AYURVEDIC MANAGEMENT OF VRIKK VIKAR (CHRONIC KIDNEY DISEASE) WITH MUTRAVAH STROTODUSHTI AND HYPERTENSION: A CASE STUDY

4 ABSTRACT

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- 5 Chronic Kidney Disease (CKD), understood in Ayurveda as a progressive disorder of the
- 6 MutravahaSrotas, primarily arises from the vitiation of Vata and KaphaDoshas, often
- 7 accompanied by AgniDushti and AmaSanchaya. This case study presents the successful
- 8 Ayurvedic management of a 33-year-old male diagnosed with CKD, who exhibited
- 9 significant renal dysfunction. The patient was managed through a comprehensive Ayurvedic
- 10 regimen comprising NidanParivarjan, Ahar-ViharParimarjan, Panchakarma therapies, and
- 11 ShamanChikitsa with Rasayan and hepatoprotective formulations. The treatment aimed to
- pacify aggravated *Doshas*, enhance *Agni*, eliminate *Ama*, and restore the function of
- 13 MutravahStrotas. Marked clinical improvements were observed in renal parameters, vitality,
- and systemic symptoms over a one-month period. This case highlights the potential of
- 15 classical Ayurvedic interventions in the integrative management of CKD and underscores the
- importance of individualized care, lifestyle modification, and *Rasayan* therapy in chronic
- 17 systemic disorders.

18 KEYWORDS

- 19 Ayurveda, Panchkarma, Mutraghata, Mutrakshaya, Mutravahasrotas, Shaman Chikitsa,
- 20 Shodhanand Vrikk rog

21 INTRODUCTION

- 22 Chronic Kidney Disease (CKD) is a long-term, progressive disorder marked by a sustained
- 23 decline in renal function over an extended period. The kidneys are essential for maintaining
- 24 systemic homeostasis through waste excretion, electrolyte regulation, and blood pressure
- 25 control. Progressive renal impairment leads to toxin accumulation, fluid-electrolyte
- 26 imbalances, and an elevated risk of cardiovascular complications.^[1] The most prevalent
- 27 etiologies include diabetes mellitus, hypertension, and glomerulonephritis. Early stages of
- 28 CKD are frequently asymptomatic, complicating early diagnosis. As renal function worsens,
- 29 patients may present with nonspecific symptoms such as fatigue, peripheral oedema, and
- 30 alterations in urinary frequency or volume. If not adequately managed, CKD may progress to
- 31 end-stage renal disease (ESRD), requiring renal replacement therapy in the form of dialysis
- or transplantation. ^[2] The global prevalence of CKD is rising, posing a significant burden on
- 33 patients and healthcare infrastructure. Therefore, early identification through routine
- screening, along with targeted intervention to control underlying risk factors, is crucial for
- delaying disease progression and improving patient outcomes. [3]
- Recent research in Chronic Kidney Disease (CKD) has advanced the understanding of its
- pathogenesis, early diagnostic tools, and personalized therapeutic strategies. Studies on novel
- 38 biomarkers and genetic factors, such as APOL1 variants, have enabled risk stratification and
- 39 genotype-guided interventions.^[4] Additionally, the gut microbiome has been implicated in
- 40 CKD progression via uremic toxin production, with microbiota modulation emerging as a
- 41 potential adjunctive therapy. [5] Investigational regenerative approaches, including

mesenchymal stem cell therapy, are being explored for their anti-inflammatory and tissuereparative effects in renal injury. [6]

In *Ayurvedic* perspective, Chronic Kidney Disease (CKD) is understood as a progressive disorder primarily resulting from an imbalance in the *Tridoshas*, with a predominance of *Vata* and *Kapha*. It is typically classified under *MutravahaSrotasVikar* (urinary system disorders) and is closely associated with *Prameh*, particularly in cases linked to diabetic nephropathy. The pathogenesis involves *Agni Dushti* (impaired digestive fire), leading to the formation and accumulation of *Ama* (metabolic toxins), which obstruct the normal functioning of *MutravahSrotas*. Contributing etiological factors include inappropriate dietary habits (*Ahar*), lack of physical activity (*Vihar*), mental stress, and excessive consumption of processed or incompatible foods. These factors collectively result in progressive deterioration of renal structures, particularly affecting *Rakt*, *Meda*, and *MutravahSrotas*, manifesting clinically as *Shoth* (oedema), *Aruchi* (loss of appetite), *Klama* (fatigue), and *Mutravikara* (altered urinary output). The *Samprapti* (pathogenesis) and *SampraptiGhatak* (pathogenic components) are illustrated schematically in Figures 1 and 2, respectively. [9]

Figure 1: Samprapti of this case

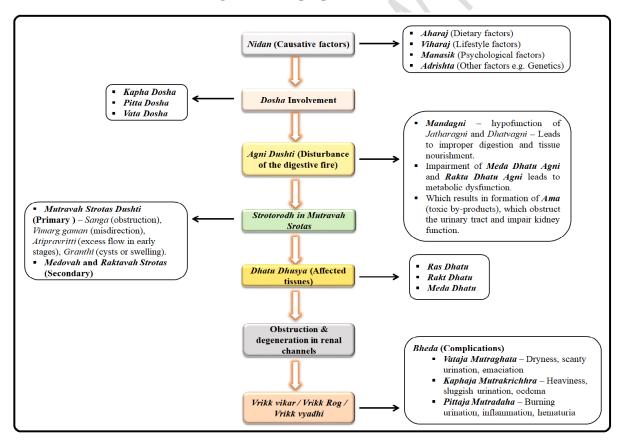
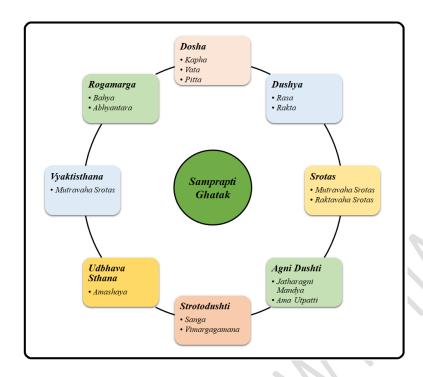


Figure 2: SampraptiGhatakofVrikk rog (CKD)



In the present case of *Vrikk Rog* (chronic kidney disease), the patient was managed using a structured *Ayurvedic* treatment protocol, with regular monitoring of pertinent laboratory parameters. A personalized therapeutic plan was formulated based on comprehensive clinical evaluation, encompassing *Ayurvedic* dietary recommendations, *Ayurvedic* medications, and selected *Panchakarma* therapies. The patient exhibited marked clinical improvement following the implementation of this integrative treatment approach.

OBJECTIVE

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- The objective of this case study is to evaluate the effectiveness of *Ayurvedic* management in a
- 69 patient with Chronic Kidney Disease (CKD) and hypertension, focusing on *Dosha*vitiation,
- 70 StrotasDushti, and Amaformation, with an integrative approach involving NidanParivarjan,
- 71 Panchakarma, and Rasayantherapy to restore MutravahStrotas function.

