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

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Abstract

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

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

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

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

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

Introduction

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

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

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

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

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

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

Case Report

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

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

These findings suggest underlying renal parenchymal changes.

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

Table 1: Examination Findings

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

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

Medicinal Intervention

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

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

matra Koshna Jal)

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

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

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

Results

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

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

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

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

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

Table 4: Before and After Treatment

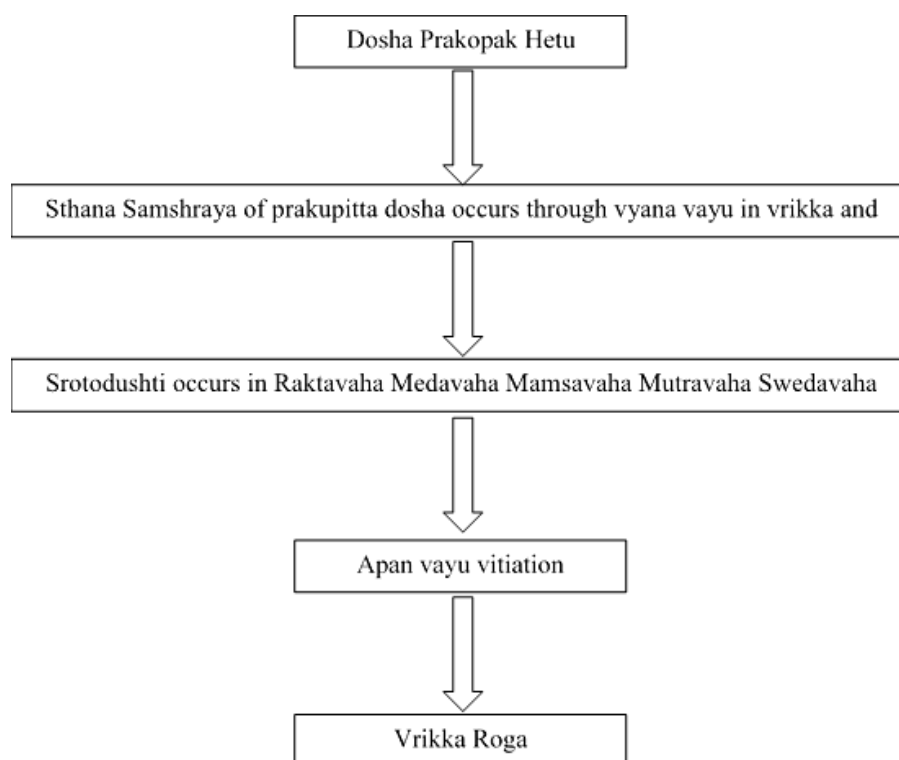
| Investigation | Before treatment (02/11/24) | After treatment (07/12/24) |
|----------------|-----------------------------|----------------------------|
| Sr. Creatinine | 1.54 mg/dl | 1.36 mg/dl |
| eGFR | 55ml/min/1.73 sq.m. | 64 ml/min/1.73 sq.m. |

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

Discussion

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

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



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

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

CKD.

Benefits of Ayurvedic Medicines in CKD Management

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

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

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

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

Need for Further Research

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

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

Conclusion

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

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