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Case Report

Chronic Kidney Disease

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Assessing Ayurvedic treatment efficacy in Chronic Kidney Disease - A Case Study

Rathor P^{1*}, Shivhare S², Sharma V³

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- ^{1*} Preeti Rathor, Post Graduate Scholar, PG Department of Kayachikitsa, Pt Khushilal Sharma Government Ayurveda College and Hospital, Bhopal, Madhya Pradesh, India.
- ² Shwetal Shivhare, Reader, PG Department of Kayachikitsa, Pt Khushilal Sharma Government Ayurveda College and Hospital, Bhopal, Madhya Pradesh, India.
- ³ Vivek Sharma, Lecturer, PG Department of Kayachikitsa, Pt Khushilal Sharma Government Ayurveda College and Hospital, Bhopal, Madhya Pradesh, India.

Evidence-based Ayurvedic practices and clinical studies have been increasingly utilized to assess the efficacy of Ayurvedic treatments in managing chronic kidney disease (CKD), highlighting their potential as complementary approaches in improving patient outcomes. Chronic kidney disease (CKD) has become a focal point in recent years due to its increasing prevalence and the heightened risks of cardiovascular issues and mortality associated with it. In certain instances, CKD can advance to endstage renal disease, necessitating treatments such as kidney transplantation or dialysis. Although the Kidney Disease Outcomes Quality Initiative (K/DOQI) has established guidelines for the diagnosis and classification of CKD, traditional treatment methods often fall short. Kidney transplantation is associated with the best outcomes and enhanced quality of life; however, not all patients qualify, and the assessment process is intricate, compounded by a significant shortage of available organs. Additionally, transplantation typically requires a hospital stay of 4 to 7 days and lifelong immunosuppressive therapy, which necessitates meticulous monitoring of blood levels and raises the risk of infections and certain cancers. While dialysis serves as an alternative, its risk-benefit ratio can limit its overall effectiveness. This is a case report of a male patient having age 64 years who was newly diagnosed as CKD & on regular conservative treatment in modern science. However, due to persistent increase in value of renal profile, he approached to superspecialist OPD Pt. KLS Bhopal. Conversely, a comprehensive Ayurvedic approach seeks to alleviate symptoms, slow CKD progression, and potentially eliminate the need for dialysis. Ayurvedic treatments such as Veertharvayadi Ghana Kwath and Shatvaryadi Ghana Vati have demonstrated potential in enhancing kidney health and rectifying underlying imbalances. For adults experiencing compromised kidney function, particularly those whose conditions have not responded well to diuretics, antihypertensive drugs, or angiotensin-converting enzyme inhibitors, these Ayurvedic solutions present viable alternatives. They have resulted in clinically significant improvements in serum creatinine levels, glomerular filtration rate (GFR), blood urea, serum uric acid, and electrolyte balance.

Keywords: Chronic kidney disease, Veertharvayadi Ghana Kwath, Shatvaryadi Ghana Vati, Kidney transplant, Dialysis, Ayurveda

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Preeti Rathor, Post Graduate of Kayachikitsa, Pt Khushil Ayurveda College and Ho Pradesh, India. Email: preetirathore5 4	al Sharma Government spital, Bhopal, Madhya	Rathor P, Shivhare S, Sharma V, treatment efficacy in Chronic Case Study. J Ayu Int Med Sci. 2 Available From https://jaims.in/jaims/article/vie	Kidney Disease - A 025;10(5):208-213.	
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Introduction

Chronic kidney disease (CKD) refers to the irreversible deterioration of renal function, typically developing over years. Initially, it presents as a biochemical abnormality but eventually leads to the loss of the kidneys' excretory, metabolic, and endocrine functions, resulting in clinical signs and symptoms of kidney disease.[1] The global prevalence of CKD is approximately 250 million people, with 9 million individuals in the stage of end-stage renal disease (ESRD).[2]

In India, the estimated prevalence of CKD is about 800 cases per million population, with evidence of ESRD observed in 150–200 per million patients. India currently has 710 hemodialysis units equipped with 2,500 dialysis stations and 172 transplant centers, most of which are in the private sector.[3] Nearly 18000–20000 Indians undergo renal replacement therapy annually, with approximately 3,500 kidney transplants performed each year.[4]

The government has initiated efforts to establish standalone hemodialysis units across the country to enhance access to affordable facilities. Additionally, a national program has been launched to facilitate kidney transplantation on a larger scale.

