parameter | Findings | Parameter | Findings |
|---|---|---|---|
| Temperature | 98.6˚F | *Nadi* | *Vataj Kaphaj* |
| Blood Pressure | 138/82 mm of Hg | *Mala* | *Malavashthamba* |
| Pulse Rate | 100/min | *Mutra* | *Alpa matra* |
| Weight | 51 Kg | *Jivha* | *Saam* |
| CNS | Conscious, well oriented | *Drik* | *Avikruta* |
| CVS | S1S2 Clear | *Kshudha* | *Alpa* |
| Chest | Chest Clear, bilaterally equal | *Agni* | *Mandya* |
| P/A | Soft, no tenderness | *Nidra* | *Khandita* |

The laboratory investigations conducted on the day of admission; April 24, 2024, are summarized in Table 2.

**Table 2: Laboratory Investigations on the Day of Admission (April 24, 2024)**

| Laboratory Test | Observed Value |
|---|---|
| Blood Count | |
| Hemoglobin | 10.2 g/dl |
| Total Leucocyte Count | 7600/cmm |
| RBC | 3.64 mill/cmm |
| Platelet Count | 1.83 lacs/cmm |
| Renal Function Test | |
| Blood Urea | 135.93 mg/dl |
| Serum Creatinine | 7.57 mg/dl |
| Serum Uric Acid | 6.07 mg/dl |
| Electrolytes | |
| Sodium Na+ | 139.9 mEq/L |
| Potassium K+ | 4.17 mEq/L |
| Chloride Cl- | 106.0 mEq/L |
| Urine Examination | |
| Urine Protein | ++ |

The patient underwent diagnostic tests, including a DTPA scan, Urine analysis, Complete Blood Count (CBC) and Renal Function Test (RFT).

The patient received a comprehensive Panchakarma regimen, which included Awagaha Swedana, Guduchyadi Siddha Sneha Basti, Shiropichu, Shiroabhyangamm, Leech Therapyand full-body oil massage (Sarwang Snehana) followed by full-body steam therapy(Sarvang Swedana). Alongside Panchakarma, the patient was administered Ayurvedic medicines and adhered to dietary and lifestyle modifications. The patient was prescribed and continued the following medications during treatment: Sodium Bicarbonate 1000 mg, twice daily; Clinidipine 1 mg, twice daily; Calcium Acetate 1 tablet, twice daily; and an Iron supplement, once daily.

The patient was discharged on May 3, 2024, showing significant improvement. Symptoms such as disturbed sleep, vomiting, constipation, itching and pedal edema

were alleviated. Additionally, there was an improvement in appetite and urine output.

**Table 3: Follow-Up Investigations and Results**

| Laboratory test | 24/04/2024 | 27/04/2024 | 03/05/2024 |
|---|---|---|---|
| Urea | 135.93 mg/dl | 106.77 mg/dl | 89.74 mg/dl |
| Creatinine | 7.57 mg/dl | 6.43 mg/dl | 5.72 mg/dl |
| Uric Acid | 6.07 mg/dl | 6.57 mg/dl | 7.45 mg/dl |
| Na+ | 139.9 mEq/L | 138.4 mEq/L | 140 mEq/L |
| K+ | 4.17 mEq/L | 4.43 mEq/L | 4.69 mEq/L |
| Cl- | 106.0 mEq/L | 103 mEq/L | 105.6 mEq/L |

# Treatment Plan

## I. Dietary Regimen:

The diet plan[5] recommended by Jeena Sikho Lifecare Ltd Hospital, Derabassi emphasizes the following guidelines:

**a. Dietary Restrictions:**

- Eliminate wheat, processed foods, refined products, dairy products, animal-based items, coffee and tea.
- Avoid consuming food after 8:00 PM.

**b. Hydration:**

- Drink alkaline water 3-4 times daily.
- Incorporate herbal teas, living water and turmeric-infused water into the routine.
- Drink water only when thirsty, limiting intake to small, regular sips.

**c. Millet Inclusion:**

- Integrate five types of millet into meals: Foxtail, Barnyard, Little, Kodo and Browntop millet.
- Only use steel utensils for preparing millet dishes.

