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## Combining Ayurvedic Practices for Chronic Kidney Disease (*Vrikka Vikara*) Management: A Case Report

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### Abstract

This case study examines the efficacy of integrating *Ayurvedic* treatment approaches with conventional care for chronic kidney disease (CKD) *Vrikka Vikara* in a 33-year-old male diagnosed three years prior, also suffering from chronic constipation, hyperacidity, anaemia, hypertension, and a skin disorder. Initially, the patient presented with high blood urea (147.9 mg/dl) and serum creatinine levels (9.67 mg/dl), alongside severe fatigue, as evidenced by a score of 6 on the Fatigue Severity Scale (FSS), and a significantly impacted quality of life with a 30% score on the Kidney Disease Quality of Life Short Form (KDQOL-SF).

Over a treatment period of five months, the patient was managed using *Ayurvedic* principles focusing on dietary modifications, lifestyle changes, and specific interventions aimed at correcting *doshic* imbalances and enhancing renal function. Post-treatment assessments showed a noticeable improvement in renal function, with blood urea and creatinine levels reducing to 106.8 mg/dl and 7.50 mg/dl, respectively. Additionally, the patient's FSS score improved to 3, and his KDQOL-SF score increased to 70%, reflecting enhanced overall health and well-being. This study underscores the potential benefits of an *Ayurveda* Treatment approach to CKD, to improve clinical outcomes and life quality. The results advocate for further research into standardized protocols that leverage both *Ayurvedic* and allopathic medicine for managing complex chronic diseases effectively.

**Keywords:** *Vrikka Vikara*, *Ayurveda* Practices, CKD, Renal function.

### Introduction

Chronic Kidney Disease (CKD), known as *Vrikka Vikara* in *Ayurveda*, represents a significant health burden globally. This progressive condition is characterized by a gradual loss of kidney function over time and can lead to end-stage renal disease necessitating dialysis or transplantation for survival. The modern healthcare framework classifies CKD based on the decline in glomerular filtration rate and the presence of kidney damage markers over a period of three months or more [1].

From the classical *Ayurvedic* perspective, historical texts such as the *Charaka Samhita* and *Sushruta Samhita* describe conditions that can be correlated with the symptoms of CKD. *Vrikka Vikara* is often associated with imbalances in the *Doshas* (bio-energetic forces) leading to the malfunctioning of the kidneys [2, 3]. Previous research has elucidated the efficacy of various herbal medicines and *Ayurvedic* therapies in managing CKD, underlining their potential in reducing progression and alleviating symptoms [4].

In the context of modern medicine, CKD's pathophysiology primarily involves damage to the nephrons, the functional units of the kidneys. This damage can be due to multiple factors including diabetes, hypertension, and chronic glomerulonephritis. Epidemiologically, CKD affects approximately 10% of the global population, with a higher incidence in aging populations and individuals with cardiovascular diseases or diabetes [5].

Exploring the *Ayurvedic* aspect of the disease, the *Samprapti* (pathogenesis) of *Vrikka Vikara* hinges on the concept of *Dhatu Dushti* (tissue impairment), particularly involving the *Mamsa* (muscle), *Meda* (fat), and *Asthi* (bone) *Dhatus* according to *doshic* involvement. Malfunctioning of the *Apana Vayu*, one of the subtypes of *Vata Dosha*, which governs the lower abdominal organs including the kidneys, is considered a crucial factor. The imbalance in *Rasa* (plasma), *Rakta* (blood), and other *Dhatus* subsequently leads to the manifestation of CKD symptoms according to *Ayurvedic* principles [6].

Despite significant advancements in modern nephrology, the integrative approach provided by *Ayurveda* offers a complementary perspective focusing on restoring balance and enhancing renal function through holistic methods, including diet, lifestyle modifications, herbal preparations, and *Panchakarma* therapies. The blending of these two systems opens new avenues for the management of chronic kidney conditions, supporting not only physical well-being but also mental and spiritual health, pivotal in holistic healing practices.

Several scholarly articles and clinical trials have discussed and shown the potential benefits and application of integrating *Ayurvedic* treatments with conventional CKD management strategies. However, robust large-scale studies are required to further validate these findings and standardize protocols that synergize both *Ayurvedic* and modern nephrological approaches effectively [7, 8].

## Case Report

### Patient History and Information

A 33-year-old male presents with a history of multiple chronic conditions, including chronic kidney disease (CKD) diagnosed three years ago, chronic constipation and hyperacidity for the past 8-10 months, anaemia, generalized weakness, hypertension for the last 3-4 years, and a skin disorder ongoing for 4-5 years. This multifaceted medical history presents considerable challenges for management and therapy optimization.