The primary causes of CKD include diabetes mellitus (20–40%), interstitial diseases (20–30%), glomerular diseases (10–20%), hypertension (5–20%), systemic inflammatory diseases (5–10%), renal artery stenosis, and congenital or inherited conditions (5%), such as polycystic kidney disease. **[5]**

CKD is commonly identified by elevated levels of serum creatinine, a byproduct of muscle metabolism. Increased serum creatinine levels indicate a reduced glomerular filtration rate (GFR), reflecting a diminished capacity of the kidneys to excrete waste products.

Common signs and symptoms of CKD include anemia, hematuria, edema (affecting feet, hands, ankles, and, in severe cases, the face), fatigue, hypertension, insomnia, pruritus, erectile dysfunction in men, muscle cramps, nausea, breathlessness, unexplained headaches, sudden weight changes, proteinuria, decreased mental alertness, and reduced urine output. Modern management of CKD is expensive, with renal transplantation being the ultimate treatment. This has prompted nephrologists and researchers to explore alternative treatment options, including *Ayurveda*. In Ayurvedic literature, CKD can be associated with "*Mutraghata*," a condition causing significant discomfort and reducing the quality of life, especially in elderly individuals. According to Ayurveda, urine (*Mutra*) is a product of "*Kleda*," and its proper flow (*Mutrapravrutti*) has been well described by *Acharya Sushruta*.

CKD is a progressive condition that worsens gradually over the years, necessitating timely and effective management. The Samhita period (2000–1000 B.C.) is regarded as a golden era during which *Ayurveda* flourished as a systematic and scientific discipline.

Comprehensive knowledge on physiology, etiopathogenesis, classification, and management of urinary system disorders was documented during this time. Ancient *Acharyas* described 13 types of *Mutraghata* (obstructive and suppressive uropathies), 8 types of *Mutrakrichha* (dysuria), and 20 types of *Prameha* (metabolic disorders).

However, none of these conditions completely correspond to chronic kidney disease (CKD). Only *Mutrasada* and *Mutrakshaya* share some similarities with the symptoms of oliguria and anuria, which are characteristic of advanced CKD and end-stage renal disease (ESRD). CKD refers to the irreversible decline in renal function, leading to the failure of the body to maintain metabolic, fluid, and electrolyte balance. This condition typically progresses over several years.

In its early stages, CKD may present solely as a biochemical abnormality, but as it advances, the loss of the kidney's excretory, metabolic, and endocrine functions results in clinical symptoms and signs of renal failure, including uremia or azotemia. CKD is a chronic condition distinguished from acute kidney disease by the persistence of reduced kidney function for more than three months.

There are five stage of chronic kidney disease. The function of kidney is to expel the waste from blood of human body and balance the electrolyte, make red blood cells by releasing Erythropoietin hormone. The function of kidney hamper then this waste products Saturated body causing electrolyte imbalance, increase in creatinine, urea and, albuminuria. Changing life diabetes, style, hypertension, excessive use of painkillers,

Some Medicine, infection, Accident injury, congenital, hereditary are the causes of chronic kidney disease. Ama in *Mutravaha Strotas* hamper the function of kidney.

Stages of chronic kidney disease:

		Kidney damage with normal kidney function		
		Kidney damage with mild loss of kidney function		
Stage 3A	GFR 45-59%	Mild to moderate loss of kidney function		
Stage 3B	GFR 30-44%	Moderate to severe loss of kidney function		
Stage 4 GFR 15-29%		Severe loss of kidney function		
Stage 5	GFR <15%	Kidney failure		

Creatinine Grade

Grade 1 - Creatinine level increase>0.3mg /dl or creatinine 1.5-2.0 $\ensuremath{$

Grade 2 - Creatinine 2-3mg/dl

Grade 3 - Creatinine >3 or more than 4.0mg/dl

Grade 4 - Having life threatening consequences

Case Report

In March 2024, a 64-year-old man was diagnosed with chronic renal disease for the first time in the superspecialty OPD at Pt. Khushilal Sharma Ayurveda Hospital and Institute in Bhopal. His main complaints were Nocturia, fluid retention, pedal oedema, exhaustion, vomiting, appetite loss, dyspnea, and disturbed sleep, among other symptoms. He had been treated for hypertension for 15 years. According to the patient, he has been experiencing these symptoms for the last three to four months. He sought advice from numerous wellknown physicians in an effort to address the issues, but when his condition did not improve, he was recommended to undergo dialysis. The patient, who was hesitant to undergo dialysis, came to our hospital for a conservative treatment.

