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## RESTORING RENAL HEALTH THROUGH AYURVEDA: A CASE STUDY ON CHRONIC KIDNEY DISEASE

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#### **ABSTRACT**

Chronic Kidney Disease (CKD) silently disrupts quality of life, claiming over a million annually, yet its global burden often goes unnoticed. A progressive condition marked by declining renal function, CKD interwines with hypertension and diabetes, forming a triad that accelerates renal damage and challenges healthcare systems worldwide. While pharmacological strategies and dietary interventions have proven their merit in slowing disease progression, the ancient science of *Ayurveda* offers a complementary path through holistic, personalized treatment approaches. This case study explores the *Ayurvedic* interventions for a 65-year-old male diagnosed with CKD, type II diabetes mellitus, and hypertension. The patient, treated at Jeena Sikho Lifecare Limited Clinic in Kota, Rajasthan, presented with symptoms of pedal edema, generalized weakness, acidity, and headache. He underwent a two-month *Ayurvedic* treatment protocol. Post-treatment outcomes were encouraging, with significant symptom relief and improved renal markers. The patient reported diminished pedal edema and increased vitality. These findings underscore *Ayurveda*'s potential as a complementary therapy for CKD, emphasizing the restoration of balance and systemic health. However, this single-case study highlights the need for rigorous clinical trials with larger sample sizes to validate these results, establish standardized treatment protocols, and uncover *Ayurveda*'s broader applicability in managing chronic diseases. This study invites a reimagined future where ancient wisdom and contemporary science converge to address complex conditions like CKD.

**KEYWORDS:** Chronic Kidney Disease (CKD), *Ayurveda*, Hypertension, *Vataj pandu, Jirna vrikk vikar*, *Madhumeha*, *Prameha*.

#### INTRODUCTION

Chronic Kidney Disease (CKD) is a progressive condition characterized by kidney damage or reduced kidney function lasting ≥3 months. It affects millions globally, causing over 1 million deaths annually and placing a significant burden on healthcare systems. <sup>[1]</sup> Early diagnosis and intervention are critical for reducing cardiovascular events, kidney failure, and mortality. High-risk groups, including the elderly and those with comorbidities, benefit the most from screening programs, particularly in developed countries. <sup>[2]</sup>

Hypertension and diabetes are major risk factors for CKD, with their coexistence significantly increasing the

risk of renal damage compared to either condition alone. This synergistic effect exacerbates renal dysfunction, leading to more pronounced decreases in kidney function as indicated by elevated urea and creatinine levels and reduced GFR. A significant proportion of CKD patients also have diabetes and hypertension, emphasizing the need for early detection and management to prevent progression to end-stage renal failure.

Common causes include glomerulonephritis, diabetes, cystic kidney disease, and hypertension, though some cases, particularly in agricultural regions of Central

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America and South Asia, may result from unknown environmental factors such as climate change. [6,7,8]

Glomerular filtration occurs as a compensatory mechanism where afferent arterioles dilate and efferent arterioles constrict to maintain the glomerular filtration rate (GFR). This mechanism, partially regulated by tubuloglomerular feedback, eventually leads to kidney damage via mechanical stress and activation of inflammatory mediators, causing interstitial fibrosis. [9] Dietary protein restriction has shown benefits in alleviating intraglomerular hypertension and reducing fibrosis. [10,11] interstitial Pharmacological interventions, including renin-angiotensin-aldosterone system modulators (e.g., ACE inhibitors and angiotensin receptor blockers), complement these dietary strategies by lowering intraglomerular pressure through efferent arteriole vasodilation.[12]

Biomarkers like GFR, serum creatinine, serum urea, and serum albumin are routinely used to diagnose and monitor CKD progression. Disease progression is further in CKD patients with coexisting hypertension or diabetes, necessitating integrated care approaches to slow renal decline. [13]

Modern management strategies for CKD include pharmacological and non-pharmacological approaches to slow disease progression and improve quality of life. Pharmacotherapies target intra-renal hemodynamics, anti-inflammatory pathways, and antifibrotic mechanisms. Non-pharmacological strategies, such as plant-based, low-protein, and low-salt diets, help mitigate glomerular hyperfiltration and preserve renal function. Managing CKD-associated cardiovascular risks, reducing infection risks, and preventing acute kidney injury are also critical. [14]

Effective management of CKD, especially in patients with comorbid hypertension and diabetes, requires integrated care. This approach includes pharmacological treatment, lifestyle modifications, and strategies to reduce cardiovascular and renal risks. Innovations in clinical methods aim to identify patients at risk of progression, enabling early intervention. [2] Conservative management without dialysis is increasingly recognized as a viable option to slow disease progression, preserve kidney function, and improve survival and quality of life.[15,16,17,18]