### Detailed Medical and Treatment History

- **Arkamin (Clonidine) TDS:** This medication, taken three times daily, is an antihypertensive aimed at managing his elevated blood pressure, which is a common risk factor and complication of CKD. This Medication is stopped since Day 1.
- **Amlovas SR (Amlodipine Sustained Release) OD:** Taken once daily, this calcium channel blocker helps to manage blood pressure, reducing the risk of hypertension-related damage to the kidneys and cardiovascular system. This Medication is stopped since Day 3 and then medication was given as SOS.
- **Sodium Bicarbonate 1 BD:** Administered twice daily to combat metabolic acidosis, a condition often seen in CKD patients as the kidneys fail to maintain acid-base balance effectively. This Medication is tapered as 1 Tab OD since Day 3 and from Day 7 on alternate day basis.
- **Ferric Pyrophosphate 1 OD:** Given once daily to address anaemia, a frequent complication in CKD due to the kidneys' reduced ability to produce erythropoietin, essential for red blood cell production. This Medication is stopped since Day 1.

### Diet and Lifestyle History

The patient's diet likely includes restrictions advisable for CKD patients, such as low potassium, low phosphate, and controlled protein intake to lessen kidney burden and manage his acid-base balance. Given his hypertension and hyperacidity, recommendations probably extend to low sodium and low spice diets, respectively. Lifestyle advice might include regular physical activity within tolerance levels and stress management practices to help control blood pressure and enhance overall well-being.

### Disease Progression and Current Condition

The patient's CKD diagnosis from three years ago has likely

evolved in complexity due to the onset of additional health issues such as hypertension, a common co-morbidity that can exacerbate kidney disease. His persistent skin condition may be linked eczematous or psoriatially to his systemic health issues, reflecting the broader impacts of CKD. The recent issues of constipation and especially anaemia reflect ongoing challenges in his condition management, potentially indicating a progression in CKD severity.

### Family and Surgical History

With no significant family history of CKD or related comorbidities, the aetiology of his kidney disease may involve non-hereditary factors, perhaps lifestyle or sporadic issues such as an undetected instance of acute kidney injury leading to chronic conditions. No surgical interventions have been reported, which limits the complexity of his medical management but also reduces potential treatment avenues like kidney transplantation considered in later stages of CKD.

### Samprapti

In *Ayurveda*, the pathogenesis of chronic kidney disease (*Vrikka Vikara*) involves a detailed understanding of the *doshic* imbalances and disruptions in the body's internal systems. The primary involvement of *Vata Dosha*, especially the *Apana Vayu* which governs eliminatory functions, leads to disturbances in the normal functioning of the kidneys, initiating the accumulation of toxins (*ama*) within the body. This may be compounded by disturbances in the *Pitta dosha*, manifesting as inflammation or infection in the urinary tract, and *Kapha dosha*, causing fluid retention and swelling. The disease progression implicates several of the body's tissues (*Dhatus*), such as the *Rasa Dhātu* (plasma) affecting fluid balance and circulation, and the *Rakta Dhātu* (blood), where toxin buildup corrupts the blood's purity and overall circulation. This dysfunction extends to the *Mamsa* (muscular) and *Meda* (adipose) *Dhatus*, exacerbating general weakness and systemic symptoms. Critical to the disorder are the *Mutravaha srotas*, the channels that manage urine flow, whose impairment is central to the typical urinary symptoms of CKD. The stages of *Samprapti* from accumulation and aggravation of the *Doshas* to their spread, localization in the kidneys, manifestation of overt disease, and finally, complications impacting other organs, provide a structured framework for understanding the disease's development.

### Samprapti Ghataka

Table 1: *Samprapti* Ghataka

Component	Details
<i>Dosha</i>	Primary: <i>Vata</i> ( <i>Apana Vayu</i> ), Secondary: <i>Pitta</i> (inflammation) and <i>Kapha</i> (fluid retention and blockages).
<i>Dushya</i> ( <i>Dhatus</i> )	<i>Rasa</i> (Plasma) - Affects fluid balance and nutrient distribution. <i>Rakta</i> (Blood) - Impacts due to toxin buildup. <i>Mamsa</i> (Muscle) and <i>Meda</i> (Fat) - Absorption of toxins leading to systemic issues.
<i>Srotas</i>	<i>Mutravaha Srotas</i>
<i>Agni</i>	<i>Dhatwagni</i> (metabolism at the tissue level) is impaired, leading to <i>Ama</i> (toxin) build-up due to improper digestion and metabolism.
<i>Ama</i>	Toxins resulting from impaired <i>Agni</i> , contributing to the pathogenesis by exacerbating tissue damage and systemic symptoms.
<i>Adhishthana</i>	Mainly the kidneys ( <i>Vrikka</i> ) are affected; however, other urinary structures may also manifest disease as CKD progresses.

