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Case Study

A CASE STUDY FOR INTEGRATING AYURVEDIC *PANCHAKARMA* THERAPIES FOR MANAGEMENT OF CHRONIC KIDNEY DISEASE

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ABSTRACT

Chronic Kidney Disease (CKD) is a global health issue which affects the structure and function of kidney, predominantly found with hypertension. The disease is divided into five stages based on glomerular filtration rate (GFR), but the identification of stage 1 and stage 2 CKD cannot be done with GFR alone because in those individuals the GFR may be normal or borderline normal. The management CKD requires a multidisciplinary treatment approach and regular monitoring because it is a slow progressing disease with no symptoms in the early stage. This case report focuses on a 42-year-old female patient with CKD stage 5 since 5 years and hypertension for 2 years who received Ayurvedic treatment at Jeena Sikho Lifecare Limited Hospital, Derabassi. The treatment method administered on her was a blend of personalized Ayurveda and *Panchakarma* therapies, resulting in significant progresses in her symptoms, kidney health and function, and general life quality. After 10 days of treatment, the patient showed improvement in GFR and reported relief from pain and other symptoms. The results of this study emphasize the potential of Ayurveda as an economical treatment method which can substitute the conventional treatments, especially for individuals with low financial background to acquire advanced healthcare. Even though the findings of the present study are promising, further studies incorporating larger randomized controlled trials must be done for the evaluation of these Ayurvedic interventions for CKD to ensure its efficiency and safety.

INTRODUCTION

Chronic kidney disease is generally defined as chronic problem that leads to defects in structure and function of kidney which varies from mild damage to lethal kidney failure. This affects the efficiency of kidney to filtrate excess nitrogenous waste, salts and excess water from the body. CKD is a slow progression disease, which at the primary stage there will not be decrease in glomerular filtration rate (GFR) but over time the GFR get reduced if treatment is delayed [1]. More than 1/4th of the patients with hypertension are reported with CKD and 60%-90% occurrence of hypertension in CKD is predicted by studies.

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In the case of female patients, the chances of occurrence are estimated as 84%.

CKD is found to affect 1 out of 10 in reproductive aged women[2]. About 13% of females within the age of 40-50 are found to be affected with CKD. Studies have found that the estimated GFR (eGFR) decreases with aging, which leads to kidney damage [3,4]. Traditionally sex has been viewed as a major factor which affects both kidney function and kidney disease progression[5]. According to studies males are more prone to kidney diseases than females. Nitric oxide (NO) plays an important role in kidney dysfunctions. Low NO is observed in CKD patients, which is suggested as a reason for causing CKD. NO is found to be present in more amount in female than males, which is in a way interpreted as a reason for the chances of low kidney problems in females. [6,7,8].

The medical studies suggest that increased age related renal disorders may be associated with smoking[9,10], lead exposure[11], dyslipidemia[9],

systemic hypertension[9,12], inflammatory markers[13,14], atherosclerosis [10], and obesity [15,16]. This shows that life style related treatment for individuals is necessary for CKD. Although there are advanced treatments for CKD now, it is found that the conventional treatment methods are inaccessible to the individuals who are financially low. This increases the acceptance to Ayurveda treatment, because of its accessibility and personalized treatment methods.

The Ayurveda therapies focus on treating cause than the symptom, which is a consolidated method including Disciplined and Intelligent Person's (DIP) diet, Panchakarma, Yoga, herbal remedies and modulation of lifestyle. This enables a slow progressive longer life of kidney without renal transplantation [17,18]. Panchakarma therapies enhances vacuolization, regulate endothelial dysfunction and reduction of proinflammatory cytokines[19]. The clinical practices for the treatment of CKD include *Abhyangam, Swedan* and *Basti* [20,21]. This case study focuses on derivation of a holistic treatment method of CKD combining Ayurveda therapies.

Case Report

A 42-year-old female patient, with a history of CKD stage 5 for 5 years and hypertension for 2 years visited Jeena Sikho Lifecare Limited Hospital, Derabassi (Chandigarh) on June 1, 2023. She reported symptoms such as intermittent gas, lower backache and pedal edema along with itching and dry skin. Her condition initially presented with severe abdominal pain, lower backache, severe pedal edema and frothy urine. She was diagnosed with hypertension 2 years prior to her hospital admission. A detailed and systematic evaluation was performed, including a complete medical history, physical check-up, and diagnostic tests. The vital signs examination report during the first day of visit is detailed in Table 1.

Table 1: Vitals during the initial examination on first day of the visit 01/06/2023

Parameter	Findings	Parameter	Findings
Temperature	98˚F	*Mutra*	*Ishata Peeta*
Blood Pressure	120/80 mm of Hg	*Jivha*	*Saam*
Pulse Rate	86/min	*Shabda*	*Spashta*
Weight	53 Kg	*Nidra*	*Avikrut*
Oxygen Saturation	98%	*Drik*	*Avikrut*
Nadi	Vata Pitta	*Mala*	*Vibandha*

The patient was admitted for 10 days, during that period she received consolidated Ayurvedic treatments including Panchakarma therapy. This therapy encompassed Panchakarma therapies such as *Avagaha Swedan, Gokshuradi Siddha Sneha Basti, Abhyangam with Dhanwantaram* oil, *Shirodhara* with *Dhanwantaram* oil and Postural Therapy (HDT).

The patient was advised to take *Chander Vati* tablet throughout the IPD treatment, *Amlaki, Giloy* and *Gokshura yog* and *Arjun, Dalchini, Gokshura*, *Punarnava, Varun* and *Giloy Kwatha* 50ml OD. Vitals observed during the treatment Investigations conducted on the June 01, 2023, are detailed in Table 2. The medications taken during IPD are listed in Table 3. Allopathic medicines administered in the course of IPD are mentioned in Table 4. The pain scoring during the IPD is showed in Table 5. After 10 days of treatment, the patient experienced significant improvement, including relief from pain, backache and itching.

