

Prakriti- The International Multidisciplinary Research Journal
Year 2024, Volume-1, Issue-1 (January - June)



INTEGRATIVE MANAGEMENT OF CHRONIC KIDNEY DISEASE: A CASE REPORT ON THE EFFICACY OF AYURVEDIC PANCHAKARMA THERAPY IN ADVANCED CKD

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ARTICLE INFO

Keywords: Chronic Kidney Disease (CKD), Panchakarma in Ayurveda, Hypertension, End-Stage Renal Disease (ESRD), Integrative Medicine, Vrikka Vikar.

ABSTRACT

Chronic kidney disease (CKD) constitutes a significant global health challenge, ranking among the foremost causes of morbidity and mortality. The effective management of CKD by primary care providers is imperative to mitigate the risk of complications, including cardiovascular disease, progression to end-stage renal disease (ESRD), and premature mortality. The integration of traditional approaches, such as Ayurveda, with conventional management strategies offers a comprehensive framework for CKD management.

A 73-year-old male with a documented history of hypertension and a recent diagnosis of CKD Stage V presented to Jeena Sikho Lifecare Limited Hospital exhibiting symptoms such as pedal edema, periorbital swelling, and gastric disturbances. The patient underwent Panchakarma therapy, Ayurvedic medication, and lifestyle and dietary modifications. Substantial symptom relief was observed following the integrative treatment approach.

INTRODUCTION

Chronic kidney disease (CKD) is a multifaceted pathological condition characterized by the gradual deterioration of nephron function, often culminating in end-stage renal disease (ESRD). CKD is classified into five stages based on glomerular filtration rate (GFR). In Ayurveda, CKD correlates

with conditions such as **Madhumeha** and **Mutrakshaya**, which are Vata-dominant **Tridoshaja** disorders. Ayurvedic management involves balancing the doshas, detoxification, dietary modifications, and rejuvenation therapies.

CASE REPORT

A 73-year-old male (UHID-21072024) with hypertension for 1.5 years and CKD Stage V presented on May 16,

The patient's general examination findings are presented in Table 1.

Table 1. General Examination

Parameter	Findings
Blood Pressure	126/74 mm of Hg
Pulse Rate	66/min
Weight	54 kg
Height	5'4"
Nadi	VataPittaj/ madhyam Gati
Mala	Malavashtambha (constipation)
Mutra	Avikrut
Jivha	Saam (coated)
Shabda	Spashta
Sparsha	Anushna
Akruti	Madhyam
Drik	Avikrut
Kshudha	Alpa
Agni	Mandya

2024, at Jeena Sikho Lifecare Limited Hospital. Symptoms included pedal edema, periorbital swelling, gastrointestinal disturbances, incomplete bowel evacuation, fatigue, and myalgia. The patient had undergone surgical intervention for benign prostatic hyperplasia (BPH) seven years prior.

Treatment Plan

Dietary Guidelines:

- **Avoided:** Wheat, processed foods, refined products, dairy, animal-derived items, coffee, and tea.
- **Recommended:** Alkaline water, herbal tea, millet-based meals (Foxtail, Barnyard, Little, Kodo, Browntop), and turmeric-infused water.
- **Meal Schedule:**
 - Morning (6:00–10:00 AM): Fresh fruits.
 - Lunch (12:30–2:00 PM) and Dinner (6:15–7:30 PM): Steamed

vegetable salad, millet-based dish.

- **Additional Guidelines:** Fasting once weekly, gratitude before meals, and Vajrasana post-meal.

Lifestyle Modifications:

- Sun-gazing for 30 minutes daily.
- Sukhasana yoga (6:00–7:00 AM), meditation, and barefoot brisk walking (30 minutes).
- 6–8 hours of sleep and adherence to a daily routine (Dincharya).

Panchakarma Procedures:

- Awagaha Swedana (herbal steam bath).

Procedure:

- The patient is seated in a tub filled with warm water infused with medicinal herbs.
- The water temperature is maintained at 42°C to promote diaphoresis.