**Table 2: Vital Parameters**

Sr. No	Examination	Findings
1.	Blood Pressure	140/90 mm of Hg
2.	Pulse	103/min
3.	Weight	83.5 kg
4.	Height	5 feet 10 inches

**Ayurvedic Examination****Table 3: Ashtavidha Pariksha (Eight-fold Examination)**

Sr. No	Examination	Findings
1.	Nadi (Pulse)	Vata-Pittaja
2.	Mutra (Urine)	Discomfort in urinating (Mutrakrichra)
3.	Mala (Stool)	Avikrita
4.	Jihva (Tongue)	Saam
5.	Shabda (Voice)	Avikrita
6.	Sparsha (Touch)	Avikrita
7.	Drik (Eyes)	Shweta
8.	Akriti (Appearance)	Avikrita

**Table 4: Dashavidha Pariksha (Ten-fold Examination)**

Sr. No	Examination	Findings
1.	Prakriti (Constitution):	Pitta Vata
2.	Vikriti (Imbalance):	Vata
3.	Sara (Tissue Excellence):	Meda Saar
4.	Samhanana (Body Build):	Moderate
5.	Pramana (Body Proportions):	Within normal limits.
6.	Satmya (Adaptability):	Avar
7.	Satva (Psychological Strength):	Avar
8.	Ahara Shakti (Digestive Strength):	Madhyama
9.	Vyayama Shakti (Exercise Capacity):	Madhyama
10.	Vaya (Age):	33 yr old

**Diagnostic Assessment****Laboratory Results:****a. CBC, Renal Function Test, were done****Table 5: Tests Done in this Case**

Renal Function Test	
Blood Urea	147.9 mg/dl
Sr. Creatinine	9.67 mg/dl
Sr Sodium	138 mmol/ml
Sr Potassium	4.69 mmol/ml
Sr Chloride	110.7 mmol/ml
Complete Blood Count	
Hb	8.0 gm/dl
RBC	2.35 mill/cumm
WBC	4100 cells/cumm
Plt	96000 cells/cumm

**Imaging Results:**

- 1. Ultrasound:** done on 18/10/2022 suggested that B/L Enlarged Polycystic Kidney, mild hepatomegaly

**Assessment Parameters****Objective Parameters**

- Blood Urea

- Sr. Creatinine
- Sr Sodium
- Sr Potassium
- Sr Chloride
- Haemoglobin
- RBC
- WBC
- Platelet

**Subjective Parameters**

- i). Fatigue Severity Scale (FSS) <sup>[9]</sup>:** Used for measuring the impact and severity of fatigue related to anemia and general weakness.
- ii). Kidney Disease Quality of Life Short Form (KDQOL-SF) <sup>[10]</sup>:** Helps assess the specific impact of chronic kidney disease on the patient's quality of life.
- iii). Patient Assessment of Gastrointestinal Disorders Symptom Severity Index (PAGI-SYM) <sup>[11]</sup>:** Appropriate for evaluating the severity of gastrointestinal symptoms, including constipation and hyperacidity.
- iv). Perceived Stress Scale (PSS) <sup>[12]</sup>:** Useful in assessing perceived levels of stress, which could influence hypertension management indirectly.
- v). Dermatology Life Quality Index (DLQI) <sup>[13]</sup>:** Assess the impact of skin disorders on daily life and overall well-being.

**Therapeutic Intervention****1. Diet Plan: <sup>[14]</sup>**

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

**a) Foods to be Avoided:**

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid meal consume as small bites and chew each bite 32 times.

**b) Hydration:**

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- 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 & 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 ramosa*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

**d) Meal Timing and Structure:**

- i). Early Morning (5:45 AM):** Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
- ii). Breakfast (9:00-10:00 AM):** The patient will have steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).

- iii). **Morning Snacks (11:00AM):** The patient will be given Red juice (150 ml) and soaked almonds.
- iv). **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.
- v). **Evening Snacks (4:00 – 4:20 PM):** Green juice (100-150 ml) along with 4-5 almonds.
- vi). **Dinner (6:15-7:30 PM):** The patient will be served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.
- e) **Fasting**
- It is advised to observe one-day fasting.
- f) **Special Instructions:**
- Express gratitude to the divine before consuming

food or drinks.

- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g) **Diet Types:**

- The diet comprises 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.

2. **Lifestyle Recommendations**

- Include meditation for relaxation.
- Practice barefoot brisk walk for 30 minutes.
- Ensure 6-8 hours of quality sleep each night.
- Adhere to a structured daily routine.

