



CLINICAL EVALUATION OF CHRONIC KIDNEY DISEASE MANAGEMENT: INTEGRATING LIFESTYLE MODIFICATION AND AYURVEDA

*Acharya Manish Ji¹, Dr. Gitika Chaudhary², Dr. Suyash Pratap Singh³, Dr. Manjeet Singh⁴, Dr. Richa⁵

¹Meditation Guru, Founder - Director, Jeena Sikho Lifecare Limited

²BAMS, PGDIP, PGDGS, MS (Ay.) Surgery, Senior Consultant, Jeena Sikho Lifecare Limited

³BAMS, PGDIP, DNYT, CCMC, Medical Superintendent, Shuddhi Ayurveda Panchkarma Hospital, Jeena Sikho Lifecare Limited, Derabassi

⁴BAMS, PGDIP, CCDN, Consultant, Shuddhi Ayurveda Panchkarma Hospital, Jeena Sikho Lifecare Limited, Derabassi

⁵BAMS, PGDIP, Clinical research officer, Shuddhi Ayurveda Panchkarma Hospital, Jeena Sikho Lifecare Limited, Derabassi

***Corresponding Author's Email id- Shuddhi.research@jeenasikho.co.in**

ABSTRACT:

Chronic Kidney Disease (CKD) poses a substantial challenge in healthcare, particularly when it comes to symptom management and improving patients' quality of life. Ayurveda offers a promising approach to enhancing the well-being of CKD patients, providing personalized treatment protocols that focus on rejuvenating affected tissues and restoring balance within the body. Recent case studies involving Ayurvedic interventions for CKD, especially in patients with long-standing hypertension, have shown encouraging results in a relatively short period. Through a detailed assessment of factors such as *doshas*, *dushya*, *agni*, *vaya*, *bala*, and *vyadhiawastha*, Ayurveda provides a holistic and effective strategy for managing chronic diseases like CKD, ultimately improving the patient's overall health and quality of life.

This case report discusses the successful treatment of an 81-year-old male diagnosed with CKD and hypertension, presenting with symptoms such as pedal edema, joint pain, burning micturition, and generalized weakness. After undergoing a comprehensive Ayurvedic treatment plan—encompassing dietary modifications, lifestyle changes, *Panchakarma* therapies, and the administration of herbal medicines—the patient showed marked improvement in both clinical symptoms and laboratory findings. This case underscores the potential of Ayurveda in effectively managing CKD and improving patient outcomes.

Keywords: Chronic Kidney Diseases, hypertension, *Panchkarma*, herbal medication.

INTRODUCTION:

Chronic Kidney Disease (CKD) is a prevalent health condition, often marked by multiple complications and a decline in the quality of life for those affected. Conventional medical treatments primarily focus on managing symptoms and delaying the disease's progression. However, Ayurveda offers a more holistic approach, targeting the root causes of CKD by addressing the underlying physiological imbalances within the body. By correcting these imbalances, Ayurvedic therapies aim not only to relieve symptoms but also to improve overall health and well-being.¹

This case report highlights the effectiveness of Ayurvedic treatments in managing CKD symptoms and enhancing patient outcomes. Through individualized treatment plans tailored to the patient's specific constitution and health condition, Ayurveda provides a more comprehensive approach that goes beyond simply managing symptoms. Ayurvedic interventions work by restoring balance to the body's natural energies and rejuvenating vital organs, promoting long-term improvements in CKD management.

This case report showcases the transformative potential of Ayurveda in the treatment of CKD, emphasizing its ability to address the underlying causes of the disease while simultaneously enhancing the patient's quality of life.

CASE REPORT:

The patient, an 81-year-old male with a history of CKD and hypertension, presented to Shuddhi Ayurveda Panchkarma Hospital on 04/04/2024 with symptoms including pedal edema on and off, bilateral knee joint pain, stiffness of the joint, burning micturition, lower backache, decreased appetite, weakness, fatigue, constipation and disturbed sleep.

The patient's past medical history includes a known case of Chronic Kidney Disease (CKD) for 2 years, hypertension for 10 years, as well as a history of prostatomegaly and peptic ulcers. The patient's examination findings are presented in Table 1.