The laboratory investigations performed on the day of admission, May 17, 2024, are summarized in Table 2.

Table 2. Laboratory Findings

Laboratory Test	Observed Value
Blood Count	
Hemoglobin	11.1 g/dl
Total Leucocyte Count	5700/cmm
RBC	4.12 mill/cmm
Platelet Count	2.43 lacs/cmm
Renal Function Test	
Blood Urea	143.28 mg/dl
Serum Creatinine	4.89 mg/dl
Serum Uric Acid	8.31 mg/dl
Electrolytes	
Sodium Na ⁺	141.1mEq/L
Potassium K ⁺	4.55mEq/L
Chloride Cl ⁻	106.9mEq/L
Lipid Profile	
Total Cholesterol	190.39 mg/dl
HDL Cholesterol	38.56 mg/dl
Triglycerides	139.03 mg/dl
LDL Cholesterol	124.02 mg/dl
VLDL Cholesterol	27.81 mg/dl
LDL/HDL Ratio	4.94
Liver Function Test	
Total Bilirubin	0.58 mg/dl
AST (SGOT)	18.57 IU/L
ALT (SGPT)	19.86 IU/L
Alkaline Phosphatase (ALP)	92.74 U/L
Total Protein	7.60 g/dl
Albumin	3.79 g/dl
Globulin	3.81 g/dl
A/G Ratio	0.99
Glomerular Filtration Rate (eGFR)	12 mL/min/1.73m ²
Viral Marker Rapid Test	
HIV-1 and HIV-2 Antibody	Non-Reactive
HBsAg	Non-Reactive
Anti HCV	Non-Reactive
Others	
Calcium Ca ⁺	10.54 mg/dl
Parathyroid Hormone (iPTH)	146 pg/ml

The investigations conducted during the subsequent visits are detailed in Table 3.

Table 3: Follow-Up Investigations and Results

Laboratory test	17/05/2024	21/05/2024	19/07/2024
Hemoglobin	11.1	10.2	12.1
Urea	143.28	97.72	53.5
Creatinine	4.89	4.28	3.52
Uric Acid	8.31	7.62	7.1
Na+	141	140.3	134
K+	4.55	4.62	5.42
Cl-	106.9	104.6	103.0
Urine Protein	Before Treatment Report not Available	++	
eGFR	12 mL/min/1.73m ²		

- The treatment lasts for approximately 30 minutes under observation.

Physiology:

- Warm water induces vasodilation, increasing blood flow to the skin.
- Sweating facilitates the removal of metabolic wastes and toxins.
- Enhances transdermal absorption of herbal constituents.

Mode of Action:

- Sitting in water at 42°C elevates body temperature, causing vasodilation and sympathetic nervous system stimulation.
- This triggers the release of catecholamines (epinephrine, norepinephrine) and thyroid hormones, enhancing metabolic rate and promoting lipolysis.
- Facilitates the excretion of metabolic waste (e.g., urea, creatinine, ammonia, uric acid) through perspiration.
- Acharya Charak (Cha. Siddhi Sthana 1/8) notes that Awagaha Swedana, a form of Sagni Sweda therapy, mobilizes and liquefies doshas trapped within microchannels (srotas).

2. Lepam Using Dashmool, Trikatu, and Shunthi

Procedure:

- Prepare a paste using Dashmool, Trikatu, and Shunthi with water as a solvent.
- Apply the paste to the affected skin area.
- Allow it to remain for the prescribed time before rinsing it off.

Physiology & Mode of Action:

- Lepa Kalpana promotes transdermal absorption of therapeutic agents, bypassing hepatic metabolism for increased bioavailability.
- Stimulates localized sweating, aiding in the excretion of metabolic byproducts (e.g., urea, creatinine).
- This reduces edema, alleviates pain, and balances doshas.