CASE REPORT

- 73 A 33-year-old male with a known history of Chronic Kidney Disease (CKD) and
- 74 hypertension (diagnosed in 2022) presented to JeenaSikhoLifecare Limited Hospital,
- 75 Amritsar, Punjab, on June 5, 2025. He reported symptoms such as frothy urine
- 76 (PhenilaMutra), generalized weakness (Daurbalya), cervical stiffness (GreevaStambha),
- head heaviness (ShirahGaurava), increased sleep (Atinidra), proteinuria (Mutra Rog with
- 78 *PramehLakshan*), and nausea (*Hrillasa*).
- 79 A renal biopsy dated September 9, 2022, revealed extensive chronic kidney damage
- 80 characterized by diffuse scarring, severe tubulointerstitial chronicity (involving 70–75% of
- 81 the core), and global sclerosis in 21 out of 22 glomeruli. There was no evidence of immune
- 82 complex deposition, and autoimmune markers were either negative or pending. These
- 83 findings suggest advanced structural deterioration of non-immune origin. A Micturating
- 84 Cysto-Urethrogram (MCU) performed on October 1, 2025, showed no vesico-ureteric reflux.

The bladder and anterior urethra appeared normal; however, a membranous urethral stricture and mild post-void residual urine were noted, indicating incomplete bladder emptying.

A detailed summary of clinical observations from each consultation is provided in Table 1, while the patient's *AshtasthanaPareeksha* (eight-fold *Ayurvedic* diagnostic evaluation) is presented in Table 2. Based on the comprehensive assessment, the patient was admitted for a 17-day inpatient *Ayurvedic* treatment protocol. This involved individualized classical *Ayurvedic* medications, *Panchakarma* therapies, dietary modifications, and lifestyle adjustments. The patient exhibited significant clinical improvement following completion of the treatment plan. The patient continued allopathic medications throughout the treatment course, as detailed in Table 3.

Table 1: Initial Assessment at each consultations

Date	Blood Pressure	Weight	SpO ₂	Respiration
05-06-2025	140/90 mm Hg	92.75 Kg	99%	80/min
05-07-2025	130/80 mm Hg	90 Kg	99%	71/min

Table 2: AshtasthanaPareeksha findings

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Parameter	Findings
Nadi (Pulse)	Pittaj Vataj
Mala (Stool)	Avikrit (Normal)
Mutra (Urine)	Phenila (Frothy)
Jiwha (Tongue)	Malin (Coated)
Shabda (Voice)	Spashta (Clear)
Sparsh (Touch)	Samsheetoshna (Normal)
Akriti (Physique)	Sthoulya (Obese)
Drika (Eyes)	Prakrit (Normal)

Table 3: Allopathic medicines continued during the treatment

Medicine	Dosage	Day 1 - Day 3	Day 4 - Day 8	Day 9 - Day 11	Day 12 - Day 17
Prednisolone - 40 mg	1 OD	✓	✓	Alternate Days	Alternate Days
Sodium Bicarbonate - 500 mg	1 BD	✓	Alternate Days	Alternate Days	Every 3 rd Day
Sevelamer - 400 mg	1 BD	✓	Alternate Days	Alternate Days	Every 3 rd Day
Cholecalciferol (Vitamin D3)	Weekly 1	✓	HOLD	HOLD	HOLD
Pantoprazole - 40 mg	1 OD	HOLD	HOLD	HOLD	HOLD

TREATMENT PLAN

The patient underwent a 17 day inpatient treatment program that included personalized *Ahar-Vihar* (diet and lifestyle modifications), *NidanParivarjan* along with *Shodhan* and *Shaman Chikitsa*. Vital parameters were closely monitored throughout the treatment period, with daily observations summarized in Table 3.