Table: 1 Examination Findings

Parameter	Findings
Blood Pressure	162/100 mm of Hg
Pulse Rate	68/min
Weight	73 kg
Nadi	Pittajvataj/ MadhyamGati
Mala	Malavashtambha (constipation)
Mutra	Safena (frothy) and Sadaha

Jivha	Saam (coated)
Shabda	Spashta
Sparsha	Anushna
Akruti	Madhyam
Drik	Avikrut
Kshudha	Alpa
Agni	Mandya

The investigations report on 6th April 2024 is shown in Table 2.

Table 2: Investigation on the Day of Admission

Investigation	Result
Hb	12.5 gm/dl
Na ⁺	145.2 mg/dl
K ⁺	4.92 mg/dl
Cl ⁻	104.9 mg/dl
Urea	53.4 mg/dl
Serum Creatinine	2.27 mg/dl
Uric Acid	9.58 mg/dl
Glomerular Filtration Rate (GFR)	28 ml/min/1.73m ²

Treatment plan²

I. Diet Plan

The diet plan for the patient from Shuddhi Ayurveda Panchkarma Hospital consists of the following key points:

a. Avoid Certain Foods:

- Do not consume wheat, packed foods, refined foods, dairy/animal products, coffee, and tea.
- Never eat after 8 PM.

b. Hydration:

- Drink alkaline water 3-4 times a day.
- Include herbal tea, living water and turmeric water in your daily intake.
- Limit water intake upto 1.5 litre

c. Millet Consumption:

- Incorporate five types of millets: Foxtail, Barnyard, Little, Kodo, and Browntop.
- Use only steel utensils for cooking millets.

d. Meal Timing and Structure (DIP Diet):

- Breakfast (9:00-10:00 AM): Steamed Fruits (given in quantity of Patient's weight multiply by 10) and Steamed Sprouts
- Lunch (12:30 PM - 2:00 PM): Plate 1 of steamed salad (given in quantity of Patient's weight multiply by 5) and Plate 2 of cooked millets is served.
- Evening Snacks (4:00-4:20 PM): Include healthy snacks.
- Dinner (6:15-7:30 PM): Follow the same guidelines as lunch.

e. Fasting:

- One day of fasting is recommended.

f. Special Instructions:

- Invoke the divine before consuming any food or drink.
- After every meal, sit in Vajrasana (a yoga posture).

g. Diet Types:

- The diet includes solid, semi-solid, and smoothie options without salt.
- Suggested foods include herbal tea, red juice, a variety of steamed fruits, fermented millet shakes, steamed sprouts, soaked almonds, and steamed salads.

II. Lifestyle Recommendations:

- a. Sungazing daily for at least 30 minutes.
- b. Sukhasana(Yoga) from 6:00 AM to 7:00 AM.
- c. Meditation for relaxation.
- d. Engage in brisk walking for 30 minutes barefoot.
- e. Ensure proper sleep of 6-8 hours at night.
- f. Proper Dinacharya in the whole day.

III. Panchakarma Procedures:

- a. **Snehan:** Application of Dhanwantari oil for body massage.
- b. **Avagah Sweda:** Hot water immersion therapy up to the navel.
- c. **Basti Therapy:**
 - i. Gokshur Siddha Sneha Basti (alternating on alternate days) in 90 ml dose.
 - ii. Tikta Ksheer Basti (alternating on alternate days) in 200 ml dose.
- d. **Shrioabhanya:** Head massage with Ksheerabala oil.