Table 2: Vitals observed during the IP treatment Investigation on the date of admission

Parameter	Findings
Date	01/06/2023
Haemoglobin	10.1 gm/dL
Intact PTH	320.60 pg/dL
eGFR	12 ml/min/1.73m^2
Lipid Profile	
Total Cholesterol	155.0 mg/dL
HDL	32.4 mg/dL
LDL	106.52 mg/dL
VLDL	16.08 mg/Dl

Cholesterol/HDL Ratio	4.78 (within normal range)
Triglycerides	80.4 mg/dL
Rapid Tests	Non-reactive for HIV, HBsAg, and HCV

Table 3: Medications taken during the IPD

Medicine name	Ingredients	Dosage	Dates of intake
Chander vati tablet	*Kapoor Kachri* (*Hedychium spicatum*), *Vacha* (*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* (*Phyllanthus emblica*), *Chavya* (*Piper chaba*), *Vayavidang* (*Embelia ribes*), *Pippal* (*Piper longum*), *Kalimirch* (*Piper nigrum*), *Sonth* (*Zingiber officinale*), *Gaj Pipal* (*Scindapsus officinalis*), *Swarn Makshik Bhasma, Sujji Kshar*, *Senda Namak, Kala Namak*, Choti Llayachi (*Elettaria cardamomum*), *Dalchini* (*Cinnamomum verum*), *Tejpatra* (*Cinnamomum tamala*), *Danti* (*Baliospermum montanum*), *Nishothra* (*Operculina turpethum*), *Banslochan, Loh Bhasam, Shilajit* (*Asphaltum punjabinum*), *Guggal* (*Commiphora wightii*).	2 Tab BD *(Adhobhakta* with *Koshan jala)*	01/06/2023 - 10/06/2023
Divya Shakti Powder	*Trikatu, Triphala, Nagarmotha* (*Cyperus rotundus*), *Vaya Vidang* (*Embelia ribes*), *Chhoti Elaichi* (*Elettaria cardamomum*), *Tej Patta* (*Cinnamomum tamala*), *Laung* (*Syzygium aromaticum*), *Nishoth* (*Operculina turpethum*), *Sendha Namak, Dhaniya* (*Coriandrum sativum*), *Pipla Mool* (*Piper longum* root), *Jeera* (*Cuminum cyminum*), *Nagkesar* (*Mesua ferrea*), *Amarvati* (*Achyranthes aspera*), *Anardana* (*Punica granatum*), *Badi Elaichi* (*Amomum subulatum*), *Hing* (*Ferula assafoetida*), *Kachnar* (*Bauhinia variegata*), *Ajmod* (*Trachyspermum ammi*), *Sazzikhar, Pushkarmool* (*Inula racemosa*), *Mishri* (*Saccharum officinarum*).	1/2 TSF HS (*Nishikal* with *Koshan jala)*	01/06/2023
Amlaki yog	*Amlaki* (*Emblica officinalis*), *Giloy* (*Tinospora cordifolia*) and *Gokshura* (*Tribulus terrestris*)	1/2 TSF BD *(Adhobhakta with Koshan jala)*	02/06/2023 - 10/06/2023
Arjun, Dalchin, Gokshura, Punarnava, Varun and *Giloy*	*Arjun* (*Terminalia arjuna*), *Dalchini* (*Cinnamomum verum*), *Gokshura* (*Tribulus terrestris*), *Punarnava* (*Boerhavia diffusa*), *Varun* (*Crateva religiosa*) and *Giloy* (*Tinospora cordifolia*)	50ml OD early morning empty stomach	02/06/2023 - 10/06/2023

Table 4: Allopathic medicine taken during IPD

Medicine	Dose	Route	Day 1	Day 2	Day 3	Day 4
Nifedipine tablet	20 Mg/BD	Oral	✓	✓	✓	OD
Frusemide tablet	40 Mg/OD	Oral	✓	✓	✓	20mg
Calcitriol tablet	1 TAB/BD	Oral	✓	OD	OD	OD
Multivitamin tablet	1 TAB/OD	Oral	✓	✓	✓	✓
Losartan tablet	25 Mg/OD	Oral	✓	✓	✓	OD

Table 5: Pain scoring during the IPD (0 to 10 degree)

Date	Pain scoring chart (0 to 10)	
	Before therapy	After therapy
01/06/2023	2	0
02/06/2023	2	0
03/06/2023	0	0
04/06/2023	1	0
05/06/2023	0	0
06/06/2023	0	0
07/06/2023	0	0
08/06/2023	0	0
09/06/2023	0	0
10/06/2023	0	0

DTPA scan of the patient done on June 01, 2023, shows that both the kidneys are shrunk in size with severely compromised cortical function, the split function was 33% for left kidney and 67% for right kidney. The GFR for left and right kidney were 2.5ml/min and 5ml/min, respectively. And the global GFR was 7.5ml/min/1.51sqm BSA. The intact parathyroid hormone of the patient was 320.60pg/ml. The vitals observed during the IPD treatment on daily basis are detailed in Table 6. Investigations conducted on June 05, 2023, on the 5th day of treatment is mentioned in Table 7. The vitals fluctuated throughout the IPD treatment. The patient was afterward discharged on 10 June, 2023. Medication advised during the time of discharge is given in Table 8.

Table 6: Daily vitals observed during the IPD treatments

Date	Time	Weight in Kg	Temperature in F	Blood Pressure (mmHg)	Pulse per min	Respiration/min	SpO2
01/06/2023	6:00 PM	53 Kg	98°F	110/90	84	20	99%
	9:15 PM	53 Kg	98.4°F	130/95	74	18	97%
02/06/2023	-	53 Kg	98.1°F	100/60	86	20	98%
	10:00 AM	53 Kg	98°F	120/80	92	20	98%
	1:00 PM	53 Kg	97.2°F	120/80	81	20	99%
	8:00 PM	53 Kg	98.1°F	130/90	59	18	97%
03/06/2023	-	51 Kg	98.4°F	110/80	80	20	98%
	10:00 AM	51 Kg	98°F	110/80	80	20	95%
	1:00 PM	51 Kg	97.2°F	110/80	82	20	99%
	8:00 PM	51 Kg	98.4°F	120/80	87	22	97%
04/06/2023	5:00 AM	51 Kg	98°F	120/80	82	18	98%
	9:00 AM	51 Kg	97.8°F	110/80	80	19	98%
	2:00 PM	52 Kg	98°F	110/80	82	20	99%
	8:00 PM	52 Kg	98.1°F	130/80	80	18	97%
05/06/2023	5:00 AM	52 Kg	98.4°F	130/80	80	20	98%
	9:00 AM	52 Kg	97.8°F	120/80	80	18	99%
	6:00 PM	52 Kg	98.1°F	130/80	81	19	99%
	9:00 PM	52 Kg	98°F	130/80	82	20	98%
06/06/2023	5:20 AM	52 Kg	98°F	120/90	84	20	99%
	10:00 AM	52 Kg	97.8°F	120/90	81	19	99%