In Ayurveda, CKD is closely associated with Vataj Pandu, reflecting similarities in symptoms and pathogenesis. The Ayurvedic approach understanding the *Nidana* (etiological factors) and Samprapti (pathogenesis), focusing on the interplay of Dosha, Dushya, and Strotas. Treatment is personalized, considering individual factors such as Bala (strength), Prakriti (constitution), Agni (digestive fire), and Oja (vital essence).[19]

Ayurvedic strategies emphasize holistic management through dietary changes, Yoga, Panchakarma therapies, and Reno-protective medicines, which aim to regulate blood sugar and blood pressure, reduce oxidative stress, and manage inflammation. [20,21,22] CKD linked to type II diabetes is addressed as a Dosha imbalance, and therapies focus on improving renal function and overall health through individualized treatment plans, enhancing quality of life and, in some cases, offering alternatives to conventional treatments. [22,23] This study aims to assess the impact of Ayurvedic interventions in managing CKD, type II diabetes mellitus and hypertension in a 65-yearold male patient.

#### CASE REPORT

On August 8, 2024, a 65-year-old male visited Jeena Sikho Lifecare Limited Clinic, Kota, Rajasthan, with known case of Chronic Kidney Disease along with a history of Hypertension since last four months and Type II Diabetes Mellitus from last 22 years. A comprehensive medical history, family history, physical examination, and diagnostic evaluations were all part of the methodical and thorough examination. He was taking allopathic medications for T2DM and Hypertension. He has a history pedal oedema since 2 months, acidity since 3 years, headache since 2 years and generalized weakness since 4 months. There was no relevant family history. The basic examinations during the visits is detailed in Table 1.

Table 1: Vitals during the initial examination on first day of the visit on August 8, 2024.

Parameter	August 08, 2024
Blood pressure	120/70 mmHg
Weight	79 Kg
Naadi	Vataj pittaj
Jiwha	Saam
Mutra	Avikrita
Agni	Mandha
Mala	Vibandha
Nidra	Sukhada
Drik	Avikrita
Nakha	Prakrita

The laboratory investigations on July 31, 2024 and September 02,2024 is mentioned in **Table 2.** The basic vitals on September 08, 2024 is mentioned in **Table 3**.

Table 2: The laboratory investigations on July 31, 2024 and September 02, 2024.

Parameter	31-Jul-24	02-Sep-24
Sr. Creatinine	2.04 mg/dl	1.2 mg/dl

Table 3: The basic vitals on September 08, 2024

Parameter	<b>September 09, 2024</b>
Blood pressure	120/70 mmHg
Weight	78 Kg
Naadi	Vataj pittaj
Jiwha	Niram
Mutra	Prakrita
Agni	Madhyam
Mala	Prakrita
Nidra	Sukhada
Drik	Prakrita
Nakha	Prakrita

An accurately designed DIP Diet was provided to the patient to complement the Ayurvedic treatments administered for CKD. [24]

### Treatment Plan I. Diet Plan

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

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

#### Hydration

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

#### Millet Consumption

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

#### **Meal Timing and Structure**

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

• Dinner (6:15-7:30 PM): Plate 1: raw salad, chutney, green garden delight, and soup; Plate 2: millet khichdi/ fermented millets/ millet chapati.

#### **Fasting**

• It is recommended to fast for one day.

#### **Special Instructions**

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

#### **Diet Types**

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

#### **II.** Lifestyle Recommendations

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

#### **Medicinal Interventions**

The *Ayurvedic* treatment employed in this case included Nephron plus, Mutra Vardhak Vati, CKD Syrup, GFR Powder and JS BP cure. The medications prescribed on August 08, 204 and September 08, 2024 is mentioned in **Table 5.** 

191

Table 5: The medicine advised on August 08, 204	and September 08, 2024.

Medicine name	Ingredients	Dosage	Therapeutic Effects
Mutra Vardhak Vati	Gokshura (Tribulus terrestris), Guggul (Commiphora wightii), Sonth (Zingiber officinale), Kalimirch (Piper nigrum), Pippal (Piper longum), Bahera (Terminalia bellerica), Harad (Terminalia chebula), Amla (Phyllanthus emblica), Motha (Cyperus rotundus)	1 TAB BD (Adhobhakta with koshna jala)	Improves urine outflow, helps in dysuria
CKD Syrup	Kasani (Cichorium intybus), Gokhru (Tribulus terrestris), Shatavari (Asparagus racemosus), Giloy (Tinospora cordifolia), Sorbitol, and Shudh Shilajit (Asphaltum punjabianum)	7.5 ml BD (Adhobhakta with sama matra koshna jala)	Cell rejuvenation, relieves dysuria and improves urine outflow
Nefron Plus Capsules	Hazrool yahood bhasma powder, Chandraprabha powder, Pashanbheda, MulakKshar powder, YavaKshar powder, Amalaki Rasayan powder, Trivikrum Rasa powder, Navasara powder, Nimbu Stava powder (Citrus limon), Gokshur (Tribulus terrestris), Durbhamool (Chlorophytum borivilianum), Shila pushpa (Dolichos biflorus), Black Salt powder, and Hing powder (Ferula asafoetida)	1 CAP BD (Adhobhakta with koshna jala)	Provides relief from pain and discomfort associated with kidney issues.
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)	Increases GFR and reduces inflammation, helps in increasing urine outflow.
JS BP cure	Sarpgandha (Rauvolfia serpentina), Arjuna (Terminalia arjuna), Shigru (Moringa oleifera), Haritaki (Terminalia chebula), Vibhitaki (Terminalia bellirica), Amla (Emblica officinalis), Godanti Bhasma (Gypsum).	1 CAP BD (Adhobhakta with koshna jala)	Maintain blood pressure