**d. Meal Schedule: Disciplined and Intelligent Diet Plan – DIP[6]:**

- Breakfast (9:00-10:00 AM): Include a variety of fruits on Plate 1.
- Lunch (12:30-2:00 PM): Plate 1 consists of steamed vegetables or sprouts; Plate 2 includes a millet-based dish.
- Dinner (6:15-7:30 PM): Same as lunch, but served earlier.

**e. Fasting:**

- Implement a fasting routine once a week or every 3-4 days.

**f. Special Practices:**

- Practice gratitude before each meal.
- Sit in Vajrasana for a short period after meals to aid digestion.

**g. Dietary Variety:**

- The diet features a range of solid, semi-solid and smoothie options with no added salt.
- Suggested foods include herbal tea, red juice, fresh fruits, fermented millet beverages, steamed sprouts, soaked almonds and a variety of salads.

## II. Lifestyle Recommendations:

- **Sungazing:** Spend at least 30 minutes each day absorbing sunlight, preferably during early morning hours, to harness the benefits of natural vitamin D and promote overall well-being.
- **Yoga Practice:** Engage in a daily yoga routine from 6:00 to 7:00 AM, focusing on postures that promote flexibility, strength and mental clarity.
- **Meditation:** Incorporate meditation into your routine to reduce stress, enhance relaxation and foster mental balance and mindfulness.
- **Barefoot Walking:** Walk briskly for 30 minutes each day, ideally barefoot on natural surfaces like grass, to improve circulation, grounding and connection to nature.
- **Sleep:** Aim to achieve 6-8 hours of uninterrupted, restful sleep each night to support physical and mental rejuvenation.
- **Daily Routine (Dincharya):** Follow a consistent daily regimen that aligns with natural rhythms, ensuring balance in activities, meals, rest and exercise for holistic health.

## III.Panchakarma Procedures:

**a. Awagaha Swedana**

**Procedure:**

- The patient is immersed in a tub of warm water infused with therapeutic herbs.

- The water temperature is maintained at 42°C to promote sweating.
- The procedure lasts for approximately 30 minutes under close supervision.

**Physiology:**

- The warm water induces vasodilation, enhancing blood circulation to the skin.
- Sweating facilitates the removal of metabolic waste products and toxins from the body.
- The medicinal properties of the herbs are absorbed through the skin, promoting overall health.

**Mode of Action:**

- Immersion in water at 42°C increases body temperature, triggering vasodilation and activating the sympathetic nervous system. This stimulates the release of epinephrine, norepinephrine, and thyroid hormones, enhancing metabolic rate and promoting fat breakdown (lipolysis). The process also aids in the elimination of waste products, including urea, creatinine, ammonia and uric acid, through sweat, supporting detoxification and overall metabolic health.

As per Acharya Charak's description in Cha. Siddhi Sthana 1/8, Awagaha Sweda, a type of Sagni Sweda therapy, helps liquify and mobilize Doshas lodged within the body's microchannels i.e. srotas.**7**

**b. Guduchyadi Siddha Sneha Matra Basti**

**Procedure:**

- Warm medicated 90 ml of oil (Guduchyadi Siddha Sneha) is administered rectally while the patient is positioned comfortably.
- The oil is retained for a prescribed duration to maximize therapeutic effects.

**Physiology & Mode of Action:** The medicated oil is absorbed through the rectal mucosa, promoting lubrication of the intestines and facilitating smoother bowel movements. Matra Basti helps to balance *Vata dosha*, enhancing the natural expulsion of flatus, faeces and urine, while improving overall *Vata* functions.**8**The medicated oil circulates throughout the body, calming aggravated *Vata* and providing both local and systemic relief.

**Benefits of Guduchyadi:**

- **Guduchi:** Known for its potent immune-modulating, anti-inflammatory and rejuvenating properties, it supports detoxification, enhances metabolism and promotes overall balance of the *Tridosha*.**9**
- **Other Herbs in the Formulation:** Complementing Guduchi, the formulation works to reduce inflammation, improve kidney function, and aid in managing water retention, while also supporting detoxification and overall well-being.