	2:00 PM	52.88 Kg	98°F	120/80	80	19	99%
	8:20 PM	52.88 Kg	98°F	130/90	80	20	99%
07/06/2023	5:30 AM	52.88 Kg	98°F	120/90	80	20	98%
	9:00 AM	51 Kg	98°F	110/70	74	20	99%
	2:00 PM	51 Kg	98.1°F	110/80	81	19	98%
	9:45 PM	51 Kg	98°F	130/90	60	20	99%
08/06/2023	5:00 AM	51 Kg	98.4°F	110/80	72	20	99%
	2:00 PM	51 Kg	98°F	120/90	80	20	99%
	8:45 PM	51 Kg	98°F	130/90	78	20	98%
09/06/2023	5:30 AM	51 Kg	98°F	110/80	84	20	99%
	1:00 AM	51 Kg	98.4°F	130/80	86	22	97%
	9:00 PM	51 Kg	98.4°F	130/90	76	20	96%
10/06/2023	6:00 AM	51 Kg	98.4°F	120/80	80	18	96%
	9:00 AM	50 KG	98°F	110/70	80	20	98%

Table 7: Vitals of follow up treatments

Parameter	**Findings**			
Date	**01/06/2023**	**05/06/2023**	**09/06/2023**	**18/01/2024**
Hemoglobin	**10.1 gm/dL**	**9.5 gm/dL**	**9.3 gm/dL**	**9.5 gm/dL**
Blood Pressure	120/80 mmHg	**140/80 mmHg**	130/90 mmHg	130/80 mmHg
Urea	**91 mg/dL**	**98 mg/dL**	**85 mg/dL**	**59.38 mg/dL**
Creatinine	**4.5 mg/dL**	**4.8 mg/dL**	**5 mg/dL**	**3.73 mg/dL**
Uric acid	4.4 mg/dL	5.1 mg/dL	4.7 mg/dL	3.81 mg/dL
Sodium	143.0 mEq/L	144.1 mEq/L	144 mEq/L	145.5 mEq/L
Potassium	4.79 mEq/L	5.08 mEq/L	4.48 mEq/L	**5.68 mEq/L**
Chloride	106.5 mEq/L	105.8 mEq/L	104.9 mEq/L	106 mEq/L
Urine protein	**Trace**	**Trace**	**-**	**Trace**
Urine glucose	Absence	-	-	Absent
Pus cells	1-2	-	-	1 to 2
Epithelial cells	**2-3**	**-**	**-**	**2 to 3**
Total RBC count	**3.22 Mill/Cumm**	-	**3.01 Mill/Cumm**	**2.67Mill/Cumm**
PCV/HCT	27.10%	-	25.20%	24.40%
MCH	31.4 pg	**-**	29.8 pg	**35.5 pg**
MCHC	**37.40%**	**-**	**35.60%**	**38.90%**

Table 8: Medicine given at the time of Discharge 10/06/2023

Medicine Name	Ingredients	Dosage	Therapeutic Effects
Chander Vati tablet	*Kapoor Kachri* (*Hedychium spicatum*), *Vacha* (*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* (*Phyllanthus emblica*), *Chavya* (*Piper chaba*), *Vayavidang* (*Embelia ribes*), *Pippal* (*Piper longum*), *Kalimirch* (*Piper nigrum*), *Sonth* (*Zingiber officinale* dried ginger), *Gaj Pipal* (*Scindapsus officinalis*), *Swarn Makshik Bhasma, Sujji Kshar, Senda Namak*, *Kala Namak, Choti Llayachi* (*Elettaria cardamomum* - small cardamom), *Dalchini* (*Cinnamomum verum*), *Tejpatra* (*Cinnamomum tamala*), *Danti* (*Baliospermum montanum*), *Nishothra* (*Operculina turpethum*), *Banslochan, Loh Bhasam, Shilajit* (*Asphaltum punjabinum*), *Guggal* (*Commiphora wightii*).	2 tablets BD *(Adhobhakta* with *Koshan jala)*	Alleviates urinary tract symptoms and promotes healthy urine flow.
CKD Syrup	*Kasani* (*Cichorium intybus*), *Gokhru* (*Tribulus terrestris*), *Shatavari* (*Asparagus racemosus*), *Giloy* (*Tinospora cordifolia*), *Sorbitol*, and *Shudh Shilajit* (*Asphaltum punjabianum*)	20 ml BD *(Adhobhakta* with *Koshan jala)*	Provides relief from pain and discomfort associated with kidney issues.
Yakrit Shoth Har Vati	*Punarnava* (*Boerhavia diffusa*), *Kalimirch* (*Piper nigrum*), *Pippali* (*Piper longum*), *Vayavidanga* (*Embelia ribes*), *Devdaru* (*Cedrus deodara*), *Kutha Haldi* (*Picrorhiza kurroa*), *Chitrake* (*Plumbago zeylanica*), *Herad Bahera* (*Terminalia chebula*, *Terminalia bellirica*), *Amla* (*Emblica officinalis*), *Danti* (*Baliospermum montanum*), *Chavya* (*Piper chaba*), *Indra Jon* (*Taraxacum officinale*), *Pippla Mool* (*Piper longum*), *Motha Kalajira* (*Nigella sativa*), *Kayphal* (*Myrica esculenta*), *Kutki* (*Picrorhiza kurroa*), *Nisoth* (*Operculina turpethum*), Sonth (*Zingiber officinale*), *Kakd Singhi* (*Cucumis sativus*), *Ajwaen* (*Trachyspermum ammi*), *Mandur Bhasma* (*Ferrum*).f	2 tablets BD (*Adhobhakta* with *Koshan jala*)	Helps in better liver function, strengthen digestion process and helps in detoxification
Nephron plus	*Hazrool yahood* (*Lapis judaicus*) *Bhasma*, *Chandraprabha* powder and *Pashanbheda* (*Bergenia ligulata*)	2 cap BD (*Adhobhakta* with *Koshan jala*)	Beneficial to kidney diseases and urinary problems

The patient returned for a follow-up after 6 months on January18, 2024, and was symptomatically improved. The medications advised for two months after the follow up is mentioned in Table 9. Investigations conducted on the same day revealed a hemoglobin level of 9.5 gm/dL, the blood urea, creatinine and uric acid found to be reduced in the blood examination and clear urination, trace urine protein and presence of epithelial cells, in the urine examination report. Other investigation results are detailed in Table 7.