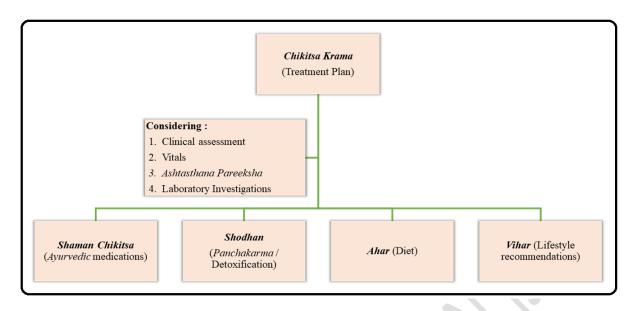


Table 3. The vitals noted during the IPD treatment

			Temperature	Blood Pressure	Pulse Rate	Respiration	
Date	Time	Weight (Kg)	(°F)	(mm Hg)	(per min)	(per min)	SpO ₂ (%)
	9:30 AM	91.20 Kg	98.2°F	140/90 mm Hg	104/min	22/min	98%
	2:00 PM	91.20 Kg	98.4°F	150/90 mm Hg	115/min	22/min	97%
06-06-2025	5:00 PM	91.20 Kg	98.3°F	150/100 mm Hg	110/min	24/min	98%
	8:00 PM	91.20 Kg	98.17°F	140/90 mm Hg	110/min	22/min	98%
	10:00 PM	91.20 Kg	98.37°F	150/90 mm Hg	105/min	24/min	99%
	7:00 AM	91.20 Kg	98.2 °F	140/90 mm Hg	107/min	29/min	97%
	9:00 AM	91.70 Kg	98.4 °F	140/90 mm Hg	112/min	20/min	98%
07.07.2025	2:00 PM	91.70 Kg	98.3 °F	150/90 mm Hg	120/min	24/min	97%
07-06-2025	5:00 PM	91.70 Kg	98.2 °F	150/100 mm Hg	98/min	22/min	98%
	8:00 PM	91.70 Kg	98.3 °F	140/90 mm Hg	94/min	19/min	98%
	10:00 PM	91.70 Kg	98.7 °F	140/90 mm Hg	108/min	24/min	97%
	7:00 AM	91.70 Kg	98.7 °F	150/90 mm Hg	98/min	22/min	98%
	9:00 AM	91.50 Kg	98.3 °F	150/90 mm Hg	99/min	20/min	99%
00 07 2025	2:00 PM	91.50 Kg	98.4 °F	140/90 mm Hg	120/min	22/min	98%
08-06-2025	5:00 PM	91.50 Kg	98.2 °F	140/80 mm Hg	118/min	24/min	99%
	8:00 PM	91.50 Kg	98.17 °F	140/90 mm Hg	104/min	24/min	98%
	10:00 PM	91.50 Kg	98.3 °F	150/90 mm Hg	100/min	19/min	99%
	7:00 AM	91.50 Kg	98.9 °F	130/80 mm Hg	110/min	24/min	98%
	9:00 AM	92.25 Kg	98.1 °F	140/90 mm Hg	101/min	22/min	97%
09-06-2025	2:00 PM	92.25 Kg	98.2 °F	150/90 mm Hg	110/min	20/min	98%
09-00-2023	5:00 PM	92.25 Kg	98.1 °F	140/90 mm Hg	124/min	24/min	98%
	8:00 PM	92.25 Kg	98.3 °F	140/90 mm Hg	98/min	22/min	98%
	10:00 PM	92.25 Kg	98.1 °F	140/90 mm Hg	108/min	24/min	99%
	7:00 AM	92.25 Kg	98.4 °F	130/80 mm Hg	110/min	19/min	98%
	9:00 AM	90 Kg	98.2 °F	140/90 mm Hg	104/min	20/min	97%
10-06-2025	2:00 PM	90 Kg	98.4 °F	140/90 mm Hg	102/min	24/min	99%
10 00 2020	5:00 PM	90 Kg	98.3 °F	130/90 mm Hg	100/min	22/min	97%
	8:00 PM	90 Kg	98.1 °F	140/90 mm Hg	108/min	24/min	98%
	10:00 PM	90 Kg	98.3 °F	130/80 mm Hg	110/min	22/min	99%
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	6:30 AM	90 Kg	98.9 °F	140/90 mm Hg	106/min	24/min	98%
	9:00 AM	90.10 Kg	98.1 °F	140/90 mm Hg	112/min	20/min	97%
11-06-2025	2:00 PM	90.10 Kg	98.4 °F	130/90 mm Hg	104/min	22/min	99%
	5:00 PM	90.10 Kg	98.2 °F	130/90 mm Hg	112/min	24/min	99%
	8:00 PM	90.10 Kg	98.4 °F	130/80 mm Hg	104/min	22/min	98%
	10:00 PM	90.10 Kg	98.1 °F	140/90 mm Hg	98/min	24/min	99%
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	7:00 AM	90.10 Kg	98.9 °F	140/90 mm Hg	100/min	21/min	98%
	9:00 AM	90.10 Kg	98.3 °F	130/80 mm Hg	81/min	20/min	99%
12-06-2025	2:00 PM	90.10 Kg	98.2 °F	150/90 mm Hg	98/min	24/min	99%
	5:00 PM	90.10 Kg	98.4 °F	140/80 mm Hg	98/min	22/min	99%
	8:00 PM 10:00 PM	90.10 Kg 90.10 Kg	98.3 °F 98.1 °F	150/90 mm Hg 130/90 mm Hg	99/min 98/min	24/min 24/min	98% 98%
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	7:00 AM	90.10 Kg	98.3 °F	140/90 mm Hg	90/min	24/min	99%
	9:00 AM	90.10 Kg 90.85 Kg	98.3 °F 98.4 °F	130/90 mm Hg	90/min 92/min	24/min 20/min	99%
	2:00 PM	90.85 Kg	98.1 °F	120/90 mm Hg	92/min	24/min	98%
13-06-2025	5:00 PM	90.85 Kg	98.3 °F	140/90 mm Hg	102/min	24/min	97%
	8:00 PM	90.85 Kg	98.4 °F	140/90 mm Hg	102/min	20/min	98%
	10:00 PM	90.85 Kg	98.3 °F	140/90 mm Hg	104/min	24/min	99%
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	7:00 AM	90.85 Kg	98.1 °F	120/80 mm Hg	92/min	22/min	97%
	9:00 AM	90 Kg	98.2 °F	120/80 mm Hg	90/min	20/min	98%
14-06-2025	2:00 PM	90 Kg	98.3 °F	120/90 mm Hg	92/min	24/min	99%
14-00-2023	5:00 PM	90 Kg	98.4 °F	130/80 mm Hg	95/min	22/min	98%
	8:00 PM	90 Kg	98.9 °F	140/90 mm Hg	88/min	24/min	98%
	10:00 PM	90 Kg	98.1 °F	130/80 mm Hg	99/min	22/min	99%
	7:00 AM	80 Kg	98.3 °F	130/80 mm Hg	95/min	24/min	98%
	9:00 AM	80 Kg	98.1 °F	140/90 mm Hg	100/min	20/min	99%
1. 0 < 202	2:00 PM	88.10 Kg	98.5 °F	140/80 mm Hg	92/min	24/min	98%
15-06-2025	5:00 PM	88.10 Kg	98.4 °F	140/90 mm Hg	88/min	22/min	99%
	8:00 PM	88.40 Kg	98.9 °F	150/90 mm Hg	70/min	24/min	98%
	10:00 PM	88.40 Kg	98.4 °F	130/80 mm Hg	78/min	22/min	99%
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	7:00 AM	88.40 Kg	98.14 °F	130/80 mm Hg	82/min	24/min	98%
	9:00 AM	88.49 Kg	98.2 °F	140/100 mm Hg	90/min	24/min	97%
	2:00 PM	88.40 Kg	98.3 °F	140/90 mm Hg	88/min	24/min	99%
16-06-2025	5:00 PM	88.40 Kg	98.1 °F	140/80 mm Hg	86/min	24/min	98%
	8:00 PM		98.1 F 98.4 °F	130/80 mm Hg	90/min		98%
	10:00 PM	88.40 Kg 88.40 Kg	98.4 F 98.1 °F	130/80 mm Hg	90/min	24/min 24/min	98%
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	7:00 AM	88.40 Kg	98.3 °F	140/90 mm Hg	70/min	24/min	98%
	9:00 AM	89 Kg	98.1 °F	140/90 mm Hg	88/min	20/min	97%
17-06-2025	2:00 PM	89 Kg	98.2 °F	130/90 mm Hg	64/min	22/min	98%
	5:00 PM	89 Kg	98.4 °F	140/80 mm Hg	72/min	24/min	99%
	8:00 PM	89 Kg	98.1 °F	140/90 mm Hg	64/min	20/min	98%
	10:00 PM	89 Kg	98.2 °F	130/80 mm Hg	70/min	22/min	99%
	7:00 AM	89 Kg	98.3 °F	140/80 mm Hg	86/min	24/min	97%
	9:00 AM	89.10 Kg	98.1 °F	140/90 mm Hg	89/min	20/min	98%
18-06-2025	2:00 PM	89.10 Kg	98.4 °F	120/80 mm Hg	88/min	24/min	99%
10-00-2025	5:00 PM	89.10 Kg	98.3 °F	120/80 mm Hg	72/min	20/min	98%
	8:00 PM	89.10 Kg	98.3 °F	130/80 mm Hg	90/min	24/min	99%
	10:00 PM	89.10 Kg	98 °F	190/80 mm Hg	80/min	24/min	98%
	7:00 AM	89.10 Kg	98.9 °F	130/80 mm Hg	94/min	20/min	98%
	9:00 AM	89.30 Kg	98.4 °F	140/80 mm Hg	89/min	24/min	99%
19-06-2025	2:00 PM	89.30 Kg	98.1 °F	130/90 mm Hg	88/min	22/min	99%
19-00-2025	5:00 PM	89.30 Kg	98.3 °F	120/80 mm Hg	72/min	24/min	98%
	8:00 PM	89.30 Kg	98.4 °F	130/80 mm Hg	78/min	24/min	98%
	10:00 PM	89.30 Kg	98.1 °F	120/80 mm Hg	84/min	20/min	99%
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	7:00 AM	89.30 Kg	98.2 °F	130/80 mm Hg	90/min	20/min	98%
	9:00 AM	90 Kg	98.1 °F	130/80 mm Hg	91/min	20/min	97%
	2:00 PM	90 Kg	98.2 °F	120/80 mm Hg	92/min	22/min	98%
20-06-2025	5:00 PM	90 Kg	98.3 °F	120/80 mm Hg	88/min	24/min	99%
	8:00 PM	90 Kg	98.1 °F	120/80 mm Hg	70/min	24/min	98%
	10:00 PM	90 Kg	98.3 °F	130/80 mm Hg	88/min	24/min	99%
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	7:00 AM	90 Kg	98.4 °F	120/80 mm Hg	89/min	24/min	98%
21-06-2025	9:00 AM	90 Kg 86.65 Kg	98.4 °F	120/80 mm Hg	84/min	24/min	98%
21-00-2025	2:00 PM	86.65 Kg	98.1 °F	120/80 mm Hg	68/min	22/min	98%
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112 I. Shaman Chikitsa

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Based on the clinical evaluation, a detailed and patient-specific medication protocol was devised, as outlined in Table 4.