**c. Shiroabhyangamm and Shiropichu with Brahmi Oil (Head Massage and Oil Application)**

**Procedure:**

- Warm Brahmi oil is massaged onto the scalp and neck for 20-30 minutes as part of Shiroabhyangam.**10**
- In Shiropichu, a cloth or cotton pad soaked in Brahmi oil is placed on the crown of the head and retained for an extended period to ensure deeper absorption of the oil.**11**

**Physiology & Mode of Action:** Both Shiroabhyangam and Shiropichu stimulate circulation and lymphatic drainage in the scalp and neck region, enhancing the movement of lymphatic fluids and increasing plasma tryptophan levels. This stimulates the pineal gland, resulting in the secretion of melatonin and serotonin, which help regulate sleep, mood and relaxation. The prolonged contact of Brahmi oil in Shiropichu allows for sustained nourishment and calming of the nervous system.

**Benefits of Brahmi Oil:**

- Brahmi oil is renowned for its calming and neuroprotective properties, supporting cognitive function, alleviating stress and enhancing sleep quality. It also nourishes the scalp, promoting healthy hair growth and reducing hair fall.

**d.Leech Therapy at Right Foot**

**Procedure:**

- Applied to the right foot for 2 days. Sterile leeches were placed on the cleaned area to draw blood for about 30-45 minutes before detaching naturally. The site was disinfected and dressed post-procedure.

**Mode of Action:**

- Leech saliva contains anticoagulants (hirudin),

enzymes and vasodilators, improving blood flow, reducing inflammation and aiding in the removal of toxins.**12**

**Benefits:**

- Enhances circulation, reduces swelling and inflammation, relieves pain and promotes wound healing.

**e.Snehan with Marichyadi and Mahanarayan Taila (Alternating Days) with Sarvanga Sweda**

**Procedure:**

- **Snehan (Oleation):** The patient was administered external oleation therapy (Snehan) using **Marichyadi Taila** and **Mahanarayan Taila** on alternate days. These medicated oils were applied to the entire body (Sarvanga) to induce deep penetration into the tissues.
- The oils were gently massaged in circular and long strokes, following the direction of muscle fibres. The application lasted for about 30-40 minutes, ensuring that the oils were absorbed through the skin.
- After the Snehan, **Sarvanga Swedan** (full-body steam therapy) was administered, where the patient was exposed to steam from herbal decoctions, further aiding in the absorption of the medicated oils and promoting sweating.

**Physiology & Mode of Action:**

- **Marichyadi Taila** is a warming oil with anti-inflammatory, analgesic and stimulating properties. It improves circulation, reduces stiffness and alleviates pain in the joints and muscles.**13**
- **Mahanarayan Taila** is a classical oil used for its Vata-pacifying properties. It provides nourishment to the muscles, bones and joints, helping to reduce pain and inflammation while improving mobility.**14**
- **Sarvanga Sweda** (steam therapy) enhances the absorption of the oils, opens up the skin pores, and promotes sweating, which helps in the detoxification process. It also aids in relieving muscle stiffness and joint pain, reducing Vata and Kapha dosha imbalances.**15**

**Benefits:**

- **Relieves Muscular Pain and Stiffness:** The combination of oil application and steam therapy soothes inflamed muscles and joints, reduces pain and improves flexibility.
- **Enhances Detoxification:** Sweating induced by Sweda therapy helps remove toxins and metabolic wastes from the body.
- **Improves Circulation:** Both the massage and steam promote better blood circulation, ensuring proper nourishment of tissues.
- **Pacifies Vata and Kapha Doshas:** This treatment is highly effective in balancing aggravated Vata, which is often linked to pain and stiffness, and Kapha, which can cause sluggishness and fluid retention.

**IV. Medicinal Intervention**

The medications provided to the patient during hospitalization and at the time of dischargeare outlined in Table 4.