The patient returned for a follow-up on July 04, 2024, after 6 months with no urinary complaints. She reported normal urinary output with no other symptoms. Her bowel movements were regular, appetite normal, and sleep adequate. The blood pressure was 140/90 mmHg, pulse rate of 86/min, weight was 54 Kg and SpO2 was

99%. The patient took a blood test on 31/05/2024 which showed a reduction in blood urea (38.00 mg/dL) and creatinine (3.28 mg/dL) than the previous report. The DTPA results showed improvement in the global GFR which is mentioned in Table 10 and Fig 1. The medications advised in the follow up is mentioned in Table 11.

Table 9: Medications advised for two months after follow up visit on Jan 18, 2024

Medicine Name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	*Kapoor Kachri (Hedychium spicatum), Vacha (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 (Phyllanthus emblica), Chavya (Piper chaba), Vayavidang (Embelia ribes), Pippal (Piper longum), Kalimirch (Piper nigrum), Sonth (Zingiber officinale dried ginger), Gaj Pipal (Scindapsus officinalis), Swarn Makshik Bhasma, Sujji Kshar, Senda Namak, Kala Namak, Choti Llayachi (Elettaria cardamomum), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Danti (Baliospermum montanum), Nishothra (Operculina turpethum), Banslochan, Loh Bhasam, Shilajit (Asphaltum punjabinum), Guggal (Commiphora wightii).*	2 tablets BD (*Adhobhakta* with *Koshan jala)*	Alleviates urinary tract symptoms and promotes healthy urine flow.
Kidney Care Syrup	*Punarnavarishtha, Chandanasava, Ushirasava,* and *Gokshuradi Kadha*	3 teaspoon in half a cup of water BD (*Adhobhakta* with *Koshan jala*)	Aids in detoxification and supports kidney function, addressing swelling and pain.
GFR Powder	*Bhoomi Amla (Phyllanthus niruri), Badi Harad (Terminalia chebula), Bahera (Terminalia bellirica), Kasni (Cichorium intybus), Makay (Zea mays), Punarnava (Boerhavia diffusa), Gokshur (Tribulus terrestris)*	Half a teaspoon BD (*Adhobhakta* with *Koshan jala)*	Supports kidney function and reduces inflammation, helping with renal symptoms.
Nephron plus	*Hazrool yahood (Lapis judaicus) bhasma, Chandraprabha powder and pashanbheda (Bergenia ligulata)*	2 cap BD (*Adhobhakta* with *Koshan jala*)	Beneficial to kidney diseases and urinary problems
Arogya Vati tablet	*Kajan (Carthamus tinctorius), Loh Bhasma, Abhrak Bhasma, Tamra Bhasma, Amalaki (Emblica officinalis), Vibhitaki (Terminalia bellirica), Haritaki (Terminalia chebula), Chitrak (Plumbago zeylanica), Katuka (Picrorhiza kurroa), Nimba Patra (Azadirachta indica).*	2 tablet BD (*Adhobhakta* with *Koshan* jala)	Boosts immunity, Supports respiratory health

Table 10: DTPA scan report with global GFR

Date	01/06/2023		18/01/2024		04/07/2024	
Global GFR	7.5 ml/min		12.0 ml/min		17.0 ml/min	
	Left kidney	Right kidney	Left kidney	Right kidney	Left kidney	Right kidney
Visualization	Poor	Poor	Poor	Poor	Poor	Poor

Relative perfusion	Poor	Poor	Poor	Poor	Poor	Poor
Size	Shrunk	Shrunk	Shrunk	Shrunk	Shrunk	Normal
Shape	Normal	Normal	Normal	Normal	Normal	Normal
Concentration	Poor	Poor	Poor	Poor	Poor	Poor
Cortical margin delineation	Poorly defined	Poorly defined	Poorly defined	Poorly defined	Poorly defined	Poorly defined
GFR	2.5ml/min	5.0ml/min	4.0ml/min	8.0ml/min	6.0ml/min	11.0ml/min
Split function	33%	67%	33%	67%	35%	65%