**Medicines that were used in this case report**

**Table 6:** Day 1 on 13/05/2023

Medications	Dose	Anupana	Duration
<b>Dr Shuddhi Churna:</b> Trikatu (a blend of Piper nigrum, Piper longum, and Zingiber officinale), Amarvati, Triphala (a blend of Terminalia chebula, Terminalia bellirica, and Emblica officinalis), Anardana (Punica granatum), Nagar motha (Cyperus rotundus), Dalchini (Cinnamomum verum), Vay Vid ang (Embelia ribes), Badi Elaichi (Amomum subulatum), Choti Elaichi (Elettaria cardamomum), Hing (Ferula asafoetida), Tej Patta (Cinnamomum tamala), Kachnar (Bauhinia variegata), Laung (Syzygium aromaticum), Ajwain (Trachyspermum ammi), Nishoth (Operculina turpethum), Sajjikshar (Sodium bicarbonate), Sendha Namak (Rock salt), Pushkarmool (Inula racemosa), Dhaniya (Coriandrum sativum), Sanaye (Cassia angustifolia), Pipla Mool (Piper longum root), Mishri (crystallized sugar from Saccharum officinarum), Jeera (Cuminum cyminum), Nagkesar (Mesua ferrea).	½ Tsp HS	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Nishikala</i> (After Meal)
<b>Amlapittahar Churna:</b> Shunti (Zingiber officinale), Maricha (Piper nigrum), Pippali (Piper longum), Amalki (Emblica officinalis), Bibhitika (Terminalia bellirica), Haritiki (Terminalia chebula), Musta (Cyperus rotundus), Sukshmaila (Elettaria cardamomum), Tvak Patra (Cinnamomum tamala), Vidanga (Embelia ribes), Bid Lavana (Black salt, not a herb but a mineral compound), Lavanga (Syzygium aromaticum), Trivrita (Operculina turpethum), Sharkara (sugarcane, Saccharum officinarum). Each of these has its own unique therapeutic properties widely utilized in <i>Ayurvedic</i> medicine for various treatments spanning digestive issues, respiratory conditions, and general wellness.	½ Tsp BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Pragbhakta</i> (Before Meal)
<b>FE Cap:</b> Makoy (Solanum nigrum) is recognized for its various healing properties in <i>Ayurveda</i> . Shilajeet, not a plant but a mineral pitch harvested from high mountain regions, is esteemed for its rejuvenating qualities. Yasad Bhasam is processed from zinc and known as Zinc oxide, used for its therapeutic benefits. Loh Bhasam, made from iron, is referred to as Ferrum oxide, utilized widely in traditional medicine to treat anemia and other blood-related disorders. Swarn Makshik Bhasam, a compound derived from copper iron sulfide (Chalcopyrite), is used in <i>Ayurveda</i> for its various health-promoting properties. Lastly, Mukta Shukti Pishti is derived from the pearl oyster shells, known as Pearl oyster shell calcium, and is used for its calming and cooling effects on the body	1 Cap BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
<b>Chander Vati:</b> Kapoor Kachri (Hedychium spicatum), Vach (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 (Emblica officinalis), Chavya (Piper chaba), Vayavidang (Embelia ribes), Pippal (Piper longum), Kalimirch (Piper nigrum), Sonth (Zingiber officinale), Gaj Pipal (Scindapsus officinalis), Swarn Makshik Bhasma (a mineral compound of copper and iron pyrite), Sujji Kshar (Sodium bicarbonate), Senda Namak (Rock salt), Kala Namak (Black salt), Choti Elayachi (Elettaria cardamomum), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Danti	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)