Table 4: Ayurvedic medicines prescribed

Visit	Date	Medicines	Dosage with Anupana (Medium)
		Renal Stone Removing Powder	Half Teaspoon BD (Adhobhakta with Koshna Jala)*
		CKD Tablets	2 Tab BD (Adhobhakta with Koshna Jala)
	06-06-2025	Yakrit Shoth Har Vati	2 Tab BD (Adhobhakta with Koshna Jala)
		Chandraprabha Vati	2 Tab BD (Adhobhakta with Koshna Jala)
		Rakt Chap Vati	1 Tab BD (Adhobhakta with Koshna Jala)
IPD			
ПD		Renal Stone Removing Powder	Half Teaspoon BD (Adhobhakta with Koshna Jala)
		CKD Tablets	2 Tab BD (Adhobhakta with Koshna Jala)
	07-06-2025	Yakrit Shoth Har Vati	2 Tab BD (Adhobhakta with Koshna Jala)
	07-00-2023	Chandraprabha Vati	2 Tab BD (Adhobhakta with Koshna Jala)
		Rakt Chap Vati	1 Tab BD (Adhobhakta with Koshna Jala)
		Kidney Care	20 ml BD (Adhobhakta with Sama Matra Koshna Jala)**
		Dhatu Poshak	1 Tab BD (Adhobhakta with Koshna Jala)
		Dr. BP Care	1 Tab BD (Adhobhakta with Koshna Jala)
Follow up	05-07-2025	CKD Tablets	2 Tab BD (Adhobhakta with Koshna Jala)
ronow up	03-07-2023	Yakrit Shoth Har Vati	2 Tab BD (Adhobhakta with Koshna Jala)
		Chandraprabha Vati	2 Tab BD (Adhobhakta with Koshna Jala)
		Kidney Care	15 ml BD (Adhobhakta with Sama Matra Koshna Jala)
	<u> </u>		
		* Adhobhakta with Koshna Jala	- After Meal with Lukewarm Water
	** Adhobhal	kta with Sama Matra Koshna Jala	- After Meal with Equal Amount of Lukewarm Water

117 II. Shodhan

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Following a thorough clinical evaluation, a customized *Panchakarma* treatment plan was developed for the patient. The regimen included therapies such as *AwegahSwedan*, *Shirodhara*, *MatraBasti*, *Kashaya Basti*, *Abhyang*, *VrikkBasti* and *Kansya* therapy specifically tailored to address the underlying condition effectively.

1. AwagahSweden^[10]

Pre - Procedure (Purv karma)	The patient was assessed for suitability, and a warm ayurvedic decoction was prepared at 39 - 42°C and poured into a tub to immerse the lower back and pelvic region.
Main Procedure (Pradhan karma)	The patient sat comfortably in the tub with the pelvic region immersed in warm decoction for 15–20 minutes, and the temperature was maintained throughout.
Post Procedure	The body was gently dried with a clean towel, and the patient was advised to
(Paschat Karma)	rest and consume light food with warm water.

2. Shirodhara with Brahmi Oil^[11]

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	The Brahmi oil was gently warmed using a water bath to approximately body
Preparation	temperature (39–40°C).
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	The patient was positioned supine on the Shirodhara table and the eyes and
Pre-Procedure	ears were protected using cotton.
(Purv Karma)	A 5-10-minute gentle massage of the scalp, forehead, and shoulders was
	performed using a Brahmi oil to facilitate relaxation.
	The Shirodhara vessel was positioned approximately 5 inches above the
Main Procedure	forehead, allowing a continuous stream of lukewarm Brahmi oil end to flow
(Pradhan Karma)	steadily over the Ajna Chakra (forehead region).
(Traunan Karma)	The oil was rhythmically poured from temple to temple for 45 minutes at a
	consistent temperature.
Post Propodures	The patient was rested for 15 minutes post-procedure, excess oil was
Post-Procedure	removed with warm towels, followed by a warm herbal bath, and advised
(Paschat Karma)	light diet and rest for the day.

3. MatraBasti with Gokshur^[12]

Pre-Procedure (Purv Karma)	The patient was assessed for suitability, given light and warm food the previous night, ensured to have an empty bladder and bowel, and positioned in the left lateral position with the right knee flexed prior to administration.	
Main Procedure (Pradhan Karma)	The <i>Gokshura</i> oil was warmed to body temperature and approximately 60 ml was drawn into a sterile <i>Basti</i> syringe. The <i>Basti Netra</i> was lubricated and gently inserted into the rectum, following which the oil was administered slowly, and the patient was advised to remain in the same position for 20 minutes.	
Post-Procedure (Paschat Karma)	Post-procedure, the patient was advised to rest, provided light warm food after a few hours, and monitored for natural evacuation of the administered oil.	

4. KashayaBasti with Trinpanchmool^[13]

Pre-Procedure (Purv Karma)	The patient was clinically evaluated and found suitable for <i>Kashaya Basti</i> , following which preparatory measures including light diet and bowel and bladder evacuation were completed before positioning in the left lateral position for administration.
Main Procedure (Pradhan Karma)	Trinpanchamoola Kashaya was prepared with Madhu, Saindhava Lavana, Sneha Dravya, and Kalka as per classical protocol and warmed to body temperature. It was then administered rectally using a sterile Basti Netra with the patient in the left lateral position.
Post-Procedure (Paschat Karma)	Following administration, the patient remained in the same position until the urge to evacuate occurred, was monitored for signs of proper evacuation, and was subsequently advised rest with a light, warm diet and avoidance of physical exertion.

5. Abhyang with BalaAshwagandha Oil^[14]

Pre-Procedure (Purv Karma)	The patient was assessed for <i>Abhyanga</i> suitability, positioned comfortably in a warm, well-ventilated room, and the <i>Bala-Ashwagandha</i> oil was gently warmed to body temperature before initiating the procedure.	
Main Procedure (Pradhan Karma)	Warm Bala-Ashwagandha oil was applied uniformly over the patient's body, and massage was performed using moderate pressure in the directio hair growth. Circular motions were used over joints and long strokes along muscles, w focused attention on areas of stiffness, following standard Abhyang proto for 45 minutes.	
Post-Procedure (Paschat Karma)	Following <i>Abhyang</i> , the patient was allowed to rest, and was subsequently advised a warm water bath, adequate hydration, and a light, warm diet.	