SN	Complaints	Duration
1.	Vomiting	1month
2.	Swelling in B/L lower limbs	2 months
3.	Hiccups	15 days
4.	Decreased urine output	2 months
5.	Weakness	2 months
6.	Decreased appetite	1month

For above mentioned case we have given the medications that are described below-

SN	SN Drug Prescribed		Anupana
1.	Veertharvayadi Ghana Kwath	40ml BD	With normal Water
2.	Shatavaryadi Ghana Vati	2BD	With normal Water

The above treatment was prescribed for 2 months.

Criteria For Assessment

Subjective parameter-

- 1. Breathlessness
- 2. Edema (feet, ankle joint, face)
- 3. Decreased urine output
- 4. Fatigue
- 5. Anorexia

Assessment

Dyspnea grading - Modified medical research council dyspnea scale

Grade	Description				
0	No breathlessness except on strenuous exercise.				
1	hortness of breath when hurrying on level ground or walking up a				
	slight heel.				
2	Walk slower than people of same age.				
3	After walking about 100Yerds or after few minutes on level ground.				
4	Breathlessness to leave the house or when dressing				

Odema: NCI Common Terminology Criteria for Adverse Events.

Grade	Depth	Rebound
		time
0	No clinical odema	
		oedema
1	Up to 2mm depression or slightly pitting	Immediate
2	>2mm-up to 4mm depression or Somewhat Deeper pit.	<15 sec.
3	>4mm -up to 6mm depression or noticeably Deep pit.	<30sec
4	>6mm depression or very Deep pit	>30sec

Decreased Urine Output.

Grade	Decreased urine output			
0	2000ml in 24 hours			
1	2000-1500ml in 24 hours			
2	Between 1500-1000ml in 24 hours			
3	<1000 ml in 24 hours			
4	<800ml (oliguria less than 400ml)			

Fatigue

Energy index point scale

0	Bedridden, up to bathroom only				
1	Out of bed 30-60minutes a day (sitting in chair is out of bed)				
2	Out of bed sitting, standing, walking 1-2 hours per day				
3	Out of bed sitting, standing, walking 2-4 hours per day				
4	Out of bed sitting, standing, walking 4-6hours per day				
5	Perform with difficulty sedentary job 40 hours a week, daily naps				

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Recovery

	-
6	Daily naps in bed, may maintain a 40 hour send entry work week plus
	light, limited housekeeping and /or social activities
7	No naps in bed, up 7:00am to 9:00pm. Able to work a sedentary job
	plus light housekeeping
8	Full sedentary workweek, no naps, some social activities plus light
	exercise
9	Same as 8 above plus exercise approximately $\frac{1}{2}$ to 2/3 normal without
	excessive fatigue, awakens next morning refreshed
10	Normal

Anorexia

Grade 1	Loss of appetite without alteration in eating habits	Mild			
Grade 2	Oral intake altered without significant weight loss or	Moderate			
	malnutrition, oral nutritional supplements indicated				
Grade 3	3 Associated with significant weight loss or S				
	malnutrition (e.g. inadequate oral caloric and /or				
	fluid intake); Tube feeding				
Grade 4	Life threatening consequences urgent intervention	Life			
	indicated				
		disabling			
Grade 5	Grade 5 Death				

Result

Within just two-month, notable progress was observed, with significant improvements noted in serum creatinine, glomerular filtration rate, uric acid and Blood urea nitrogen (BUN) levels, electrolyte imbalance, previously elevated.

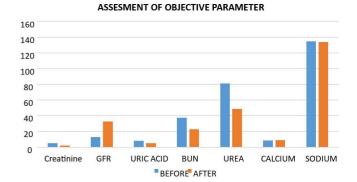
Moreover, the patient experienced considerable alleviation of symptoms.