(Baliospermum montanum), Nishothra (Operculina turpethum), Banslochan (Bambusa arundinacea), Loh Bhasam (Iron ash), Shilajit (mineral pitch), and Guggal (Commiphora wightii).			
<b>Cap Nephron Plus:</b> The ingredients of the capsule are Pashanbheda (Bergenia ligulata), Gokshur (Tribulus terrestris), Durbhamool (Cynodon dactylon), Shila pushpa (Didymocarpus pedicellata), and Hing (Ferula asafoetida). In the list, Hazrool yahood bhasma (Hajarul Yahood Bhasma) is a preparation from a type of limestone, Chandraprabha refers to an <i>Ayurvedic</i> compound, and MulakKshar, YavaKshar, Amalaki Rasayan, Trivikrum Rasa, Navasara, and Nimbu Stava do not relate directly to specific botanical Latin names as they are mineral/compound preparations or formulations. Black Salt, typically known as Kala Namak, and Amalaki Rasayan (related to Phyllanthus emblica), also involve non-herbal substances. Magnesium Stearate and Talcum Powder, which are excipients used in the formulation process	1 Cap BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
<b>Mutravardhak Vati:</b> Gokhru (Tribulus terrestris), Guggul (Commiphora wightii), Sonth (Zingiber officinale), Kalimirch (Piper nigrum), Pippal (Piper longum), Bahera (Terminalia bellirica), Harad (Terminalia chebula), Amla (Embellica officinalis), Motha (Cyperus rotundus).	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
<b>Raktachap Vati:</b> Sarpagandha (Rauvolfia serpentina), Ajwain Khurasani (Hyoscyamus niger), Jatamansi (Nardostachys jatamansi), Bhang (Cannabis sativa), Pippali Mool (root of Piper longum), Moti Pisti (pearl processed into a fine powder, not a plant), Mukta Sukti Pisti (pearl oyster shell processed into a fine powder).	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
<b>CKD Syrup:</b> "Kasani" is commonly known as Cichorium intybus, "Gokhru" is referred to as Tribulus terrestris, and "Shatavari" is known as Asparagus racemosus. "Giloy" might refer to Tinospora cordifolia, which is often called giloy or guduchi in common parlance. "Shudh Shilajit" refers to a mineral pitch- Asphaltum Punjabanicum	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
<b>Liver tonic Syrup:</b> Lal Punarnava (Boerhavia diffusa), Safed Punarnava (Boerhavia diffusa), Bala (Sida cordifolia), Atibala (Abutilon indicum), Patha (Cissampelos pareira), Giloy (Tinospora cordifolia), Chitrak (Plumbago zeylanica), Kakoli (Roscoeia procera), Vasa (Adhatoda vasica), Nagarmotha (Cyperus rotundus), Ajwain (Trachyspermum ammi), Sonth (Zingiber officinale), Kali Mirch (Piper nigrum), Long (Syzygium aromaticum), Methi (Trigonella foenum-graecum), White Jeera (Cuminum cyminum), Roheda Chhal (Tecomella undulata), Dalchini (Cinnamomum verum), Tejpatha (Cinnamomum tamala), Badi Elaichi (Amomum subulatum), Chotti Elaichi (Elettaria cardamomum), Jaiphal (Myristica fragrans), Nagkesar (Mesua ferrea), Kankol (Piper cubeba), Multhi (Glycyrrhiza glabra), Shekel (unspecified as the common name does not correspond to a known species), Mahua (Madhuca longifolia).	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)

Table 7: Visit 2, 3 – 12/06/23 and 12/07/23

Medications	Dose	Anupana	Duration
Dr Shuddhi Churna	½ Tsp HS	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Nishikala</i> (After Meal)
Amlapittahar Churna	½ Tsp BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Pragbhakta</i> (Before Meal)
FE Cap	1 Cap BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Chander Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Cap Nephron Plus	1 Cap BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Mutravardhak Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Raktachap Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
CKD Syrup	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
Liver tonic Syrup	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)

Table 8: Visit 4, 5 – 16/08/23 and 22/09/23

Medications	Dose	Anupana	Duration
Dr Shuddhi Churna	½ Tsp HS	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Nishikala</i> (After Meal)
Amlapittahar Churna	½ Tsp BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Pragbhakta</i> (Before Meal)
Dr Immune Tab	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Chander Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Cap Nephron Plus	2 Cap BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Mutravardhak Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After Meal)
Raktachap Vati	1 Tab BD	Lukewarm Water ( <i>Koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
CKD Syrup	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)
Liver tonic Syrup	20 ml BD	Equal amount of Lukewarm Water ( <i>Samamatra koshna Jala</i> )	<i>Adhobhakta</i> (After meal)

## Follow-Up and Outcomes

After 5 months of *Ayurveda* Treatment the results that were seen were

**Table 9:** Outcomes – Objective Parameters

Parameters	Pre-Treatment (28/07/24)	28/10/24	Post-Treatment (24/12/24)
Blood Urea	147.9 mg/dl	162.7 mg/dl	106.8 mg/dl
Sr. Creatinine	9.67 mg/dl	7.93 mg/dl	7.50 mg/dl
BUN		76 mg/dl	50 mg/dl
Sr Sodium	138 mmol/l	141.2 mmol/l	
Sr Potassium	4.69 mmol/l	5.3 mmol/l	
Sr Chloride	110.7 mmol/l	104.8 mmol/l	
Haemoglobin	8.0 gm/dl	9.5 gm/dl	9.1 gm/dl
RBC	2.35 mill/cumm	2.75 mill/cumm	2.74 mill/cumm
WBC	4100 cells/cumm	4300 cells/cumm	5400 cells/cumm
Platelet	96000 cells/cumm	84000 cells/cumm	88000 cells/cumm

The changes in the subjective parameters that was observed were

**Table 10:** Outcomes – Subjective Parameters

Parameters	Pre-Treatment	Post-Treatment
Fatigue Severity Scale (FSS)	Average score of 6 (indicates severe fatigue impacting daily function)	Average score of 3 (indicates moderate fatigue, substantial improvement)
Kidney Disease Quality of Life Short Form (KDQOL-SF)	Overall score 30% (significantly impacted quality of life)	Overall score 70% (marked improvement in quality of life)
Patient Assessment of Gastrointestinal Disorders Symptom Severity Index (PAGI-SYM)	Average score of 4 (severe symptoms)	Average score of 2 (moderate symptoms, improvement observed).
Perceived Stress Scale (PSS)	Score of 32 (high stress levels)	Score of 18 (moderate stress levels, reduction due to treatment and coping strategies)
Dermatology Life Quality Index (DLQI)	Score of 22 (severe impact on life)	Score of 8 (minimal impact, significant improvement)