6. VrikkBasti with Gokshur^[15]

Pre-Procedure (Purv Karma)	The patient was assessed for <i>Vrikk Basti</i> , positioned in the prone posture, and a leak-proof dough ring made of black gram flour was placed over the cleaned and gently massaged lumbar region.
Main Procedure (Pradhan Karma)	Gokshur oil was gently warmed to body temperature and poured into the dough ring placed over the lumbar (Vrikk) region until the cavity was adequately filled. The oil was retained for approximately 30–40 minutes, with temperature maintained by reheating or replacing the oil as required during the procedure.
Post-Procedure (Paschat Karma)	After the retention period, the oil was carefully removed, the area was cleansed with warm water and a sterile cloth, and the patient was advised to rest, avoid cold exposure, and consume a light, warm diet.

7. Kansya Therapy^[16]

Pre-Procedure (Purv Karma)	The patient was evaluated for therapy suitability, positioned comfortably in a warm environment, and the targeted area was cleansed and pre-lubricated with warm <i>Bala</i> oil to facilitate effective application and absorption during the procedure.		
Main Procedure (Pradhan Karma)	A gently warmed <i>Kansya</i> (copper alloy) plate was moved in circular and linear motions over the oiled area using moderate, consistent pressure. The technique was performed for 20–30 minutes to stimulate <i>Marma</i> points, improve local circulation, reduce muscular tension, and support <i>Vata</i> balancing.		
Post-Procedure (Paschat Karma)	Post-therapy, excess oil was removed with a warm damp cloth, the area was dried, and the patient was advised to rest, stay hydrated, and avoid cold exposure or physical exertion.		

136 **III.** *Ahar*

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- A targeted dietary strategy, particularly the adoption of a renal-specific nutritional plan, is
- essential in managing and decelerating the progression of Chronic Kidney Disease (CKD). [17]
- In this case, a meticulously tailored diet was formulated to meet the patient's individual clinical requirements and support overall therapeutic outcomes.
- 141 a) *Pathya* (allowed) [18]
 - Fresh and homemade food
 - Millet diet
- 144 b) *Apathya* (Avoid): [18]
 - Wheat, Packed food, Refined food, Diary food/ Animal food, Coffee and Tea
- Never eat after 8 PM
 - In solid take small bite and chew 32 times
 - In liquid take sip and drink slowly
- 149 c) Hydration ^[19]
 - Boil 2 litres of water, reduce it to half (1 litre) and consume
 - Alkaline water 3-4 times a day (1 litre)
- Herbal tea (32 herbs tea)
 - Living water
 - Turmeric water
- d) Millet Meal^[20]
 - Foxtail (*Setariaitalica*)
 - Barnyard (Echinochloaesculenta)
 - Little (*Panicumsumatrense*)
 - Kodo (*Paspalumscrobiculatum*)
 - Browntop (*Urochloa ramose*)
 - *MotaAnaj* Sorghum (*Sorghum bicolor*)
- e) Special Instructions^[19]
- Brisk walking 30 min with barefoot
- Sit in sunlight for 1 hour

- 10 min slow walk after every meal
 - One day fasting is recommended
 - Get quality sleep (8 hours)
 - Cook millets in a steel cookware using only mustard oil.
 - Sit in *Vajrasana* after every meal
 - f) Meal Structure^[19]

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Early Morning (5:45 AM)	Breakfast (09:00 - 10:00 AM)	Morning Snacks (11:00 AM)	Lunch (12:30 -02:00 PM)	Evening Snacks (04:00 - 04:20 PM)	Dinner (06:15 - 07:30 PM)
• 4 Crushed tulsi leaves + 1 gm ginger + 2 spoons of honey + hot water = on empty stomach / Herbal Tea	 Plate 1: Seasonal fruits (4-5 types) + turmeric water + Mugdayusha Plate 2: Millet Khichdi / Millet Poha / Millet Upma 	Red Juice (Beetroot, Carrot, Tomato & Pomegranate) - 150 ml Soaked Almonds (4-5)	 Plate 1: Steamed Salad Plate 2: Fermented Millet Meal 	Green Juice (Spinach, Fenugreek, Bathua, Amaranth, Mint, Coriander, Curry leaves & betel leaves) – 100 – 150 ml Soaked Almonds (4-5)	 Plate 1: Steamed Salad Plate 2: Green Vegetable Soup

Green Vegetable Soup:

- Spinacl, Peas, Carrots, Cabbage, Capsicum, Ghee, Zucchini, Cucumber, Green Gram, etc. (10 grams each)
- · Add Ginger, Garlic and Black Salt
- · Grind & boil for a minute
- · Add lemon as per taste & serve

Plate 1:

Patient Weight X 10

Plate 2:

Patient Weight X 5

Herbal Tea [19]:

Gauzaban (Borago officinalis), Kulanjan (Alpinia galanga), Badi Elaichi (Amomum subulatum), Laung (Syzygium aromaticum), Badiiyan Khtayi (Illicium verum), Banafsha (Viola odorata), Jufa (Hyssopus officinalis), Ashwagandha (Withania sommifera), Mulethi (Glycyrrhiza glabra), Punarnava (Boerhavia diffusa), Brahmi (Bacopa monnieri), Chitrak (Plumbago zeylanica), Marich (Piper nigrum), Adoosa (Insticia adhatoda / Adhatoda vasica), Saunf (Foeniculum vulgare), Shankh Pushpi (Convolvulus pluricaulis), Arjun (Terminalia arjuna), Tulsi (Ocimum sanctum), Motha (Cyperus rotundus), Senaye (Cassia angustifolia), Sounth (Zingiber officinale, dried ginger), Majeeth (Rubia cordifolia), Sarfoka (Tephrosia purpurea), Dalchini (Cinnamomum zeylanicum), Gulab (Rosa damascena), Green Tea (Camellia sinensis), Giloy (Tinospora cordifolia), Tej Patta (Cinnamomum tamala), Lal Chandan (Pterocarpus santalinus), White Chandan (Santalum album) and Pudina (Mentha piperita)

173 **IV.** Vihar^[19]

- a) Meditation: The patient was advised to practise Meditation daily for 30 minutes
- **b)** Yoga: Perform SukshmPranayam and Sukhasan for 40 minutes daily
- c) Sleep: Ensure 6-8 hours of uninterrupted and deep sleep.
- **d)** Walking: Brisk walk for 30 minutes in barefoot.
- e) **DailyRoutine**: The patient was also advised to follow a structured routine.