Fig 1: The DTPA scan reports with renal function curve

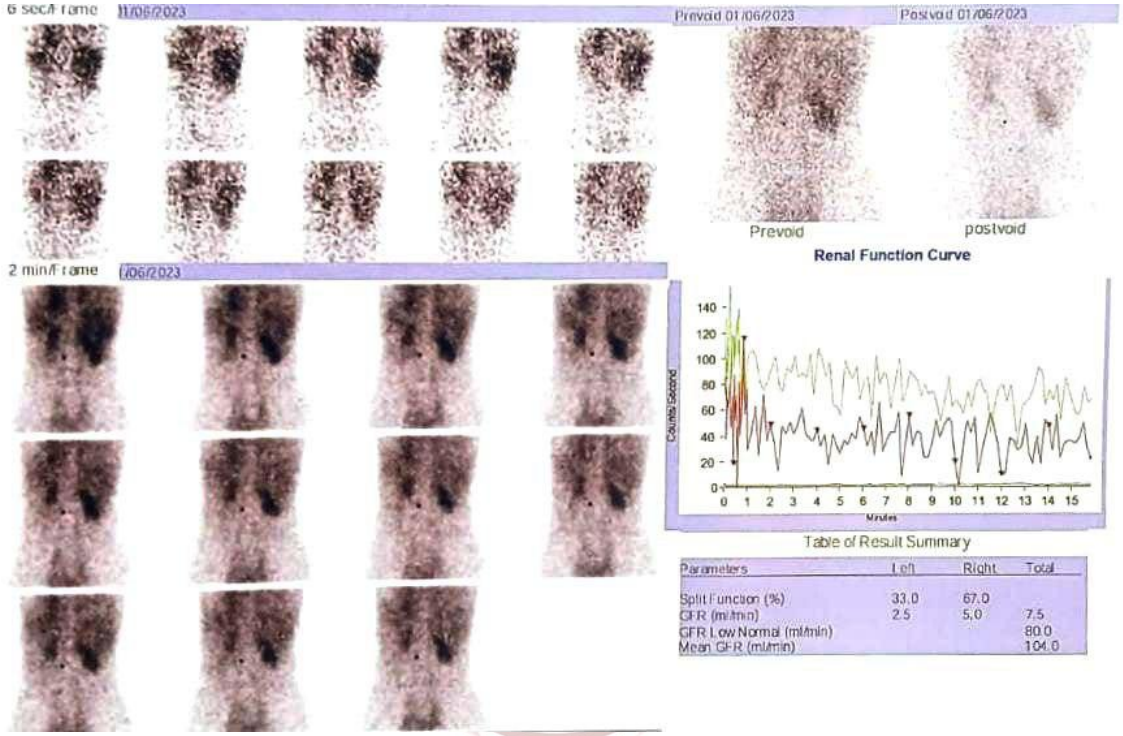


Fig 1a: The DTPA scan reports on June 01, 2023

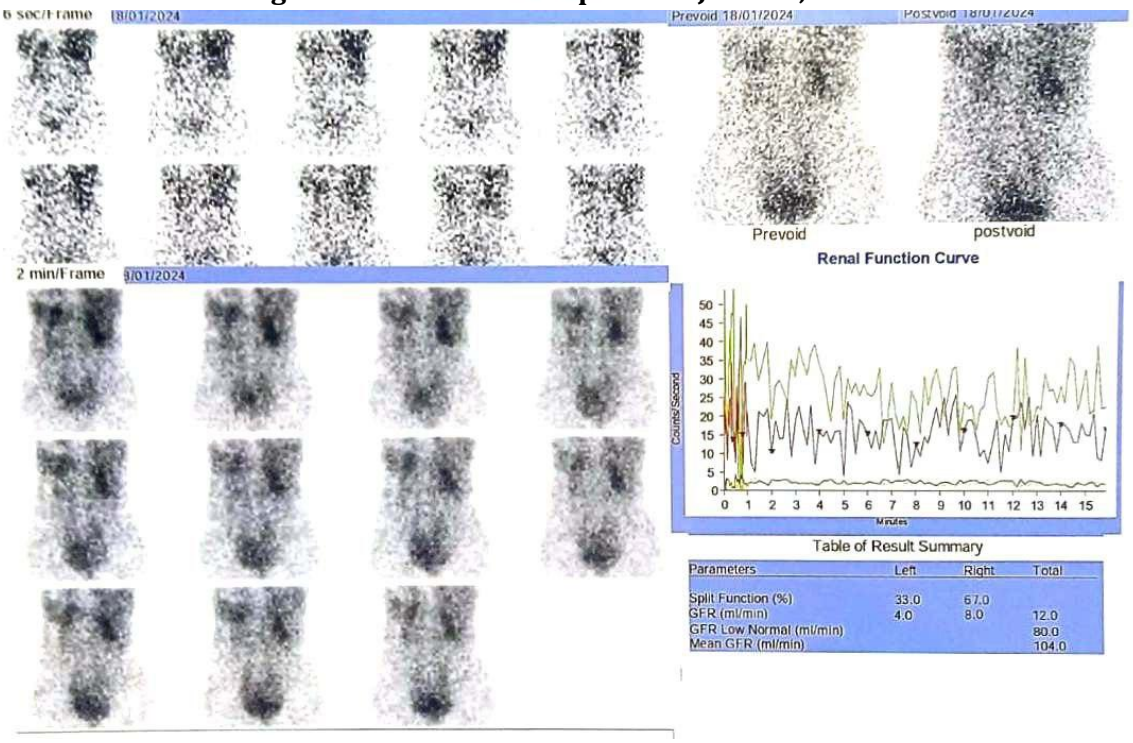


Fig 1b: The DTPA scan reports on January 18, 2024

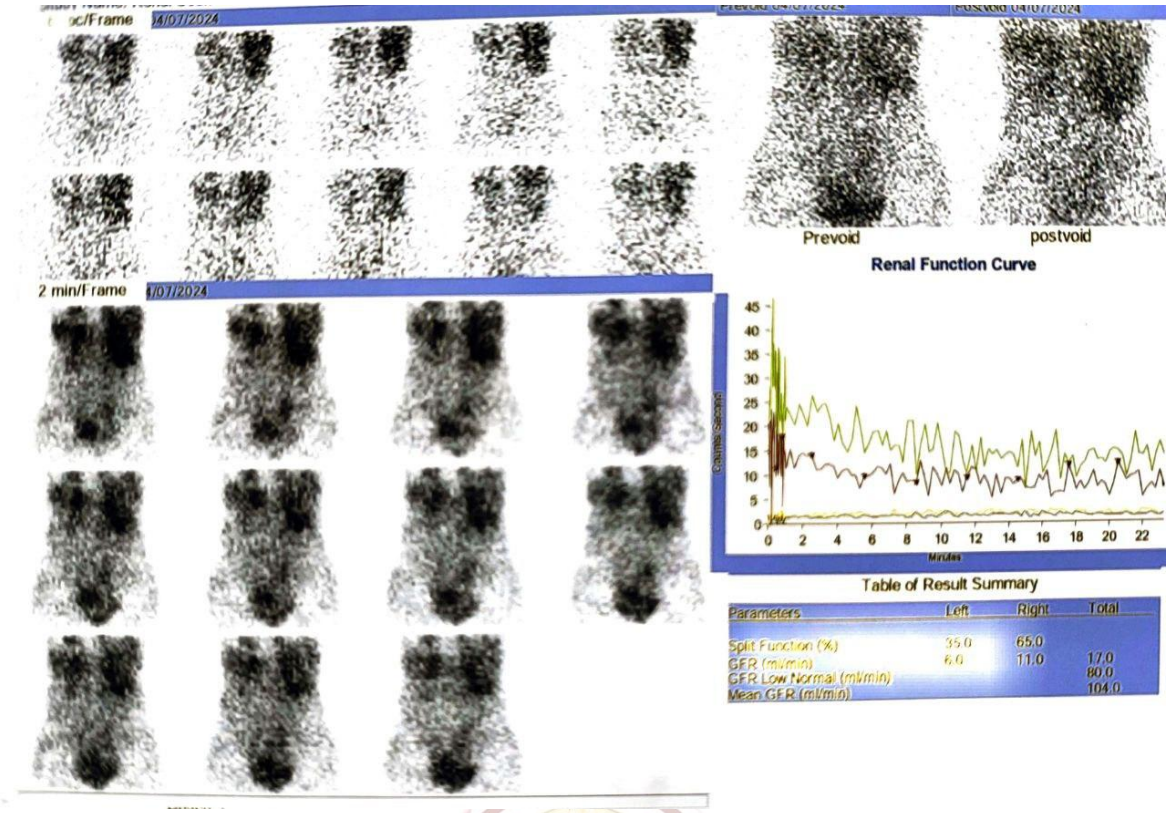


Fig 1c: The DTPA scan reports on July04, 2024

Table 11: Medications advised on follow up visit on July 4, 2024

Medicine Name	Ingredients	Dosage	Therapeutic Effects
Chander Vati Tablet	*Kapoor Kachri (Hedychium spicatum), Vacha (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 (Phyllanthus emblica), Chavya (Piper chaba), Vayavidang (Embelia ribes), Pippal (Piper longum), Kalimirch (Piper nigrum), Sonth (Zingiber officinale), Gaj Pipal (Scindapsus officinalis), Swarn Makshik Bhasma, Sujji Kshar, Senda Namak, Kala Namak, Choti Llayachi (Elettaria cardamomum), Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Danti (Baliospermum montanum), Nishothra (Operculina turpethum), Banslochan, Loh Bhasam, Shilajit (Asphaltum punjabinum), Guggal (Commiphora wightii).*	2 tablets BD (*Adhobhakta* with *Koshan jala*)	Alleviates urinary tract symptoms and promotes healthy urine flow.
GFR Powder	*Bhoomi Amla (Phyllanthus niruri), Badi Harad (Terminalia chebula), Bahera (Terminalia bellirica), Kasni (Cichorium intybus), Makay (Zea mays), Punarnava (Boerhavia diffusa), Gokshur (Tribulus terrestris)*	Half a teaspoon BD (*Adhobhakta* with *Koshan jala*)	Supports kidney function and reduces inflammation, helping with renal symptoms.

Yakrit Shoth Har Vati	*Punarnava (Boerhavia diffusa), Kalimirch (Piper nigrum), Pippali (Piper longum), Vayavidanga (Embelia ribes), Devdaru (Cedrus deodara), Kutha Haldi (Picrorhiza kurroa), Chitrake (Plumbago zeylanica), Herad Bahera (Terminalia chebula, Terminalia bellirica), Amla (Emblica officinalis), Danti (Baliospermum montanum), Chavya (Piper chaba), Indra Jon (Taraxacum officinale), Pippla Mool (Piper longum), Motha Kalajira (Nigella sativa), Kayphal (Myrica esculenta), Kutki (Picrorhiza kurroa), Nisoth (Operculina turpethum), Sonth (Zingiber officinale), Kakd Singhi (Cucumis sativus), Ajwaen (Trachyspermum ammi), Mandur Bhasma (Ferrum).*	2 tablets BD (*Adhobhakta* with *Koshan jala*)	Helps in better liver function, strengthen digestion process and helps in detoxification
Sama vati	*Gokru (Tribulus terrestris), Kaunch (Mucuna pruriens), Shatawar (Asparagus racemosus), Ashwagandha (Withania somnifera), Vidarikand (Pueraria tuberosa), Beej Band Lal (Sida cordifolia), Akarkara (Anacyclus pyrethrum), Talmakhana (Hygrophila auriculata), Musli (Chlorophytum borivilianum), Aawla (Emblica officinalis), Sonth (Zingiber officinale), Jaiphal (Myristica fragrans), Swarn Makshik (Chalcopyrite), Shilajit Shudh (Asphaltum punjabianum).*	2 tablets BD (*Adhobhakta* with *Koshan jala*)	Assist the regular function of the cardiovascular system
Vrikka tonic	*Punarnava (Boerhavia diffusa),Gokshura (Tribulus terrestris), Varuna (Crataeva nurvala)* and *Shilajit*	20ml early morning in empty stomach	Supports kidney function