IV. Medicinal Interventions:

a. Ayurvedic Medicines:

- i. D.S. Powder: Half teaspoon at bedtime (HS-NishikaleUshnodak).
- ii. GFR Powder: Half teaspoon twice daily(BD- Adhobhakta- vyanudankal).
- iii. ArogyaVati: 2 tablets twice daily (BD- AdhobhaktaUshnodak).
- iv. Lipi Cap: 2 capsules at bedtime (HS- NishikaleUshnodak).
- v. Ge.Liv Forte: 15 ml twice daily (BD- AdhobhaktaUshnodak).
- vi. ChanderVati: 2 tablets twice daily (BD- AdhobhaktaUshnodak).
- vii. ChitrakadiVati: 2 tablets thrice daily (TDS- Adhobhakta).

b. Modern Medicine:

- i. Telmisartan:40 mg as needed (SOS) for hypertension.
- ii. Tamsulosin: Once daily (OD) as prescribed
- iii. Febuxostat - Uloric xanthine oxidase inhibitor: 20 mg once daily (OD) or as needed (SOS) for additional support.
- iv. Alpha Ketoanalog: Once daily (OD) as prescribed.

This structured approach aims to promote overall wellness and align with Ayurvedic principles. With regular monitoring of his health parameters such as blood pressure, pulse rate, urine output, and dietary corrections, the patient demonstrated remarkable improvement in his condition within a short period of 7 days. The observations of the patient before and after treatment are presented in Table 3.

Table 3. Observations before and after treatment

Parameter	Findings Before Treatment	Findings After Treatment
Blood Pressure	162/100 mm of Hg	130/70 mm of Hg
Pulse Rate	68/min	62/min
Weight	73 kg	72 kg
Mala	Malavashtambha (constipation)	Avikrut (bowel clear)
Mutra	Safena (Frothy)	Avikrut (Normal)
Jivha	Saam (coated)	Niram
Kshudha	Alpa	Vruddhi
Shabda	Spashta	Spashta
Sparsha	Anushna	Avikrut (normal)
Akruti	Madhyam	Madhyam
Drik	Prakrut	Avikrut
Nidra	Khandit (Disturbed)	Avikrut (sound sleep)

Table 4. Symptom and Score at Admission

Symptom	Score at Admission (Day 1)	Score at Discharge (Day 7)
Bilateral Pedal Edema	2°	0
Backache	3/10	0/10
Bilateral Knee Joint Pain	5/10	1/10
Burning Micturition	3/10	0/10
Appetite	5/10	8/10
Weakness	4/10	0/10
Quality of Sleep	2/10	9/10 (sound sleep)

The patient exhibited significant improvements across various symptoms following the Ayurvedic intervention. The patient reported complete relief from bilateral pedal oedema and backache, with no residual discomfort noted. While bilateral knee joint pain persisted, only mild discomfort was observed in the left knee during exertion, suggesting a substantial reduction in pain severity. Additionally, the patient experienced relief from constipation, indicating regular bowel movements and improved gastrointestinal function. Furthermore,

complaints of weakness and fatigue were no longer present, indicating a restoration of energy levels and vitality. Burning micturition, a distressing symptom, was alleviated, providing relief and enhanced comfort during urination. Lastly, there was a notable improvement in appetite, indicating enhanced nutritional intake and overall well-being. The improvement in the symptoms observed in the patient is shown in Table 4. These comprehensive improvements underscore the effectiveness of the Ayurvedic treatment regimen in addressing multiple facets of the patient's health and enhancing their overall quality of life.

Table 4. Symptoms were observed on Day 1 and Day 7 with Scores

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

Laboratory reports conducted on 10/04/2024, upon the patient's discharge, demonstrated notable hemodynamic improvement. Urea levels were recorded at 44.75mg/dl, showcasing a significant decrease from previous levels. Serum creatinine levels showed improvement as well, with a recorded value of 2.14 mg/dl. Additionally, serum uric acid levels were measured at 6.21 mg/dl. These findings collectively indicate a positive response to the Ayurvedic treatment regimen, reflecting improved kidney function and metabolic balance. The comparative findings of the investigations conducted before and after treatment are presented in Table 5.

Table 5. Laboratory Investigations

S.No.	Investigation	06/04/2024	10/04/2024
1.	Urea	53.40 mg/dl	44.75mg/dl
2.	Serum creatinine	2.27 mg/dl	2.14 mg/dl
3.	Sr. Uric Acid	9.58 mg/dl	6.21 mg/dl

RESULTS

Following 7 days of treatment, the patient experienced significant improvement in symptoms and laboratory parameters. Symptoms such as pedal edema, joint pain, burning micturition, weakness, and fatigue were notably reduced. Laboratory investigations revealed a reduction in urea, serum creatinine, and uric acid levels, indicating improved kidney function.