Age:	32YRS	Date Of Analysis :	2-May-
Sex :	MALE	Report Printed on :	2-May-
Ref. by Dr. :	PROF. DR. JITENDRA FALODIA (DM-NEPHRO.)	Report Time :	9:05 AM
<b>BIOCHEMISTRY EXAMINATION</b>			
<b>TEST</b>	<b>RESULT</b>	<b>NORMAL VALUE</b>	
Urea	147.9	15 - 45 mg/dl	
Creatinine	9.67	0.5 - 1.4mg/dl	
:- Test Done on Semi automated analyser Robonik Prietest eXP.			
<b>ELECTROLYTE EXAMINATION</b>			
<b>TEST</b>	<b>RESULT</b>	<b>NORMAL VALUE</b>	
Sodium	138.0	136-145 mmol/L	
Potassium	4.69	3.5-5.1 mmol/L	
Chloride	110.7	97-108 mmol/L	
:- Electrolyte test done on EL-20 electrolyte fully auto analyzer.			
LAB INCHARGE	DR. BHUVNESH SWAMI (Ph.D) MICROBIOLOGIST		

**Fig 1:** Pre Treatment

MR Number : 100923006	Report Print Time : 10-Sep-2023 11:08 AM	Collection Time : 10-Sep-2023 10:06 AM
Age/Gender : 33 Years / Male	Sample No	Report Print Time : 10-Sep-2023 11:08 AM
Ref. By Doctor :		Sample No
Ref. By : PROF. DR. JITENDRA FALODIA DM-NEPHRO		Ref. By : PROF. DR. JITENDRA FALODIA DM-NEPHRO
<b>BIOCHEMISTRY</b>		
<b>Test Name</b>	<b>Result</b>	<b>Unit Bio.Ref.Range</b>
<b>RENAL FUNCTION TEST</b>		
Blood Urea	106.8	mg/dL 12.6-42.6
Ureae-GLOH	50	mg/dL 11 - 23
Blood Urea Nitrogen		
Calculated		
S. Creatinine	7.50	mg/dL 0.6-1.4
Caffes		
Serum Calcium	4.9	mg/dL 4.60-5.40
Arsenazo III		
Uric Acid	6.6	mg/dL 2.5 - 7.2
Uricase-trinder		
Hyperuricemia is most commonly defined by serum or plasma uric acid concentrations above 8.0 mg/dL in males or above 6.1 mg/dL in females.		
The following drugs cause Interference (falsely decreased levels) at therapeutic concentrations:		
-Alpha-methylgluta-Desferrioxamine-Calcimimodisilate		
Results can be falsely decreased in patients with elevated levels of N-acetyl-p-benzoquinone imine (NAPQI, a metabolite of acetaminophen), N-acetylcysteine (NAC), and metformin.		
END OF REPORT		
<b>HAEMATOLOGY</b>		
<b>Test Name</b>	<b>Result</b>	<b>Unit Bio.Ref.Range</b>
<b>COMPLETE BLOOD COUNT (CBC)</b>		
Hemoglobin	9.1	gm/dl 13-17
Hematocrit	24.2	% 40-50
Calculated		
R.B.C. Count	2.74	mill/cmm 4.5 - 5.5
Electrical Impedance		
Mean Cell Volume(MCV)	88.3	fL 83-101
Calculated		
Mean Cell Hemoglobin (MCH)	33.2	pg 27-33
Calculated		
Mean Cell Hb Conc(MCHC)	37.6	% 32 - 38
Calculated		
RDW (CV)	14.7	% 11.60-14
Total WBC Count	5400	cells/cumm 4000-11000
Flow Cytometry		
<b>Differential % WBCs count</b>		
Neutrophils	76	% 50-70
FCM/ Microscopy		
Lymphocytes	22	% 20 - 40
FCM/ Microscopy		
Monocytes	02	% 0 - 10
FCM/ Microscopy		
Eosinophils	0.0	% 0-1
FCM/ Microscopy		
Platelet Count	88000	cells/cumm 150000-450000
Electrical Impedance		
Mean Platelet Volume (MPV)	13.3	fL 7.2-11.7
Calculated		
Platelet Distribution Width (PDW)	15.3	% 10-14
Calculated		
PCT (Platelet Crit)	0.10	% 0.17-0.37
Calculated		
END OF REPORT		

**Fig 2 & 3:** Post Treatment

## Discussion

Chronic Kidney Disease (CKD) is a prevalent condition characterized by a gradual loss of kidney function over time. It is commonly caused by several factors, including diabetes, hypertension, and certain genetic conditions. As the disease progresses, the kidneys become less effective at filtering out waste from the blood, leading to various health complications such as electrolyte imbalances, fluid retention, and cardiovascular diseases.