Divya Shakti Powder	*Trikatu, Triphala, Nagarmotha (Cyperus rotundus), Vaya Vidang (Embelia ribes), Chhoti Elaichi (Elettaria cardamomum), Tej Patta (Cinnamomum tamala), Laung (Syzygium aromaticum), Nishoth (Operculina turpethum), Sendha Namak, Dhaniya (Coriandrum sativum), Pipla Mool (Piper longum root), Jeera (Cuminum cyminum), Nagkesar (Mesua ferrea), Amarvati (Achyranthes aspera), Anardana (Punica granatum), Badi Elaichi (Amomum subulatum), Hing (Ferula assafoetida), Kachnar (Bauhinia variegata), Ajmod (Trachyspermum ammi), Sazzikhar, Pushkarmool (Inula racemosa), Mishri (Saccharum officinarum).*	Half a teaspoon HS (*Nishikala* with *Koshan jala)*	Enhances overall vitality and energy levels, addressing fatigue and weakness.

An accurately designed DIP Diet was provided to the patient to complement the Ayurvedic treatments administered for CKD[21,24]:

Treatment Plan

1. Diet Plan

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

Foods to Avoid

- Do not consume wheat, rice and packed food.
- Avoid eating after 8 PM.

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 to reduce up to 1 litre and consume.

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 ramose*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

Meal Timing and Structure

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (8:30-9:30 AM): The patient will have steamed seasonal fruits and a fermented millet shake.
3. Morning Snacks (11:00-11:20 AM): The patient will be given sprouts (100g) and red juice (150 ml).
4. 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 along with raw ginger and turmeric.
5. Evening Snacks: Green juice (100-150ml) accompanied by 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient will be served a raw salad, chutney, soup and green garden delight as Plate 1, along with fermented millets, millet khichdi, or millet chapatti as Plate 2 along with raw ginger and turmeric.

Fasting

It is advised to observe a fast once a week.

Special Instructions

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.

Diet Types

- The diet comprises salt-less 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 *Dhyāna* (meditation) for relaxation.
- Engage in Yoga (*Sukhasana* and *Sukshma pranayama*) from 6:00 AM to 7:00 AM.
- Practice barefoot brisk walk for 30 minutes.
- Ensure 6-8 hours of quality sleep each night (Nidra).
- Adhere to a structured daily routine (*Dincharya*).

3. *Panchakarma* procedures were administered to patients

a. Awagah Swedan

Procedure: The patient is immersed below navel in a tub filled with warm water infused with selected medicinal herbs. Then to induce sweating (स्वेदनम्), the temperature of the water is sustained at 42˚Celsius. For this treatment the procedure typically lasts for 20 to 60 minutes.

Physiology: Vasodilation occurs during the procedure which increases blood circulation to the skin. Sweating is induced during the treatment, results in the discharge of metabolic waste and other toxins from the body. The temperature of the water enhances the absorption of herbal properties through the skin.