Additionally, the patient reported improved quality of sleep and appetite, demonstrating the holistic benefits of Ayurvedic interventions. Daily follow-up assessments confirmed the sustained improvement in symptoms and overall well-being.

DISCUSSION

The management of Chronic Kidney Disease (CKD) through Ayurvedic principles offers a holistic approach that emphasizes the restoration of balance within the body's physiological systems. This case report illustrates the efficacy of a comprehensive Ayurvedic treatment regimen tailored to the individual constitution and clinical presentation of the patient, focusing on rejuvenating kidney function and alleviating associated symptoms.²

A thorough Ayurvedic assessment was conducted, including detailed examination findings and implementing Panchakarma procedures. Panchakarma, a cornerstone of Ayurvedic therapy, comprises five detoxification processes designed to eliminate accumulated toxins (Ama) and restore doshas balance.³ In this case, specific procedures such as Snehan (oleation), Avagah Sweda (Hot water immersion therapy), and Basti (medicated enema) were employed.

Panchakarma Therapies:

1. **Purvakarma:**

- *Snehan*: Administered using *Dhanwantaram Taila*.
- *Swedana*: Performed through *Awagaha Swedana*.

Snehan: *Snehan* is a preparatory procedure in Panchakarma that helps to loosen morbid doshas and liquefy toxins, making the body ready to receive the main cleansing treatment. It involves a full-body massage using medicated oil; in our case, *Dhanwantaram Taila* was utilized. This therapy channels the doshas (Ama) from deep within the body into the *koshta* (alimentary canal), facilitating their easy elimination during the subsequent *Shodhan* Therapy. (Ch. Si. 1/7)⁴

Snehan therapy helps in relieving *Vata* disorders, imparts a lustrous appearance to the skin, alleviates dryness, and provides a soothing effect. It opens the microchannel (*srotas*) and liquefies the accumulated *Sleshma (Kapha)* located in the *shakhas* (peripheral tissues), facilitating its movement into the *koshta* (alimentary canal) and aiding in the elimination of waste by removing obstructions.

Awagaha Swedana: The patient is seated in a tub filled with hot water at a temperature of 42°C. This increases the body temperature, leading to vasodilation and enhanced sympathetic activity. This process stimulates the release and activation of epinephrine, norepinephrine, and the thyroid gland, resulting in an increased metabolic rate and lipolysis. Consequently, the demand for oxygen rises, leading to the release of metabolic wastes such as urea, creatinine, ammonia, and uric acid. This therapy aids in the expulsion of toxins

through the skin via sweating. Awagaha Sweda is one of the Sagni Sweda therapies that helps liquefy doshas located in the micro-channels of the body. (C. Si.1/7)⁵

It alleviates pain (Ch. Su.14/12)⁶, reduces joint stiffness, and improves overall joint function (Su. Ch.32/22)⁷ This therapy is particularly effective in pacifying diseases caused by Vata and Kaphadoshas (Ch.Su.14/3)⁸. In conditions arising from the suppression of natural urges, AwagahaSweda is indicated to relieve Vata obstructions. Additionally, it assists in the accumulation and removal of metabolic wastes, particularly in cases of Ama (toxin) conditions. (Ch. Vi. 2/13)⁹

2. **Pradhana karma:**

- **Basti:** *Gokshur Siddha Sneha Basti* (90 ml)-and *Tikta Ksheer Basti* (200 ml) were administered on alternate days.¹⁰

Basti: As a vital component of Panchakarma, *Basti* therapy involves the administration of herbal decoctions or oils through the rectum. This method is especially effective in addressing *Vata* imbalances, which are often prevalent in CKD patients. *Basti* not only detoxifies but also nourishes the colon, thereby improving digestion and enhancing the body's ability to eliminate waste products.