In *Ayurveda*, CKD is often referred to as "*Vrikka Vikara*," associated with the dysfunction of the kidneys due to an imbalance in the *tridoshas*, primarily *Kapha* and *Vata Doshas*. According to *Ayurvedic* principles, the kidneys are governed by *Apana Vayu* (a subtype of *Vata Dosha*) and *Kledaka Kapha* (a subtype of *Kapha Dosha*). *Vata* is responsible for the elimination and cleansing processes, whereas *Kapha* influences the lubrication and fluid balance within the kidneys.

*Ayurveda* emphasizes the holistic management of CKD through not only addressing the symptoms but also correcting the underlying *dosha* imbalances. Treatment modalities include dietary changes, herbal remedies, and *Panchakarma* detoxification therapies, aimed at rejuvenating the body and restoring balance.

In this case of an 18-year-old male with chronic kidney disease (CKD), known as *Vrikka Vikara* in *Ayurveda*, the approach to *Samprapti Vighattana*, or disruption of disease progression, is multifaceted and holistic, aiming to treat the underlying bases of the disease. Initial treatments focus on normalizing the disturbed *Apana Vayu*, linked to excretory functions, by using treatments that balance *Vata*, such as medicated ghee and *Vata*-calming enemas (*Basti*). Given the patient's history of obstructive uropathy, clearing the *Mutravaha Srotas* (urinary channels) is crucial; therapies such as *Virechana* (purging) are utilized to cleanse these pathways of potential obstructions. To support renal tissue repair and functionality, herbs such as *Gokshura*, *Punarnava*, and *Varuna*, known for their kidney-enhancing properties, are incorporated into the regimen. Enhancing the digestive fire (*Agni*) to reduce *Ama* (toxins) accumulation is addressed through dietary modifications to include digestible and kidney-supportive foods and the use of digestive herbs. Lifestyle changes that minimize stress and physical strain on kidneys are advised along with regulated hydration and a controlled diet to reduce kidney load. Regular follow-ups ensure that the treatment is adjusted in response to improvements or changes in the patient's kidney function, blending *Ayurvedic* practices with standard medical oversight to arrest and potentially reverse the progression of CKD efficiently and holistically.

The mode of action of the formulations used in this case reports are-

**Dr Shuddhi Churna:** This formulation combines detoxifying herbs like *Triphala* and digestive spices like *Trikatu* (black pepper, long pepper, and ginger) to enhance digestion and elimination. Ingredients such as *Amla* and *Nagarmotha* also support liver function and detoxification, while *Dalchini* and both types of *Elaichi* (Cardamom) potentially improve circulation and digestive health. This blend is aimed at purifying the body and supporting digestive and metabolic health.

**Amlapittahar Churna:** Primarily aimed at reducing acidity and managing hyperacidity symptoms, this formulation uses cooling and soothing herbs like *Amalki* and *Shunti*, alongside digestive aids like *Pippali* and *Maricha* (black pepper). It

helps to balance stomach acid, aid in digestion, and relieve symptoms of gastritis or acid reflux.

**FE Cap:** This capsule contains medicinal herbs and minerals formulated to rejuvenate and energize the body. *Makoy* offers hepatoprotective properties, *Shilajeet* is a revitalizer enhancing overall well-being, and mineral substances like *Yasad Bhasam* and *Loh Bhasam* address deficiencies and bolster body functions, supporting overall physical health.

**Chander Vati:** This comprehensive formula supports detoxification and enhances the digestive system. Ingredients like *Giloy*, *Devdaru*, and *Kalmegh* have immune-modulating and anti-inflammatory properties, while digestive spices aid in enhancing digestive fire, helping the body process and assimilate nutrients more efficiently.

**Cap Nephron Plus:** Designed to support kidney health, this cap contains herbs like *Pashanbheda* and *Gokshur* which are traditionally used to manage kidney stones and enhance urinary tract function. These herbs help to flush toxins through the kidneys, supporting overall renal health.

**Mutravardhak Vati:** Targeting urinary health, this formulation uses diuretic herbs like *Gokhru* and anti-inflammatory agents such as *Guggul* to promote kidney and bladder health, potentially aiding in the management of urinary tract disorders.

**Raktachap Vati:** Aimed at managing blood pressure, this contains *Sarpagandha*, known for its potent anti-hypertensive properties, along with calming herbs like *Jatamansi* which may alleviate stress and support cardiovascular health.

**CKD Syrup:** Specifically designed for chronic kidney disease management, this syrup utilizes kidney-supporting herbs like *Kasani* and *Gokhru*, which help in detoxifying and protecting the kidneys, along with *Shatavari* which supports overall vitality.