Mode of Action: When the patient immerses themselves in a tub of water with a temperature of 42°C, the body temperature rises, resulting in vasodilation. This dilation enhances the activity of sympathetic nervous system and triggers the release and activation of hormones like epinephrine, norepinephrine, and other hormones like endonephrine, cortisol, oxytocin, serotonin and melatonin. Consequently, oxygen demand increases because of the increase in metabolic rate and lipolysis (fat breakdown). *Awagah Swedan* also promotes the elimination of metabolic wastes such as urea, creatinine, ammonia, and uric acid through skin because of the increase in body temperature and sweating[22].

***b. Gokshuradi Siddha Sneha Basti* (90 ml)**

Procedure: The warm medicated *Sneha* (*Gokshuradi* Siddha) is administrated rectally. The procedure may require the retaining the oil for a specified duration. The preparation for *Basti* is prepared using *Gokshura* which acts as a diuretic and balances three *doshas*.

Physiology: The rectal mucosa is highly vascularized, allowing the quick absorption of the lipid-soluble active compounds present in the *Sneha*. The oil in the formulation penetrates the rectal mucosa, enhancing its absorption and facilitating the passage of phytochemicals into the blood stream. It also lubricates the intestines and promotes bowel movements.

Mode of Action: *Basti* normalizes *Vata*, which helps in the proper elimination of flatus, feces, urine and more. This improves the physiological functioning of the *Vata dosha*. The *Basti dravya* (medicated liquid) spreads throughout the body and soothes the *Vata dosha. Basti* applies effects both locally and systemically upon entering the *Pakvashaya* (large intestine) or *Guda* (anus). The *Guda* contains veins and arteries that extend throughout the entire body. So, it is considered as the root of the body (*Sharira Mūla*).

***c. Abhyangam* with *Dhanwantaram* oil**

Procedure: For the treatment, **t**he *Dhanwantaram* oil is indirectly heated. The fingers are dipped in the lukewarm oil and massaged with gentle stokes on the body. Chest, neck, abdomen and eyes were massaged lightly. After the massage the patient is advised to take a bath in warm water after 45 minutes. This was performed on 1st, 3rd, 5th, 7th, and 9th days.

Physiology: The massage works on the nervous system and enhances the circulation of growth hormones. Specific direction of massage improves the blood circulation, removal of toxins from the body, induce mental and physical relief, and relaxes musculoskeletal system.

Mode of Action: *Abhyangam* is a whole body massage treatment. The *Dhanwantaram* oil used in the *Abhyangam* is absorbed through the skin, via hair follicles and sweat glands. The massage in specific directions increases the blood circulation, reduction of muscle stiffness, mental relaxation, decreases physical fatigue and remove toxins through abdomen. The other benefits of *Abhyangam* are, it improves body complexion, helps to maintain skin elasticity, natural immunity is restored, prevents ageing process, alleviates *Vata* and *Kapha doshas* and induces sound sleep. [23]

d. Shirodhara with Dhanwantaram oil

Procedure: The patient advised to lie down on the treatment table with eyes closed. Warmed *Dhanwantaram* oil is slowly and steadily dripped to the forehead. The *Dhara* pot is rotated to maintain the pressure and rhythm. After 30-60 minutes of treatment, the patient was advised to take a bath in warm water.

Physiology: Vibrations are created in the forehead while pouring the oil which induces mental relaxation. After saturating the forehead and scalp the oil penetrates to the nervous system which induces vasodilation of all channels. The vasodilation leads to the increase in the blood flow to the brain.

Mode of action: *Shirodhara* is a classic Ayurveda therapy to induce the psychosomatic balance. It reduces fatigue and relaxes brain cells. The treatment has a relaxing effect on hypothalamus and the activity of pituitary gland is regulated to induce sleeping. The effect of oil regulates *Doshas* which reduces stress related headache. It also reduces the elevated serotonin and stress hormones to effectively manage stress. Thus, it can be a curative treatment for anxiety, stress, depression and all other psychosomatic problems.

e. HDT[24]

Procedure: In this therapy the patient is made to lay down at 10˚ angle of the head on a tilted surface with their head and upper body lower than their legs. The head is positioned inferior to the lower body and kept in this condition for about 1-2 hours.

Physiology: The blood flow to the kidneys are enhanced by the HDT therapy by positioning head lower than the body. Self-dialysis is stimulated by this process and improves the kidney function which regulates the harmful hormone levels like plasma aldosterone and renin. Baroreceptor reflex is controlled by HDT therapy and regulated the blood pressure. The pre void and stroke volume is boosted by the increase in thoracic blood volume. This leads to parasympathetic system activation and withdrawal of sympathetic system. The detoxification of the body occurs due to the enhanced blood flow and kidney function.

Mode of action: During HDT, blood tends to accumulate in the upper body, resulting in an increase in central blood volume. The body's baroreceptors sense this redistribution, which triggers changes in the hormonal and renal systems by activating the Renin-angiotensin-aldosterone system pathway, thereby maintaining blood pressure and the balance of sodium and potassium. This response also stimulates hormones such as antidiuretic hormone and aldosterone, which are involved in the body's fluid retention or excretion processes via the kidneys. The production of nitric oxide rises as a result of the heightened pressure and shear stress on vascular endothelial cells, aiding in vasodilation and the regulation of blood pressure.