**Table 4: Medications Administered During Hospitalization and at Discharge**

| Medicine | Dosage | Duration |
|---|---|---|
| **Medicine during patient's hospitalization** | | |
| Chitrakadi Vati | 2 Tab. BD Adhobhakta with koshna jala | 25/04/24 – 03/05/24 |
| Arogya Vati | 2 Tab. BD Adhobhakta with koshna jala | 25/04/24 – 03/05/24 |
| Sanjeevani Cap. | 2 Cap. BD Adhobhakta with koshna jala | 25/04/24 – 03/05/24 |
| GFR powder | half Tsf BD Adhobhakta with koshna jala | 25/04/24 – 03/05/24 |
| Kidney Care Syp. | 20 ml BD Adhobhakta kala with samamatra koshna jala | 25/04/24 – 03/05/24 |
| **Medicine given on discharge** | | |
| GFR powder | 1 Tsf BD Adhobhakta with koshna jala | 1 month |
| Chander Vati | 2 Tab. BD Adhobhakta with koshna jala | 1 month |
| DS powder | Half Tsf HS Nisha kala with koshna jala | 1 month |
| Arogya Vati | 2 Tab. BD Adhobhakta with koshna jala | 1 month |
| CKD Syp | 20 ml BD Adhobhakta with samamatra koshna jala | 1 month |

# RESULTS

The patient, a 57-year-old male diagnosed with stage V Chronic Kidney Disease (CKD), underwent a comprehensive Ayurvedic treatment regimen, including Panchakarma therapy, dietary modifications and lifestyle changes. Significant clinical improvements were observed following the initiation of treatment on April 24, 2024.

Laboratory investigations conducted at various intervals during treatment revealed a marked reduction in key renal function parameters as shown in Table 5. The results are summarized as follows:

**Table 5: Laboratory Investigations and Results in Key Renal Function Parameters**

| Parameter | Initial Value (24/04/2024) | Follow-Up Value (27/04/2024) | Follow-Up Value (03/05/2024) |
|---|---|---|---|
| Blood Urea | 135.93 mg/dl | 106.77 mg/dl | 89.74 mg/dl |
| Serum Creatinine | 7.57 mg/dl | 6.43 mg/dl | 5.72 mg/dl |

The patient reported significant alleviation of symptoms, including reduced vomiting, improved appetite, enhanced urine output and relief from constipation and disturbed sleep as shown in Table 6. The quality of life improved markedly, as evidenced by the patient's subjective feedback and clinical observations.

The patient was discharged on May 3, 2024, demonstrating substantial clinical improvement and a positive response to the integrative Ayurvedic approach.

**Table 6. Symptoms Observed Before and After Treatment**

| Symptoms at the time of Admission (24/04/24) | After Treatment on 03/05/24 |
|---|---|
| Loss of Appetite | Appetite improved |
| Disturbed sleep (4/10) | Sound sleep (9/10) |
| Recurrent vomiting | Better, no vomiting |
| Constipation | Clear |
| Itching over Right foot (4/10) | Relief now (0/10) |
| Pedal Oedema 20 | No oedema |
| Decreased Urine Output | Improved urine output |

# DISCUSSION

Chronic Kidney Disease (CKD) is a progressive and debilitating condition characterized by a gradual decline in renal function, often leading to end-stage renal disease (ESRD) if left unmanaged. The global prevalence of CKD is alarmingly high, particularly in populations with a high incidence of diabetes and hypertension, which are the primary risk factors contributing to its pathogenesis. The multifactorial nature of CKD necessitates a comprehensive approach to management that addresses not only the physiological aspects of the disease but also the underlying lifestyle and dietary factors that exacerbate its progression.

The Ayurvedic perspective on CKD categorizes it under the framework of Madhyama rogamarga vyadhi, which is associated with the accumulation of *kleda* (excessive bodily fluids) and imbalances in the body's doshas. In Ayurveda, the kidneys are correlated with the concept of Vrikka, which emphasizes the importance of maintaining balance among the body's dhatus (tissues) to prevent disease. This holistic approach is particularly relevant in the context of CKD, where conventional treatments such as dialysis and renal replacement therapy may not be accessible to all patients, especially in low and middle-income countries.