OBSERVATION & RESULT

- During the course of treatment, the patient demonstrated consistent clinical improvement.
- Quality of life assessments indicated significant enhancement in both physical and emotional
- domains. Substantial symptomatic relief was observed after 17 days of inpatient care,
- including reduction in symptoms like frothy urine, general weakness, cervical region stiffness
- and head heaviness. Notable improvements were also seen in appetite, sleep and nausea. The
- character of the urine normalized, transitioning from frothy to clear. These clinical outcomes

were corroborated by laboratory investigations, which revealed a significant reduction in Creatinine and Blood Urea Nitrogen (BUN) whereas, a notable improvement in Haemoglobin and e – GFR value. A comparative summary of pre- and post-treatment laboratory values is presented in Table 5, while Table 6 outlines the changes in clinical symptoms.

Table 5: Pre and Post – treatment laboratory evaluations

Tests	Values				
Tests	10-06-2025	15-06-2025	21-06-2025	04-07-2025	
Haemoglobin (Hb)	10.2 gm/dl	11.4 gm/dl	11.5 gm/dl	-	
Creatinine	6.79 mg/dL	6.86 mg/dL	6.08 mg/dL	4.99 mg/dL	
Blood Urea Nitrogen (BUN)	36.26 mg/dL	32 mg/dL	32 mg/dL	25 mg/dL	
Estimated Glomerular Filtration Rate (eGFR)	10.05 mL/min/1.73 m ²	10.00 mL/min/1.73 m ²	12 mL/min/1.73 m ²	15 mL/min/1.73 m ²	

Table 6: Comparative Analysis of Symptoms Pre- and Post-Treatment

Symptoms before treatment	Symptoms after treatment	
Frothy urine (<i>Phenila Mutra</i>)	Improved	
Generalized weakness (Daurbalya)	Improved	
Cervical stiffness (Greeva Stambha)	Relieved	
Increased sleep (Atinidra)	Normalized	
Proteinuria (Mutra Rog with Prameh Lakshana)	Improved	
Nausea (Hrillasa)	Relieved	

DISCUSSION

This case study describes a 33-year-old male patient diagnosed with Chronic Kidney Disease (CKD) and Hypertension (HTN), who sought treatment at JeenaSikhoLifecare Limited Hospital. He presented with symptoms of frothy urine, generalized weakness, cervical stiffness, increased sleep, proteinuria and nausea.

A thorough assessment was conducted, encompassing vital signs, *AshtasthanaPareeksha* findings, and laboratory investigations, to develop an individualized treatment approach. The integrative management plan included *NidanParivarjan*, along with tailored interventions in *Ahar, Vihar, Shaman Chikitsa* and *Shodhan*.

1. NidanParivarjan

As part of the therapeutic plan, the patient was advised to eliminate heavy, oily, fermented, and overly spicy foods from the diet. Emphasis was placed on strict regulation of blood glucose and blood pressure, avoidance of nephrotoxic agents, and adherence to a renal-appropriate diet with controlled intake of salt, protein, and potassium. The patient was also instructed to maintain optimal hydration, avoid strenuous physical exertion, abstain from alcohol and tobacco, and follow a regular daily regimen. This integrated approach aligns with the *Ayurvedic* principle of *NidanParivarjan*, aiming to eliminate contributing factors, preserve renal function, and support improved clinical outcomes. [17]

2. Samprapti

214 The Samprapti (pathogenesis) of the condition is depicted in Figure 1, outlining the etiopathological progression of VrikkRog (chronic kidney disorder). The disease is attributed 215 to multiple causative factors (Nidan) including improper dietary habits (Ahar), sedentary or 216 217 irregular lifestyle practices (Vihar), psychological stress (Manasik), and genetic predisposition (Adrishta). These factors primarily lead to vitiation of Tridoshas, with Kapha 218 and Vata being predominantly involved. The disturbed Doshas contribute to AgniDushti 219 (metabolic dysfunction), resulting in the formation and accumulation of *Ama* (toxic metabolic 220 by-products). The presence of Ama causes Strotorodha (obstruction) within the 221 MutravahSrotas (urinary system), either directly or through the dysfunction of associated 222 Dhatus such as Meda, Rakta, and Rasa. This sequential pathophysiology progressively 223 impairs renal structure and function, manifesting as VrikkRog (CKD). If left unaddressed, the 224 condition advances into Bhedavastha (complicated stages), presenting with various forms of 225 Mutrakrichchhra (urinary disturbances), classified according to the dominant Dosha -226 Vataja, Kaphaja, or Pittaja.^[9] 227

3. Ahar

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It dietary regimen focuses on light, easily digestible, and nutritionally balanced meals spread 229 across six intervals throughout the day. The routine begins with tulsi-ginger water or herbal 230 tea in the early morning, followed by seasonal fruits and millet-based preparations for 231 breakfast. Midday and evening snacks include fresh vegetable juices (such as beetroot or 232 leafy greens) and soaked almonds. Lunch and dinner consist of steamed salads, fermented 233 millet dishes, and green vegetable soups made with low-potassium ingredients like spinach, 234 zucchini, and carrots. This approach enhances digestion, aids detoxification, and aligns with 235 Ayurvedic principles to balance the Doshas and support renal function. Meals were to be 236 consumed before 8 PM, with an emphasis on including health – promoting beverages such as 237 herbal tea, turmeric water, and naturally energized water. [18,19] 238

4. Vihar

- The patient was guided to adopt targeted lifestyle modifications to support overall well-being. This included practicing daily meditation to alleviate stress and improve mental focus, alongside a tailored *yoga* regimen to enhance physical flexibility, relaxation, and emotional balance. Emphasis was also placed on ensuring 6–8 hours of quality, uninterrupted sleep and maintaining a structured, consistent daily routine to promote holistic health and equilibrium. [19]
- 246 **5.** *Chikitsa*
- A comprehensive therapeutic plan was formulated by the physician, encompassing both Shodhan and ShamanChikitsa. Based on a detailed clinical evaluation, a personalized Panchkarma protocol was designed, including interventions such asAwagahSwedan, Shirodhara, MatraBasti, Kashaya Basti, Abhyang, VrikkBasti andKansya therapy with the objective of targeting the underlying pathology and restoring systemic homeostasis.
- In *AvagahSwedan*, the patient underwent immersion therapy in warm water maintained at 42°C, up to the level of the umbilicus, for approximately 40 minutes to induce therapeutic sweating. This procedure facilitates peripheral vasodilation, enhancing blood circulation and providing relief from musculoskeletal discomfort. The induced

perspiration aids in the elimination of metabolic waste and toxins, thereby supporting systemic detoxification and promoting overall therapeutic benefit. [10]