Key Benefits:

- Anti-inflammatory, antioxidant, and analgesic properties:
 - Trikatu: Anti-inflammatory, antioxidant; balances Vata and Kapha doshas.
 - Shunthi: Anti-inflammatory, analgesic.

3. Shiroabhyanga with Brahmi Oil (Head Massage)

Procedure:

- Warm Brahmi oil is gently massaged onto the scalp and neck for 20–30 minutes.

Physiology & Mode of Action:

- Stimulates blood circulation and lymphatic drainage in the head and neck region.

- Enhances plasma tryptophan levels, activating the pineal gland for melatonin and serotonin secretion.
- Improves relaxation, mood, sleep quality, and cognitive function.

Benefits of Brahmi Oil:

- Calming and rejuvenating properties.
- Reduces stress, improves cognitive function, and promotes hair health.

4. Patra Pottali Swedana (Leaf Pouch Therapy)

Procedure:

- Medicinal leaves such as *Ricinus communis* (Erand), *Vitex negundo* (Nirgundi), and *Calotropis gigantea* (Arka) are bundled in a cloth pouch (pottali).
- The pouch is heated and applied to targeted areas for 30–45 minutes.
- Therapy is performed for three consecutive days.

Physiology & Mode of Action:

- Heat application induces localized sweating, enhancing blood flow and absorption of herbal constituents.
- Opens microchannels (srotas) and promotes toxin elimination (e.g., urea, creatinine).
- Stimulates sympathetic nervous activity, boosting metabolic processes and detoxification.

Benefits:

- Erand: Reduces inflammation, alleviates pain, enhances circulation, and supports renal function.
- Nirgundi: Anti-inflammatory and diuretic; reduces edema and fluid retention.
- Arka: Diuretic and anti-inflammatory; balances Vata and Kapha doshas.

5. Kashaya and Sneha Basti (Alternate Days)

i. Gokshuradi and Punarnava Kashaya Niruha

Basti (300 ml)

Procedure:

- Prepare and strain a decoction of Gokshuradi and Punarnavadi herbs.
- Administer the warm decoction rectally with instructions for retention.

Physiology & Mode of Action:

- Targets Pakwashaya (large intestine) to balance Vata dosha at its source, supporting systemic dosha regulation.
- The herbal decoction disperses through microchannels (srotas), carried by Samana and Apana Vayu.

Benefits of Gokshuradi and Punarnava

- Recognized for their diuretic and anti-inflammatory properties, these herbs promote urinary health, support Tridosha balance, and enhance metabolic functions.
- Punarnava: Effective in reducing inflammation, promoting renal health, aiding detoxification, and managing fluid retention.

Gokshuradi and Punarnava Siddha Sneha Matra Basti (90 ml)

Procedure:

- Warm medicated oil prepared with Gokshuradi and Punarnava Siddha Sneha is administered rectally with the patient positioned comfortably.
- The oil is retained for a specified duration as per protocol.

Physiology & Mode of Action:

- The medicated oil penetrates the rectal mucosa, facilitating absorption and lubricating the intestines, thus supporting bowel movements.
- Matra Basti normalizes Vata dosha, promoting the elimination of flatus, feces, and urine while improving systemic Vata function.
- The active constituents in the medicated oil distribute through the body, addressing aggravated Vata dosha and producing localized and systemic therapeutic effects.

Benefits of Gokshuradi and Punarnava in Matra Basti:

- Gokshuradi Dravya: Acts as a diuretic, supports urinary health, balances Tridosha, and enhances metabolic processes.
- Punarnava: Promotes renal health, aids in detoxifi-

cation, and helps manage fluid retention by reducing inflammation.

- In this formulation, Gokshura contributes to diuretic activity, Tridosha balance, and overall strength restoration.