Matra Basti with Gokshuradi Siddha Sneha:

1. A small amount of medicated Sneha is administered through the rectum. This procedure is suitable for all individuals and can be performed at any time.
2. MatraBasti promotes strength, facilitates the easy elimination of faeces and urine, supports nourishment (Brihana), and effectively treats diseases caused by Vata dosha.
3. This therapy normalizes Vata, leading to the proper elimination of flatus, faeces, urine, and other bodily wastes. Once administered, the *Basti* enters the *pakvashaya* (large intestine) through *guda*(anus), which is considered the root of the body and contains *sira* (veins) and *dharmani* (arteries) that extend throughout the body. As a result, *MatraBasti* exerts both local and systemic effects.

For this procedure, we used Gokshura to prepare the decoction for Basti. Gokshura acts as a diuretic, balances the three *doshas* (*Tridosha*), and promotes strength. It is cold in potency (*Shita*) and sweet (*Madhura*).

Tikta Ksheer Basti: This Basti therapy is Vata-pacifying (Vataghna) and promotes strength (*Bala*) and lubrication (*Snehan*), specifically targeting the *Asthi Dhatu* (bone tissue). Although *Tikta Rasa* (bitter taste) typically aggravates *Vata*, when processed with *Ksheer* (milk) and *Ghrita* (ghee), it produces *Kharatva* (roughness), a principal quality of *Asthi Dhatu*, and

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promotes osteogenesis.¹¹ This combination, by nature, counters *Vata* while inducing *Kharatva* in the body without causing *Vata* aggravation, due to the unctuousness (Snighdata) of *Ksheer* and *Ghrita*.

According to Sushruta, *Basti* remains in the *Pakvashaya* (large intestine), where the *Pureesh Dhara Kala* (membrane responsible for waste formation) is located, and performs its action there. Dalhana, in his commentary, mentions that *Pureesh Dhara Kala* and *Asthidhara Kala* (membrane responsible for bone tissue) are the same. When *Tikta Ksheer Basti* is administered, the *Kharatva* produced in the *Pakvashaya* acts on the *Asthidhara Kala*, supporting the normal functioning of *Asthi Dhatu* and alleviating degenerative issues.

3. *Shiroabhyanga*:

- Performed using *Ksheerabala* oil.

Shiroabhyanga with Ksheerabala Taila: *Shiroabhyanga*, or head massage with *Ksheerabala Taila*, enhances local lymphatic drainage. This process increases the levels of amino acids, such as tryptophan, in the lymphatic system. As the levels of tryptophan rise in the plasma, it accumulates and stimulates the pineal gland, leading to the secretion of melatonin and serotonin. Melatonin induces a calming and pleasant sensation, while serotonin promotes sleep and helps regulate mood. This therapy is beneficial in relieving anxiety, disturbed sleep, and symptoms of depression, as well as improving overall metabolism.¹²

In conjunction with these Panchakarma procedures, specific herbal formulations were prescribed to support kidney function and overall health.

1. Chitrakadi Vati: Chitrakadi Vati, a digestive tonic, comprises Chitraka, Maricha, Pippali, Pippalimoola, Chavya, Ginger, Hing, Ajmoda, YavaKshar, and Panchalavan. It possesses *deepan* (appetizer) properties by reducing *Ama* (toxins), thereby enhancing digestion. This formulation, comprising herbs such as Chitraka and Pippali, acts as a digestive tonic. Its *deepan* (appetizer) properties help reduce *Ama*, thereby enhancing digestion and promoting the efficient processing of nutrients.¹³ Improved digestion is crucial for CKD patients, as it aids in the absorption of essential nutrients that support renal health.
2. Arogya Vati contains Shudha Gandhak, Shudh Para, Loh Bhasma, Abhrak Bhasma, Tamra Bhasma, Amalaki, Bibhitaki, Haritaki, Shilajeet, Chitrak, Kutki, and Neem Patti. This formulation balances all three doshas (Vata, Pitta, and Kapha) and effectively manages digestive issues due to its *deepan* and *pachan* (digestive) properties. It

improves metabolism and aids in the expulsion of waste products from the body owing to its shodhan (detoxification) nature.¹⁴ Additionally, Arogya Vati acts as an anti-inflammatory agent, purifies the blood, and alleviates constipation.