The Panchakarma procedure, a cornerstone of Ayurvedic treatment, plays a crucial role in the management of CKD. This detoxification and rejuvenation therapy aims to eliminate accumulated toxins (ama) from the body, restore dosha balance and enhance overall health. In this case, the patient underwent a comprehensive Panchakarma regimen that included Awagaha Swedana (herbal steam therapy), Guduchyadi Siddha Sneha Basti (medicated oil enema), Shiropichu (oil application on the head), Shiroabhyangam (head massage), Leech Therapy and Sarvang Swedana (full-body steam therapy). Each of these modalities contributes to the therapeutic goals of reducing inflammation, improving circulation and promoting renal function.

Awagaha Swedana: This procedure helps in the relaxation of muscles and alleviation of stress, which can be beneficial for patients experiencing discomfort due to CKD. The herbal steam aids in the elimination of toxins through the skin, thereby supporting renal function.**16**

Guduchyadi Siddha Sneha Basti: The use of medicated oils in enemas is particularly effective in balancing the vata dosha, which is often aggravated in CKD patients. This therapy enhances the absorption of nutrients and promotes detoxification.

Shiropichu and Shiroabhyangam: These therapies focus on the head and neck region, promoting relaxation and mental clarity, which can be beneficial for patients dealing with the psychological stress associated with chronic illness.

Leech Therapy: This innovative approach is utilized to improve blood circulation and reduce swelling, which can be particularly advantageous for patients with edema, a common symptom of CKD.

Sarvang Swedana: Full-body steam therapy aids in the detoxification process and enhances metabolic functions, contributing to the overall improvement of the patient's health status.**17**

In conjunction with Panchakarma, the patient adhered to a meticulously designed dietary regimen that emphasized the elimination of processed foods, dairy, and animal-based products, while incorporating alkaline water, herbal tea and various types of millet. This dietary approach aligns

with Ayurvedic principles, promoting the consumption of wholesome, natural foods that support kidney health and overall well-being.

The Ayurvedic medicines administered during the treatment were selected based on their properties to enhance renal function, reduce inflammation and support the body's natural detoxification processes. The integration of these therapies not only addressed the physical symptoms of CKD but also promoted a holistic improvement in the patient's quality of life.

Chitrakadi Vati is an Ayurvedic formulation beneficial in managing CKD by supporting digestion, enhancing metabolism and promoting detoxification.**18** Ingredients like Chitraka and Pippali reduce Ama (toxins), while Yava Kshar and various salts help maintain electrolyte balance and assist in waste elimination. Hingu and Ajmoda alleviate gas and bloating, reducing toxin buildup and Shunthi and Marich provide anti-inflammatory effects. Together, these components support kidney health by easing metabolic load, aiding in detoxification and enhancing overall vitality.

Aarogya vaticontainsTrikatu, Triphala, Nagarmotha, Vaya Vidanga, Choti Elaichi and other herbs.**19** It is an Ayurvedic preparation that promotes general health and vitality, especially beneficial for individuals with Chronic Kidney Disease (CKD). It commonly includes components such as Trikatu and Triphala, which aid in enhancing digestion, stimulating metabolism and facilitating detoxification. By reducing fatigue and uplifting energy levels, Arogya Vati significantly supports kidney function and overall wellness in CKD patients.

Sanjeevani Capsule is formulated to aid kidney function in chronic kidney disease (CKD) through a combination of Ayurvedic herbs with detoxifying, anti-inflammatory and diuretic properties. Sanjeevani Vati**20** is traditionally known for its potent ability to balance doshas and support metabolic health, which can help reduce stress on the kidneys. Bhumiamla (Phyllanthus niruri) is a known hepatoprotective and renal-supportive herb, which protects kidney tissues and aids in detoxification. Ajwain (Carom seeds) contributes by improving digestion and reducing toxin buildup. Together, these ingredients work synergistically to support kidney health, reduce inflammation and enhance the body's natural detoxification processes in CKD management.

Chander Vati is an Ayurvedic preparation blending powerful herbs to promote kidney health, especially useful for managing Chronic Kidney Disease (CKD). Primary ingredients such as Kapoor Kachri and Vacha aid in relieving urinary tract discomfort and encourage smooth urine flow, while anti-inflammatory agents like Giloya and Motha help reduce inflammation and strengthen immunity.**21** Chander Vati also supports detoxification and boosts energy levels, making it particularly helpful for CKD patients dealing with fatigue. By fostering healthy urinary function and aiding in detoxification, Chander Vati acts as a supportive supplement in the holistic care of CKD, enhancing patients' overall well-being.