Medicinal Intervention

Allopathic Treatment:

- Prior to hospitalization, the patient was prescribed:
 - Amlodipine (10 mg): A calcium channel blocker used as an antihypertensive agent.
 - Beta blockers, torsemide (diuretic), alpha-keto analogs, calcium supplements, multivitamins, and haematinics.
- Adjustments during treatment:
 - Certain medications were discontinued, dosages reduced, or continued on an as-needed basis (SOS).
- A detailed summary of medication changes during hospitalization, discharge, and follow-up is outlined in Table 4.

Ayurvedic Regimen:

Included Sama Vati, Dhatu Poshak Capsule, Chander Vati, GFR Powder, Aarogya Vati, and Mutravardhak Vati combined with Panchakarma therapies.

- Specifics of the Ayurvedic formulations, including ingredients, dosages, duration, and therapeutic effects, are presented in Table 5.

Result

- The integrative Ayurvedic treatment administered to a 73-year-old male with Stage V CKD demonstrated significant symptomatic relief, including reductions in:
 - Pedal edema
 - Periorbital swelling
 - Gastrointestinal disturbances
 - Fatigue
- The comprehensive protocol combined Panchakarma therapy, Ayurvedic pharmacotherapy, dietary adjustments, and lifestyle modifications.
- Clinical improvements indicate the effectiveness of Ayurveda in managing advanced CKD symptoms and enhancing overall well-being.
- Table 8 compares symptom severity before and after treatment using a scoring system for edema and other parameters.

Discussion

From the Ayurvedic perspective, chronic kidney disease (CKD) results from an imbalance in Vata, Pitta, and Kapha doshas. Treatment focuses on detoxification and renal rejuvenation.

Key Panchakarma Therapies Administered:

Awagaha Sweda (Herbal Warm Bath)

- Promotes sweating, vasodilation, and the excretion of metabolic waste (e.g., urea, creatinine).
- Enhances blood flow and detoxification processes, alleviating CKD symptoms.

Gokshuradi and Punarnava Siddha Sneha Matra Basti

- Lubricates intestines, balances Vata dosha, and aids systemic detoxification.
- Disseminates therapeutic benefits throughout the body via Vata subtypes (Samana, Apana).

Gokshuradi and Punarnava Kashaya Niruha Basti

- Rectal administration of herbal decoction targets Vata dosha imbalances, promoting equilibrium across the body.

Shiroabhyanga (Head Massage)

- Improves blood circulation, lymphatic drainage, relaxation, and mental clarity.

Lepam Using Dashmool, Trikatu, and Shunthi

- Topical paste enhances local absorption, reduces swelling, and alleviates pain with its anti-inflammatory and analgesic properties.

Specific Ayurvedic formulations, such as Sama Vati and GFR Powder, provide targeted support for kidney health. These herbal remedies are meticulously crafted to improve digestion, reduce inflammation, and support renal function. Their integration with lifestyle modifications, including dietary adjustments and routine management, exemplifies the holistic approach of Ayurveda in addressing chronic health conditions like CKD.

Sama Vati

- **Description:** An Ayurvedic formulation that promotes kidney health and overall vitality.

Table 4: Medications Administered During Hospitalization, At Discharge, and After One-Month Follow-Up

Medicine	Dosage
Medicine during patient's hospitalization	
GFR powder	Half Tsp BD / (Adhobhakta with Ushnodak)
Mutravardhak Vati	2 Tab. BD / (Adhobhakta with ushnodak)
Renal Support Syrup	20ml BD/ (Adhobhakta with ushnodak)
Chander Vati	2 Tab. BD/ (Adhobhakta with Ushnodak)
Medicine given on discharge	
GFR powder	1 Tsp BD/ (Adhobhakta with ushnodak)
Chander Vati	2 Tab. BD/ (Adhobhakta ushnodak)
DS powder	Half Tsp (Nishikale with ushnodak)
Mutravardhak Vati	2 Tab. BD/ (Adhobhakta with ushnodak)
Dhatuposhak Cap.	1 Cap. BD/ (Adhobhakta with ushnodak)
Medicine given after the one-month follow up	
Sama Vati	2 Cap. BD/ (Adhobhakta with ushnodak)
Mutravardhak Vati	2 Tab. BD/ (Adhobhakta with ushnodak)
GFR powder	Half Tsp BD/ (Adhobhakta with ushnodak)
Chander Vati	2 Tab. BD/ (Adhobhakta with ushnodak)
Dhatuposhak Cap.	2 Cap. BD/ (Adhobhakta with ushnodak)
Arogya Vati	2 Tab. BD/ (Adhobhakta with ushnodak)