- *Shirodhara* was performed using lukewarm *Brahmi* oil, with the patient comfortably positioned in a supine posture and the forehead aligned beneath a vessel delivering a continuous stream of oil over the *Ajna Chakra* from a height of approximately four finger-breadths. This classical *Ayurvedic* therapy is known to enhance cerebral circulation, thereby facilitating improved oxygenation and nutrient supply to brain tissues. [10] In individuals with Chronic Kidney Disease (CKD), who frequently experience anxiety, cognitive disturbances, and sleep irregularities due to toxin build up, the bacoside rich *Brahmi* oil may help regulate the stress response, reduce cortisol levels, activate the parasympathetic nervous system, and promote restful sleep. [21]
 - *MatraBasti* was administered using *Gokshur Tail*. *Gokshur* acts as a natural diuretic in the patient, promoting urine output to reduce fluid retention, facilitate toxin elimination, and support blood pressure management commonly associated with CKD. [22]
 - *Kashaya Basti* was administered using *Trinpanchamoola Kashaya*. *Trinpanchamoola Kashaya* is used to pacify aggravated *Vata* and reduce *Kapha* induced obstruction in the *MutravahaSrotas*, thereby improving urinary flow and alleviating *Srotorodha* in CKD [23]
 - *Abhyang* improves peripheral blood flow through massage, improving overall oxygen and nutrient delivery. *Bala-AshwagandhaTaila*, when used in *Abhyanga*, was used to nourish depleted *Mamsa*, *Meda*, and *MajjaDhatus*, thereby improving physical strength and reducing fatigue and general debility associated with CKD. [24]
 - *VrikkBasti*was performed with *Gokshur* oil. *Gokshur* supports urinary tract and renal detoxification by preventing further accumulation of *Ama* (metabolic toxins) and minimizing the burden on compromised nephrons. Studies suggest it offers nephroprotective effects by reducing oxidative stress, inflammation, and potentially mitigating glomerular sclerosis and tubulointerstitial damage. [15,22,25]
 - *Kansya*(copper plate) therapy was employed to improve peripheral circulation, reduce muscular stiffness and fatigue, and support *Vata* pacification, thereby enhancing overall vitality and aiding in symptomatic relief in the supportive management of Chronic Kidney Disease. [16, 26]

A carefully structured *ShamanChikitsa* (palliative treatment) protocol was recommended by the physician. A comprehensive overview of the *Ayurvedic* formulations used in this case is provided in Table 7. *Gokshur (Tribulusterrestris), Punarnava (Boerhaviadiffusa) and Giloy (Tinosporacordifolia)* are the principal herbs commonly incorporated in *Ayurvedic* formulations. Their therapeutic efficacy is determined by their *RasPanchak* – a comprehensive analysis of taste (*Rasa*), qualities (*Guna*), potency (*Virya*), post-digestive effect (*Vipaka*), and specific action (*Prabhava*) – as follows. [27]

- Gokshur (Tribulusterrestris) has MadhurRas (sweet taste), Guru (heavy) and SnigdhaGuna (unctuous quality), ShitaVirya (cold potency), and MadhurVipaka (sweet post-digestive effect), with Mutrala (diuretic) and VrishyaPrabhava (aphrodisiac-specific action), making it effective in urinary and reproductive disorders.
- Punarnava (Boerhaviadiffusa) possesses Tikta-Kashaya Ras(bitter and astringent taste), Laghu-RukshaGuna(light and dry qualities), UshnaVirya(hot potency), and

KatuVipaka(pungent post-digestive effect), with *Shothahara*(anti-inflammatory) and *MutralaPrabhava*(diuretic action), useful in managing edema and kidney dysfunction.

• Giloy (Tinosporacordifolia) exhibits Tikta-Kashaya Ras (bitter and astringent taste), Laghu-SnigdhaGuna (light and unctuous qualities), UshnaVirya (hot potency), MadhurVipaka (sweet post-digestive effect), and Rasayana (rejuvenative) and TridoshaghnaPrabhava (pacifies all three doshas), supporting immunity, detoxification, and chronic disease management.

Table 7: Detailed description of medicines prescribed

Medicine	Ingredients	Therapeutic effects
	Gokshur (Tribulus terrestris), Yava Kshar (Hordeum vulgare),	Supports kidney health by
Renal Stone Removing Powder	Muli Kshar (Raphanus sativus), Kalmi Shora (Potassium	aiding Shodhan (detox),
	nitrate), Hajrool Yahood Bhasam (Dolichos biflorus), Shwet	Kleda Shaman (balancing
	Parpati (A compound preparation of Potassium nitrate, Alum, and	fluids), and <i>Shotha Har</i>
	Ammonium chloride) Pashanbhed (Bergenia ciliata), Varun (Crataeva nurvala),	(reducing inflammation).
	Punarnava (Boerhavia diffusa), Gokshur (Tribulus terrestris),	
	Apamarg (Achyranthes aspera), Haridra (Curcuma longa),	
	Charila (Embelia ribes), Kulthi (Dolichos biflorus), Haritaki	
	(Terminalia chebula), Bhumiamlaki (Pyrrosia piloselloides),	
GTTD	Guduchi (Tinospora cordifolia), Shitalchini (Vernonia	Promotes urination, reduces
CKD Tablets	cinerea), Anantmool (Hemidesmus indicus), Khas (Vetiveria	excess bile, and stimulates liver
	zizanoides), Yava kshar (Alkaline substance, botanical origin unclear), Muli Kshar (Raphanus sativus), Kalmi Shora (Sodium	function.
	bicarbonate), <i>Sajji kshar</i> (Traditional alkaline substance, botanical	
	origin unclear), <i>Shilajeet</i> (Asphaltum), <i>Hazrool Yahood</i> (Silicon	
	dioxide), Shwet Parpati (Mercury-based preparation in Ayurvedic	
	medicine).	
	Punarnava (Boerhavia diffusa), Krishna Marich (Piper	
	nigrum), Pippali (Piper longum), Vaya vidanga (Embelia	
	ribes), Devdaru (Cedrus deodara), Kutha (Saussurea costus),	
	Haridra (Curcuma longa), Motha (Cyperus rotundus),	Yakrit Shodhan (Liver and
	Kalajira (Cuminum cyminum), Chitrak (Plumbago zeylanica),	bile detoxifier), (Agni
Yakrit Shoth Har	Haritaki (Terminalia chebula), Vibhitaki (Terminalia bellirica), Amlaki (Emblica officinalis), Danti (Baliospermum	Deepan) digestive and
Vati	montanum), Chavya (Piper chaba), Indra Jon (Taraxacum	(Pachan) metabolic enhancer,
	officinale), Pippali-Mool (Piper longum), Kayphal (Myrica	nourishes plasma tissue, and
	esculenta), Kutaki (Picrorhiza kurroa), Nishoth (Operculina	balances Vata-Pitta doshas.
	turpethum), Shunthi (Zingiber officinale), Kakad Singhi	
	(Cucumis sativus), Ajwain (Trachyspermum ammi), Mandoor	
	Bhasam (Ferrum).	
	Camphor (Cinnamomum camphora), Vacha (Acorus calamus),	
	Nagarmotha (Cyperus rotundus), Bhumiamlaki (Phyllanthus	
	niruri), Guduchi (Tinospora cordifolia), Haridra (Curcuma longa), Daru Haridra (Berberis aristata), Dhanyaka	Mutrakrichra Har (relieves
CI I II	(Coriandrum sativum), Haritaki (Terminalia chebula),	urinary discomfort), Mutrala
Chandraprabha Vati	Vibhitaki (Terminalia bellerica), Amlaki (Phyllanthus	(diuretic), <i>Krimighna</i> (antiparasitic), strength promoter,
v au	emblica), Vidanga (Embelia ribes), Shunthi (Zingiber	regulates <i>Vata</i> , pacifies <i>Pitta</i> ,
	officinale), Krishna Marich (Piper nigrum), Himalayan Salt,	and enhances immunity (<i>Ojas</i>).
	Nishoth (Operculina turpethum), Tejpatta (Cinnamomum	
	tamala), Dalchini (Cinnamomum cassia), Cardamom (Elettaria cardamomum), Shilajeet	
	Sarpagandha – (Rauvolfia serpentina), Ajwain Khurasani –	
	(Hyoscyamus niger), Jatamansi – (Nardostachys jatamansi),	Raktachaap Samyaka (supports healthy blood
	Bhang – (Cannabis sativa), Pippali-mool – (Piper longum –	pressure), <i>Hridya</i> (heart
Rakt Chap Vati	root part), <i>Moti Pisti</i> – (Pearl calcium preparation – derived from	function), stress relief,
	Pinctada margaritifera or similar pearl oyster species), Mukta	circulation, immunity, and
	Sukti Pisti – (Prepared from pearl oyster shell – Ostrea edulis or related species)	kidney detoxification.
	remos species,	Shodhan (Aids in
Kidney Care	Punarnavarishtha, Chandanasava, Ushirasava, and	detoxification) and Vrikk
isidik y Cale	Gokshuradi Kadha	Vardhak (supports kidney
Dhatu Poshak	Classic Challe (Calina and a calina and a ca	function), Shothahar
	Chuna Shuddh (Calcium carbonate), Shankh Bhasam (Turbinella pyrum), Mukta Shukti (Pinctada margaritifera),	Rasayan (Rejuvenative), Ojovardhaka, enhances
	Praval Pishti (Corallium rubrum), Kapardika (Cypraea	disease resistance, and
	moneta) and Loh (Ferrum or Iron oxide).	nourishes body tissues
Dr. BP Care	Shankh-Pushpi (Convolvulus pluricaulis), Shatavari	•
	(Asparagus racemosus), Ashwagandha (Withania somnifera),	Mind-calming action (Manas
	Brahmi (Bacopa monnieri), Vacha (Acorus calamus Linn),	Shaman), blood pressure
	Sarpagandha (Rauvolfia serpentina), Jeerak (Cuminum cyminum), Guduchi (Tinosporacordifolia), Malabar nut	stabilizing effect (<i>Raktachaap Shaman</i>), and sleep-inducing
	(Adhatoda vasica), Jatamansi (Nardostachys jatamansi), and	property (<i>Nidrajanan</i>).
	Muktha Pishti (Pearl powder)	1 · F · · · · · · · · · · · · · · · · ·