GFR Powder is an Ayurvedic blend crafted to support kidney health in Chronic Kidney Disease (CKD). Its core ingredients, including Bhoomi Amla, Haritaki and Punarnava, offer restorative and detoxifying effects. Bhoomi Amla helps safeguard kidney tissues, Haritaki promotes digestive health, and Punarnava functions as a diuretic to alleviate fluid buildup.**22** Collectively, these herbs work to minimize inflammation and boost overall vitality, establishing GFR Powder as a beneficial addition in the comprehensive management of CKD.

Kidney Care BLK combines Punarnavarishta, Chandanasava, Ushirasava and Gokshuradi Kadha to support kidney health in CKD. It promotes detoxification, reduces inflammation, and improves urinary function. The diuretic properties of these herbs help eliminate excess fluids, improve renal blood flow and enhance overall kidney function.

Divya Shakti Powder is a carefully crafted Ayurvedic blend with herbs that support kidney health and function, particularly beneficial in managing Chronic Kidney Disease (CKD). Key ingredients like Nagarmotha and Vaya Vidang have diuretic properties, helping to eliminate toxins and reduce fluid retention. Herbs like Chhoti Elaichi, Jeera and Dhanyaka support digestion and reduce inflammation, which can indirectly benefit kidney function by easing metabolic load. Additionally, Nagakesar and Nishotha aid in detoxification and have anti-inflammatory effects, while Pushkarmoola and Vacha help regulate circulation and manage symptoms of CKD, such as fatigue and poor digestion. Together, these ingredients provide a holistic approach to managing CKD by enhancing detoxification, digestion and renal health.

CKD Syrup is an Ayurvedic formulation designed to support kidney health in Chronic Kidney Disease (CKD) patients by promoting detoxification, balancing fluids and enhancing immunity. Kasani (chicory) helps to improve liver and kidney function, aiding in the removal of toxins. Gokshura acts as a natural diuretic, promoting urine flow and reducing fluid retention.**23** Shatavari supports the body's resistance to stress, while Giloya boosts immunity and reduces inflammation, both of which are crucial for CKD patients. Sorbitol aids in digestion, helping to reduce the metabolic load on the kidneys. Shudh Shilajita provides minerals and boosts vitality, helping to improve overall energy levels. Together, these ingredients offer a holistic approach to managing CKD by promoting detoxification, reducing inflammation and supporting renal function.

In summary, this case underscores the potential of an integrative Ayurvedic approach in managing CKD, particularly in patients who may not have access to conventional treatments. The positive clinical outcomes observed in this patient highlight the need for further research into the efficacy of Ayurvedic interventions in CKD

management, as well as the importance of a multidisciplinary approach that combines traditional and modern medical practices to optimize patient care.

# CONCLUSION

This case study highlights the promising potential of Ayurvedic interventions, particularly Panchakarma therapy, in the management of Chronic Kidney Disease (CKD) stage V. The significant clinical improvements observed in the patient, including symptomatic relief from recurrent vomiting, loss of appetite, disturbed sleep and constipation, underscore the efficacy of a holistic approach that integrates traditional Ayurvedic practices with modern medical understanding.

Investigation-wise, the patient demonstrated notable improvements in key renal function parameters, with reductions in serum urea and creatinine levels from 135.93 mg/dl to 89.74 mg/dl and from 7.57 mg/dl to 5.72 mg/dl, respectively, over the course of treatment. These findings indicate a positive response to the Ayurvedic management plan, suggesting enhanced renal function and overall metabolic health.

As CKD continues to pose a substantial global health challenge, particularly in resource-limited settings, the findings from this case advocate for the exploration and validation of alternative treatment modalities. The Ayurvedic framework, with its emphasis on restoring balance within the body and addressing the root causes of disease, offers a complementary strategy that may enhance patient outcomes and quality of life.

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