#### **RESULT**

**Effectiveness of** *Ayurvedic* **Treatments:** The patient underwent treatment for 2 months, after the treatment he experienced noteworthy improvement in symptoms, which denotes the interventions used in the study are effective against CKD, diabetes and hypertension. At the time of discharge, the patient was well oriented and there was relief from pedal oedema and general weakness which shows that the *Ayurvedic* interventions used in the case study are effective for CKD.

#### **Implications for Future Research**

The current study focused on a CKD patient with hypertension and yielded promising results. However, the limited sample size of a single case highlights the need for a more comprehensive evaluation. Future research should incorporate randomized controlled trials with larger sample sizes to establish the safety, efficacy, and reliability of *Ayurvedic* treatments. Such studies will be crucial for developing standardized therapeutic protocols and methodologies.

#### **DISCUSSION**

Ayurvedic treatment for CKD offers a viable substitute for conventional medical methods. This case study describes the application of several Ayurvedic treatments to a 65-year-old man who has been diagnosed CKD with Hypertension since 4 months and diabetes since 2020. The patient's symptoms included pedal oedema, acidity, headache and generalized weakness. During his 2 months' treatment, he underwent Ayurvedic medications. The samprapti<sup>[25-28]</sup> of this case study is mentioned in **Fig** 1.

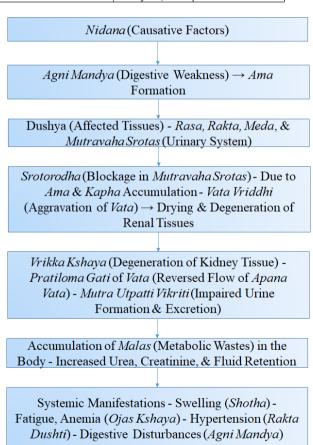


Fig 1: The samprapti of the case study.

The Ayurvedic treatment in this case involved a combination of Ayurvedic formulations designed to support kidney health, manage CKD, and address

www.wjpmr.com | Vol 11, Issue 12, 2025. | ISO 9001:2015 Certified Journal | 192

associated conditions like hypertension. Nephron Plus was used to enhance kidney function by reducing stress, supporting detoxification, oxidative strengthening renal tissues through its nephroprotective and anti-inflammatory properties. Mutra Vardhak Vati promoted diuresis (urine production) and maintained healthy urinary flow, aiding in the reduction of fluid retention and minimizing the risk of urinary tract infections. GFR Powder increases GFR and urine To manage hypertension, a common outflow. comorbidity in CKD, JS BP Cure was included to naturally regulate blood pressure, address vascular tension, and reduce strain on the kidneys. Together, these Avurvedic formulations provided a holistic approach to managing CKD by addressing symptoms, improving kidney function, and promoting overall health, showcasing the potential of Ayurveda.

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

#### CONCLUSION

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

**Symptoms:** Upon admission, the patient presented with pedal oedema, acidity, headache and generalized weakness. After *Ayurvedic* treatment, significant improvements were observed. The patient reported relief from pedal oedema, generalized weakness with no new symptoms emerging, suggesting a marked improvement in kidney function and overall health.

**Vitals:** The patient's weight decreased from 79 kg to 78 kg, and there was a notable reduction in pedal oedema and generalized weakness, reflecting positive changes in both lifestyle and diet.

**Investigations:** Laboratory tests conducted during the treatment demonstrated notable improvements in renal function, with serum creatinine levels decreasing from 2.04 mg/dL to 1.2 mg/dL. These findings highlight the potential effectiveness of *Ayurvedic* therapies in managing CKD.

The *Ayurvedic* treatments yielded positive outcomes, reflected in improved laboratory results, vital signs, and symptom management. *Ayurvedic* approaches prioritize restoring balance and addressing underlying imbalances, thereby enhancing renal health. However, further clinical trials with larger sample sizes are essential to validate these results and develop standardized treatment protocols for CKD.

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