310 FUTURE RESEARCH ASPECTS

- 311 A key area for future research in the Ayurvedic management of Chronic Kidney Disease
- 312 (CKD) lies in exploring the molecular mechanisms through which Ayurvedic formulations
- 313 exert renoprotective effects. Although herbs like Punarnava, Gokshur, Haritaki, Shilajeet,
- and Vibhitaki are traditionally recognized for their role in kidney care, there is a need for
- 315 robust scientific studies to clarify their interactions with critical biochemical pathways
- 316 involved in CKD pathophysiology. [28]

317 Future studies could include:

- 1. **Pharmacokinetic and pharmacodynamics investigations:** This research would focus on examining the absorption, distribution, metabolism, and excretion of *Ayurvedic* herbs used in CKD treatment. Gaining insight into how the body processes these herbs could facilitate optimizing their application in contemporary clinical practice. [29]
- 2. **Clinical trials:** Conducting well-designed randomized controlled trials (RCTs) to evaluate the safety and effectiveness of *Ayurvedic* treatments in patients with CKD, especially in stages 3 to 5, would offer robust evidence of their advantages relative to conventional therapies. [30]
- 3. **Biomarker discovery and validation**: Research could aim to identify biomarkers that reflect the effectiveness of *Ayurvedic* treatments, enabling improved monitoring of disease progression and therapeutic outcomes in CKD patients.^[31]
- 4. **Combination therapies**: Investigating the potential synergistic effects of *Ayurvedic* treatments combined with modern pharmaceutical interventions could pave the way for more holistic, integrated treatment approaches for CKD management. [32]
- 5. **Gut microbiome studies**: *Ayurveda* places significant importance on digestion and metabolic balance. Future studies could investigate the impact of *Ayurvedic* treatments on the gut microbiome and their potential role in supporting kidney health, especially since microbiome imbalances are increasingly associated with the progression of CKD. [33]

CONCLUSION

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- 338 This case study demonstrates the successful Ayurvedic management of Chronic Kidney
- 339 Disease (CKD) with coexisting hypertension in a patient presented with significantly
- 340 impaired renal function. The patient's medical history revealed advanced chronic kidney
- damage, including diffuse glomerulosclerosis and severe tubulointerstitial chronicity, with no
- evidence of immune complex deposition and negative or pending autoimmune markers—
- indicating structural deterioration of non-immune etiology.
- 344 A comprehensive Ayurvedic treatment protocol was initiated following detailed clinical
- assessment, including laboratory parameters and symptomatology. The management strategy
- 346 focused on NidanParivarjan (elimination of causative factors), Ahar-ViharParivarjan
- 347 (dietary and lifestyle modifications), *Panchakarma* therapies for systemic detoxification, and
- 348 ShamanChikitsa incorporating hepatoprotective and Rasayan (rejuvenative) formulations.
- Over the course of one month, the patient showed notable clinical and laboratory
- improvement in renal function, systemic vitality, and associated symptoms.

351 Clinical:

- The patient demonstrated marked symptomatic improvement over the course of treatment.
- Notable clinical changes included the gradual **resolution of frothy urine**, **alleviation of generalized weakness**, and **relief from cervical stiffness**.
- The patient initially experienced increased **sleep duration**, which subsequently **reduced to a normal range.**
- Additionally, the patient's **proteinuriashowed progressive improvement**, and episodes of **nausea resolved completely**.

360 Laboratory:

- Laboratory findings corroborated the clinical progress. Serum creatinine levels decreased from 6.79 mg/dL to 4.99 mg/dL, while blood urea nitrogen (BUN) levels declined from 36.26 mg/dL to 25 mg/dL.
- Estimated glomerular filtration rate (eGFR) improved from 10.05 mL/min/1.73 m² to 15 mL/min/1.73 m², indicating partial renal function recovery.
- Hemoglobin levels also increased from 10.2 g/dL to 11.5 g/dL, suggesting an improvement in the patient's overall hematologic status.
- These improvements correlate with the effective pacification of aggravated *Vata-*Kaphadoshas, enhancement of Agni (digestive fire), clearance of Ama (metabolic toxins), and
- 370 restoration of MutravahStrotas (urinary channels). This case underscores the therapeutic
- 371 potential of integrative Ayurvedic protocols in managing chronic systemic disorders like
- 372 CKD, especially in cases with coexisting conditions. Continued *Rasayan* therapy and regular
- 373 clinical monitoring are recommended to maintain and enhance long-term outcomes.

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