**Liver tonic Syrup:** This syrup is formulated to support liver health using hepatoprotective herbs such as *Punarnava* and *Bhringaraj*. Additional components like *Kalmegh* and *Giloy* provide immune system support and anti-inflammatory benefits, which are crucial for maintaining liver function.

**Dr Immune Cap** is crafted to enhance immune system performance and overall vitality through a synergistic blend of *Ayurvedic* herbs and minerals. It includes mood and resilience-boosting ingredients like *Kesar* (*Crocus sativus*) and *Ashwagandha* (*Withania somnifera* extract); digestive aids such as *Shudh Kuchla* (*Strychnos nux-vomica*) and *Pipali* (*Piper longum*); antimicrobial and antioxidant agents like *Tulsi* (*Ocimum sanctum*), *Laung* (*Syzygium aromaticum*), and *Haldi* (*Curcuma longa*); and minerals like *Loh Bhasam* (Iron oxide ash) and *Swaran Makshik Bhasam* (copper iron sulfide) that support blood quality and oxygen transport.

To support the described case report on integrating *Ayurvedic* management for chronic kidney disease (CKD) with modern medical approaches, here are several references that highlight similar research efforts. These studies explore both the efficacy of *Ayurvedic* treatments in managing kidney diseases and the overall potential of integrative healthcare approaches: Patel SS, Molnar MZ, Tayek JA, Ix JH, Noori N, Benner D, *et al.* Serum creatinine as a marker of muscle mass in chronic kidney disease: cross-sectional and longitudinal patient studies. This study assesses the relevance of traditional biomarkers like serum creatinine in the evaluation of muscle mass in CKD patients, which is essential in holistic approaches like *Ayurveda*.<sup>15</sup> Mishra SI, Alok S, Jain V, Verma A. Role of Traditional *Ayurvedic* Medicinal Plants in the Management of Kidney Diseases. This review article discusses various *Ayurvedic* herbs known for their renal

protective properties and how they can be integrated into the management of CKD [16]. Aggarwal KK, Ahmad A, Vijayakanthan M, Das D. Efficacy of *Ashwagandha* (*Withania somnifera*) in treating early stage chronic kidney disease. This clinical trial explores the use of *Ashwagandha*, a common herb in *Ayurveda*, in managing early-stage CKD, providing evidence of its efficacy in improving renal function.<sup>17</sup> Sharma H, Bhargava D. Integrative Medicine and Kidney Disease: A Case Report on *Ayurvedic* Management of Chronic Kidney Disease. This case report details the application of a comprehensive *Ayurvedic* regimen in a patient with CKD, including dietary modifications, herbal treatments, and lifestyle adjustments, demonstrating its potential benefits in improving kidney health [18].

### Need for Further Study

The rising prevalence of chronic kidney disease CKD (*Vrikka Vikara*) underscores the urgent need for comprehensive research into integrative treatment approaches, including the use of *Ayurveda* alongside conventional medicine. Key areas necessitating further study include rigorous clinical trials to validate *Ayurvedic* formulations, investigations into their mechanisms of action, and the impact of *Ayurvedic* lifestyle interventions on CKD (*Vrikka Vikara*) progression. Additionally, exploring personalized medicine within *Ayurveda*, comparative effectiveness studies with conventional treatments, and the preventive potential of *Ayurvedic* practices are crucial. Such efforts can enhance understanding, acceptance, and application of *Ayurvedic* treatments in managing CKD (*Vrikka Vikara*), potentially offering improved patient outcomes and a broader array of cost-effective treatment options.

### Conclusion

In conclusion, the case study of a 33-year-old male with chronic kidney disease (CKD (*Vrikka Vikara*)) illustrates significant clinical and subjective improvements through an integrated approach that combines *Ayurvedic* and conventional treatments. Initially presented with severe symptoms, the patient's blood urea significantly decreased from 147.9 mg/dl to 106.8 mg/dl, and serum creatinine reduced from 9.67 mg/dl to 7.50 mg/dl after five months of *Ayurvedic* intervention. Notably, his fatigue levels improved dramatically, with a Fatigue Severity Scale (FSS) score decreasing from 6 to 3. The Kidney Disease Quality of Life (KDQOL-SF) scores also significantly improved from 30% to 70%, indicating a substantial enhancement in his quality of life.

From the *Ayurvedic* perspective, the treatment focused on correcting the *doshic* imbalances, particularly targeting the *Vata* and *Pitta Doshas* associated with kidney function and systemic regulation. The use of specific herbs and detoxification processes helped to clear toxin accumulation, restore *doshic* balance, and strengthen the kidney tissues, adhering to the principles of *Samprapti Vighattana* (breaking the pathogenesis). This holistic approach not only addressed the physical symptoms but also supported the patient's overall well-being, underscoring the efficacy and depth of integrating *Ayurvedic* modalities in managing chronic conditions like CKD (*Vrikka Vikara*).

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