- **Key Ingredients:**
 - **Vidarikand** and **Talmakhana:** Enhance kidney function and fluid balance.
 - **Akarkara** and **Musli:** Aid digestion and reduce inflammation.
 - **Amla** and **Shilajit:** Provide antioxidant support, protecting kidney tissues from oxidative stress.
 - **Kasni:** Acts as a diuretic, promoting urine flow and aiding detoxification.
- **Therapeutic Benefits:** Sama Vati adopts a comprehensive approach to CKD management by addressing physiological and nutritional needs, thereby enhancing patient well-being.

Dhatu Poshak Vati

- **Description:** A formulation designed to support overall health and vitality, particularly for CKD patients.
- **Key Ingredients:**
 - **Peepal Lakh** and **Arjun Chaal:** Possess rejuvenating properties, enhance kidney function, and improve blood circulation.
 - **Nagbala** and **Shodit Guggal:** Reduce

inflammation and support metabolic processes.

- **Therapeutic Benefits:** Improves nutrient absorption and supplies essential minerals, addressing nutritional deficiencies in CKD patients.

Chander Vati

- **Description:** An herbal formulation for renal health and CKD management.
- **Key Ingredients:**
 - **Kapoor Kachri** and **Vach:** Alleviate urinary tract symptoms and facilitate urine flow.
 - **Giloy** and **Motha:** Diminish inflammation and strengthen the immune system.
- **Therapeutic Benefits:** Supports detoxification, alleviates fatigue, and improves overall quality of life.

GFR Powder

Table 5. Ayurvedic Medicines, Ingredients, Dosage, Duration, and Their Therapeutic Effects in Management for CKD

Medicine Name	Ingredients	Dosage	Duration	Therapeutic Effects
Sama vati	Vidarikand , Beej Band Lal, Akarkara, Talmakhana, Musli, Aawla, Sonth, Jaiphal, Swarn makshik, Shilajitshud, Bhoomi Amla, Badi Harad, Bahera, Kasni	2 tablets BD / Adhobhakta with ushnodak	1 month	Aids in digestion and alleviates constipation.
GFR Powder	Bhoomi Amla, Badi Harad, Bahera, Kasni, Makay, Punarnava, Gokshur	Half a teaspoon BD /Adhobhakta with ushnodak	2 months	Supports kidney function and reduces inflammation, helping with renal symptoms.
Chander Vati	Kapoor Kachri, Vach, Motha, Kalmegh, Giloy, and other herbs	2 tablets BD with ushnodak /Adhobhakta	2 months	Alleviates urinary tract symptoms and promotes healthy urine flow.
Dhatu poshak	Peepal Lakh, Asthi Sahari (Hadjorh), Arjun Chaal, Nagbala, Vansh Lochan, and ShoditGuggal	2 tablets BD / Adhobhakta with Ushnodak	2 months	Supports bone health and may help with muscle pain relief.
Aarogya vati	Trikatu, Triphala, Nagarmotha, Vay Vidang, Choti Elaichi, and other herbs	2 tablets BD / Adhobhakta with Ushnodak	1 month	Enhances overall vitality and energy levels, addressing fatigue and weakness.
Mutravardhakvati	Swarna Bhasma, Rajat Bhasma, Abhrak Bhasma, Loh Bhasma, Shilajit, ShudhGandhak, Swarna Makshik Bhasma, and Varun Kwath	2 tablets BD / Adhobhakta with Ushnodak	2 months	Provides comprehensive support for kidney health and balances bodily functions.
Renal Support Syrup	Nimba, Arjuna, Gokshura, Hareetaki, Ashwagandha, Karanja, Chirayata	20 ml BD / Adhobhakta with Ushnodak	7 Days	It aids in detoxification and supports kidney function, addressing swelling and pain.
Divya Shakti Powder	Trikatu, Triphala, Nagarmotha, Vay Vidang, Choti Elaichi, and other herbs	Half a teaspoon BD / Adhobhakta with Ushnodak	1 month	Enhances overall vitality and energy levels, addressing fatigue and weakness.