3. Chander Vati is an intricate Ayurvedic formulation comprising Kapoor Kachri, Vach, Motha, Kalmegh, Giloy, and various other potent herbs. This blend is particularly effective in balancing Pitta Dosha, which plays a vital role in alleviating urinary tract infection (UTI) symptoms, such as burning during micturition and promoting healthy urine flow. Chander Vati aids in the removal of harmful toxins like urea, creatinine, and uric acid. Its notable anti-inflammatory, analgesic, and diuretic properties make it a valuable component in the management of chronic kidney disease (CKD).¹⁵
4. GFR Powder, consisting of BhoomiAmla, BadiHarad, Bahera, Kasni, Makay, Punarnava, and Gokshur,¹⁶ enhances kidney function by reducing inflammation and aiding in the expulsion of accumulated toxins.¹⁷ Its anti-inflammatory characteristics contribute to alleviating renal inflammation, thereby promoting overall kidney health and effective detoxification.

The integration of these therapies not only addresses the physical manifestations of CKD but also promotes mental and emotional well-being, which is essential for comprehensive patient care. The observed improvements in the patient's symptoms, including the resolution of bilateral pedal edema, reduction in joint pain, and enhancement of appetite and energy levels, underscore the potential of Ayurvedic interventions in managing CKD.¹⁸

Furthermore, the significant improvements in laboratory parameters, such as decreased urea and serum creatinine levels, indicate a positive response to the treatment regimen. This holistic approach, which encompasses dietary modifications, lifestyle changes, and targeted Ayurvedic therapies, demonstrates the potential for Ayurveda to provide long-term benefits in CKD management, addressing not only symptom relief but also the underlying imbalances contributing to the disease.

CONCLUSION

The case report highlights the significant improvements observed in the 81-year-old male patient with Chronic Kidney Disease (CKD) following a comprehensive Ayurvedic treatment regimen that included dietary modifications, lifestyle changes, Panchakarma procedures, and herbal medications. **Symptom Improvement: Bilateral Pedal Edema:** Initially rated at 2°, the edema was completely resolved, achieving a score of 0 after treatment. **Backache:** The patient reported a reduction from 3/10 to 0/10, indicating complete relief from back pain.

Bilateral Knee Joint Pain: Initially rated at 5/10, the pain was significantly reduced to 1/10, with only mild discomfort noted during exertion. **Burning Micturition:** This distressing symptom was alleviated, moving from a score of 3/10 to 0/10. **Appetite and Energy Levels:** The patient's appetite improved from 5/10 to 8/10, and feelings of weakness and fatigue were completely resolved, scoring 0/10 post-treatment. **Quality of Sleep:** Initially Patient was suffering from disturbed sleep rated as 2/10 after treatment quality of sleep is improved rated as 9/10 indicating sound sleep. **Vital Signs: Blood Pressure:** The patient's blood pressure improved from 162/100 mmHg to 130/70 mmHg, indicating better cardiovascular health and reduced strain on the kidneys. **Pulse Rate:** The pulse rate also remains good reflecting improved overall health and reduced stress on the cardiovascular system. **Laboratory Investigations: Urea Levels:** Decreased from 53.40 mg/dl to 44.75 mg/dl, indicating improved kidney function. **Serum Creatinine Levels:** Improved from 2.27 mg/dl to 2.14 mg/dl, demonstrating a positive response to the treatment. **Serum Uric Acid Levels:** Reduced from 9.58 mg/dl to 6.21 mg/dl, suggesting better metabolic balance and kidney health. the integration of Ayurvedic interventions, including Panchakarma and personalized Ayurvedic treatments, resulted in substantial improvements in the patient's symptoms, vital signs, and laboratory parameters. This case underscores the potential of Ayurveda as a complementary approach in managing Chronic Kidney Disease, emphasizing the importance of individualized treatment regimens in enhancing treatment outcomes and quality of life. Further research is warranted to validate these findings and explore the broader applicability of Ayurvedic practices in CKD management.

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