Before Treatment

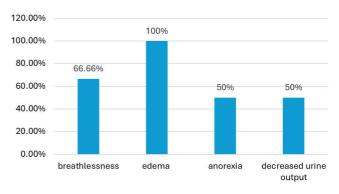
Date	Creatinine	GFR	Uric	BUN	Urea	Calcium	Sodium
			acid				
10/05/24	4.82mg/dl	12.73ml/	8.0mg/	37.7mg/	81mg/	8.4mg/	135mm
		min/1.73m	dl	dl	dl	dl	ol/l
		2					

After Treatment

Date	Creatinine	GFR	Uric	BUN	Urea	Calcium	Sodium
			acid				
03/08/24	2.23mg/dl	32.91ml/	5.2mg/	22.8mg/	49mg/	8.8mg/d	134mm
		min/1.73m	dI	dl	dl		ol/l
		2					



EFFECT OF TREATMENT IN SUBJECTIVE PARAMETER



Patient were having chief complaints chronic kidney disease such breathlessness (66.66%), edema (100%), anorexia (50%), decreased urine output (50%).

Partner Name	: 5 ^m	/ B.	reode	80364406	
Patient Name		Sa		10/May/2024 02:55PM	
Ago/Gender Order Id	: 64Y 0M บี่มี /เพิ่ลไ : 10745446422	e Sa	mple Received On	: 10/May/2024 04:18PM	
Referred By : SELF				: 10/May/2024 D6:06PM	
Customer Since	: 10/May/2024			: Maintained	
Sample Type	: SERUM	Re	port Status	: Final Report	
		DEPARTMENT OF F	BIOCHEMISTRY		
Test Name		Value	Unit	Bio. Ref Interval	
Kidnev Functi	on Test (KFT)				
Serum Creatinine Method: Jaffes Kin	i.	4.82	mg/dl	0.70 - 1.20	
GFR, ESTIMATED Method: Calculated		12.73	mL/min/1	min/1.73m2	
Serum Uric Acid Method: Uricase		8.0	mg/dl	3.4 - 7.0	
Serum Calcium Method: NM- BAPTA		8.4	mg/dl	8.8 - 10.2	
Serum Phosphorus Method: Phosphomolybdate/UV		3.2	mg/dl	2.5 - 4.5	
Serum Sodium Method: ISE (Indirect)		135	mmo//L	136 - 145	
Serum Potassium Method: ISE (Indirect)		4.86	mmol/L	3.5 - 5.1	
Serum Chloride Method: ISE (Indirect)		101	ттоИL	98 - 107	
Blood Urea Method: Urease		81	mg/dl	16.6 - 48.5	
Blood Urea Nitrogen (BUN) Method: Calculated		37.7	mg/dl	8 - 23	
Bun/Creatinine Ratio Method: Calculated		7.81	Ratio		
Urea/Creatinine Ratio Method: Calculated		16.72	Ratio		
Blood Urea Nitrogen Causes of increased le Nephrolithiasis, Prostat Causes of decreased le Creatinine is higher th Blockage in the urinary such as breakdown of	vels- Pre renal high prote ism evels - Liver disease, SI/ ian normal level may be of tract, kidney problems, i muscle fibers	DH. due to : such as kidney damage or failure, infe	ton, or reduced blood flow, is	CHF, Renal failure. Post renal Malignan	
Myasthenia Gravis, M. Uric Acid		ecampoia), or nigh blood preissure dat	oeu vy pregnancy (preeclam	isia) Lower than normal level may be du	