Table 8: Symptoms Observed Before and After Treatment with Scores

Table 8.1 Score 0 to 10; 0 being the lowest point and 10 being the highest point

Before Treatment	After Treatment
Weakness (5/10)	Weakness (0/10)
Gastric Issue (5/10)	Gastric Issue (0/10)
Constipation(6/10)	Constipation (0/10)
Appetite (2/10)	Appetite improved (8/10)

Table 8.2 Degree 0⁰ to 4⁰; 0 being the healthy and 4⁰ being the most unhealthy

Before Treatment	After Treatment
Pedal Oedema 2 ⁰	Pedal Oedema 0 ⁰
Periorbital Swelling 2 ⁰	Periorbital Swelling 0 ⁰

- **Description:** A formulation designed to enhance kidney function.
- **Key Ingredients:**
 - **Bhoomi Amla:** Protects renal tissues.
 - **Badi Harad:** Aids digestion.
 - **Punarnava:** Acts as a diuretic to mitigate fluid retention.
- **Therapeutic Benefits:** Reduces inflammation and enhances vitality, establishing itself as a valuable tool in CKD management.

Arogya Vati

- **Description:** A formulation that supports overall health and vitality in CKD patients.
- **Key Ingredients:**
 - **Trikatu and Triphala:** Improve digestion, enhance metabolism, and support detoxification.
- **Therapeutic Benefits:** Alleviates fatigue, boosts energy, and supports renal health.

Mutravardhak Vati

- **Description:** Formulated to bolster urinary health and kidney function.
- **Key Ingredients:**
 - **Swarna Bhasma and Shilajit:** Known for their detoxifying properties.
- **Therapeutic Benefits:** Enhances urine flow, reduces fluid retention, and addresses urinary tract issues, making it essential in CKD management.

Conclusion

The case report of a 73-year-old male patient diagnosed with Stage V Chronic Kidney Disease (CKD) demonstrates substantial improvements in symptoms, vital signs, and

laboratory investigations following an integrative Ayurvedic treatment approach.

Symptoms: Initially, the patient presented with pedal edema, periorbital swelling, gastrointestinal disturbances, incomplete bowel evacuation, and general fatigue accompanied by body aches. Post-treatment, a significant reduction in these symptoms was observed, indicating effective management of fluid imbalance and metabolic waste accumulation.

Vital Signs: Upon admission, the patient's blood pressure was recorded at 130/90 mm Hg, with a pulse rate of 68 beats per minute. These vital signs remained stable throughout the treatment period, suggesting that the Ayurvedic interventions contributed to the maintenance of cardiovascular stability, which is crucial for the management of CKD.

Investigations: Laboratory results upon admission revealed elevated blood urea levels of 143.28 mg/dL, indicative of impaired renal function. After treatment, these levels decreased to 53.5 mg/dL, showing marked improvement. Similarly, serum creatinine levels, initially measured at 4.89 mg/dL, were reduced to 3.52 mg/dL, further indicating significant renal recovery.

The overall improvement in symptoms and the stabilization of vital signs suggest a positive response to the Ayurvedic regimen, likely contributing to enhanced renal function and metabolic balance. In conclusion, alongside allopathic medications, the integrative approach combining Panchakarma therapy and Ayurvedic treatments not only alleviated the patient's symptoms but also contributed to the stabilization of vital signs, reflecting a holistic improvement in the patient's health status.

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