Before Treatment

ealthic	1115		Net ocross India	EEE tests reported CVIII.0 - 4 pot
Partner Name				
Patient Name			Barcode	: 80458817
Age Gender	: 60Y of of /Mate		Sample Collected On	: 03/Aug/2024 11:39AM
Order Id	: 11359064173		Sample Received On Report Generated On	: 03/Aug/2024 02:14PM : 03/Aug/2024 03:01PM
Referred By	: Self		Sample Temperature	: Maintained
Customer Since	: 03/Aug/2024		Report Status	; Final Report
Sample Type	: SERUM		inclusi sinas	, that report
	DEP	ARTMENT C	F BIOCHEMISTRY	
est Name		Value	Unit	Bio. Ref Interval
Antioney Funct	ion Test (KFT)			
Serum Creatinin Method: Jaffes K Machine: Roche Co	inetic	2.23	mg/dl	0.70 - 1.20
GFR, ESTIMA Method: Calculat	TED	32.91	mL/min/	1.73m2
Serum Uric Aci Method: Uricase Machine: Roche Co		5.2	mg/dl	3.4 - 7.0
Serum Calcium Method: NM- BAPTA Machine: Roche Cobas pure		8.8	mg/dl	8.6 - 10.0
Serum Phosphorus Method: Phosphornolybdate/UV Machine: Roche Cobas pure		3.8	mg/dl	2.5 - 4.5
Serum Sodium Method: ISE (Indirect) Machine: Roche Cobas pure		134	mmol/L.	136 - 145
Serum Potassium Method: ISE (Indirect) Machine: Roche Cobas pure		4.54	mmol/L	3.5 - 5.1
Serum Chloride Method: ISE (Indirect) Machine: Roche Cobas pure		100	mmol/L	98 - 107
Blood Urea Method: Urease Machine: Roche Cobas pure		49	mg/dl	16.6 - 48.5
Blood Urea Nitrogen (BUN) Method: Calculated		22.8	mg/dl	6 - 20
Bun/Creatinine Ratio Method: Calculated		10.21	Ratio	
Urea/Creatinine Ratio Method: Calculated		21.84	Ratio	
llood Urea Nitroge auses of increased lephrolithiasis, Prost	levels- Pre renal high protein diet, incre	ased protien catabol	sm, GI haemorihage, dehydration	n, CHF, Renal failure. Post renal Malignancy,

After Treatment

Discussion

Ayurvedic mentions of chronic kidney disease (CKD) are not directly correlated but are treated based on clinical presentations, placing it under Mutravaha Srotas Vikar. The primary symptom, Mutrakshaya (reduced urine output), is often observed in Mutraghata. According to Acharya Sushruta, the term "Vrikka" originates from Meda and Rakta Dhatu, indicating that CKD affects both these Dhatus. Additionally, Mutravaha Srotas, Udakavaha Srotas, and Raktavaha Srotas are involved, along with imbalances in all three Doshas (Vata, Pitta, and Kapha). Treatment involves addressing the condition's Lakshana through (symptoms) Tridoshahar, Srotoshodhak, and Mutraghata Chikitsa. Ayurvedic formulations like Veertharvayadi Kwath and Shatavaryadi Ghan Vati have shown promising results in improving kidney health and correcting underlying imbalances. These remedies are especially effective for adults with impaired kidney function, particularly those not well-managed with diuretics, antihypertensive medications,

Or angiotensin-converting enzyme inhibitors. They have demonstrated significant clinical improvements in parameters such as serum creatinine, glomerular filtration rate (GFR), blood urea, serum uric acid, and electrolyte balance. Shatavaryadi Ghan Vati functions as a Rasayana medicine. Shatavari possesses Snigdha and Guru properties, which help pacify Pitta Dosha. It has Madhura Rasa, Tikta Rasa, Sheetavirya, and Madhur Vipaka, which can also aggravate Kapha Dosha. Key ingredients in Shatavaryadi Ghan Vati, such as Shatavari, Bhumiamalaki, and Gokshura, contribute to its action, mode of which includes Mutral, Srotoshodhak, and Shothhar effects.

These herbs, primarily of *Madhura Rasa*, exhibit *Jeevaniya* effects, supporting the regeneration of damaged tissues while protecting the kidneys. *Veertharvayadi Kwath*, traditionally used for managing urinary disorders resembling kidney diseases, is recognized in classical Ayurvedic texts for its diuretic, anti-inflammatory, and detoxifying properties.

It is particularly effective in conditions like *Mutrakshaya* (oliguria), *Mutrasada* (anuria), and other renal dysfunctions. With properties like *Madhura Rasa, Sheetavirya*, and *Guru Guna, Veertharvayadi Kwath* acts as a *Mutral* (diuretic), *Shothhar* (anti-inflammatory), *Raktaprasadak*, and immunomodulator, helping to balance all three *Doshas.*

Conclusion

Veertharvayadi Ghana Kwath and Shatavaryadi Ghana Vati holds potential as a supportive treatment for kidney diseases in Ayurveda. While traditional use and preliminary research are encouraging, more extensive clinical trials are needed to establish its efficacy and safety for chronic kidney disease management. Combining Veertharvayadi Ghana Kwath with Shatavaryadi Ghana Vati approaches could provide an integrative and holistic solution for kidney health.

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