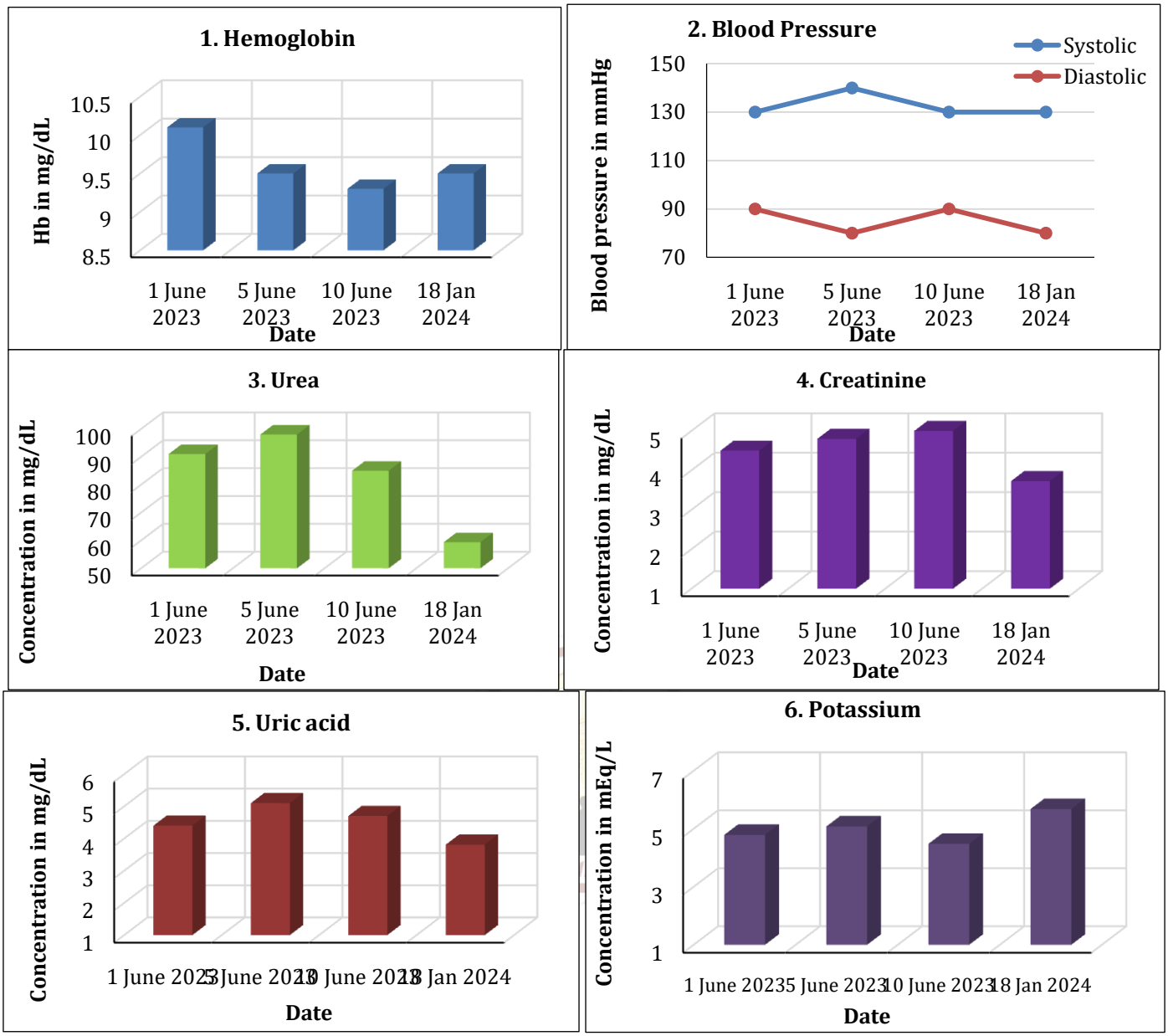
Medicinal Interventions

The Ayurvedic treatment employed in this case included *Chander vati, Divya Shakti* Powder, CKD Syrup, *Yakrit Shoth Har Vati,* Nephron plus, Kidney Care Syrup, GFR Powder, *Arogya Vati* tablet, *Sama vati*, *Vrikka* tonic and the combinations *Amlaki, Giloy* and *Gokshura Yog* and *Arjun, Dalchini, Gokshura, Punarnava, Varun* and *Giloy Kashaya* empty stomach in early morning given along with *Panchakarma* therapies.

RESULT

Effectiveness of Ayurvedic Treatments: The patient experienced noteworthy development in the symptoms and vitals after 10 days of IPD, which concludes that the interventions used in this study are effective against CKD. The graphical representation of the vitals is mentioned in Fig 2. The Glomerular filtration rate showed the progress in the kidney function. Also the decrease in the pain after IPD shows significant improvement. These results shows that the Ayurvedic interventions used in the case study are effective for CKD.

Fig.2 Graphical representation of the assessment of the patient's vital signs & laboratory investigations



Future Research perspectives: The results in this study were promising, but the findings should be examined thoroughly because this report involves only one patient. Studies with larger number of patients and randomized trials are needed to confirm the efficacy and safety of this integrated Ayurveda therapies for CKD to establish a standard protocol and guidelines for the clinical settings.

DISCUSSION

Integrating Ayurvedic medicines into the treatment CKD offers a reassuring alternative for conventional treatment methods. This case report describes the use of different Ayurvedic therapies in a 42-year-old female patient, diagnosed with CKD stage 5 for 5 years and hypertension for 2 years. The patient presented symptoms such as intermittent gas, itching, dry skin, abdominal pain, lower backache, severe pedal edema and frothy urine. The Ayurvedic treatment comprised several *Panchakarma* procedures:

1. ***Awagaha Swedan*:** This is an Ayurvedic therapy which induces sweating, enhances blood circulation and facilitates detoxification. In this procedure, the patient sits in a tub filled with herbal-infused warm water with a temperature of 42°C. The Ayurvedic herbs infused in warm water enhances the kidney function through increasing blood circulation and removing unnecessary toxins from the body.
2. ***Gokshuradi Siddha Sneha Basti*:** Warm *Gokshuradi Siddha sneha* is induced rectally, the *Sneha* lubricate the intestines and normalize the *Vata dosha*, to enhance overall physiological functioning because the oil spreads all over the body through the large intestine.

3. ***Abhyangam* with *Dhanwantaram* Oil:** *Abhyangam* is a whole body massage therapy that induce physical and mental relaxation. The Ayurvedic herbs in the *Dhanwantaram* oil penetrates into the body while massaging in specific direction allows increased blood circulation, detoxification, increase muscle flexibility and increase natural immunity.
4. ***Shirodhara* with *Dhanwantaram* Oil:** *Shirodhara* is a rejuvenating therapy for mind as well as body. Warm oil is dripped to the forehead in a rhythmic manner creating a relaxation effect. Also the oil penetrates thorough the skin increasing vasodilation and blood circulation throughout the body. The Ayurvedic herbs in *Dhanwantaram* helps to regulate *doshas* and reduce stress.
5. **HDT:** This isa naturopathic postural therapy to balance blood circulation. The head is tilted down to 5-10˚lower the body. The fluid balance of the body is shifted towards head which is sensed by the baroreceptors to maintain blood pressure and electrolytic balance.

The Ayurvedic treatment protocol for this case included a variety of remedies such as Chander vati, Divya Shakti Powder, CKD Syrup, *Yakrit Shoth Har Vati*, Nephron plus, Kidney Care Syrup, GFR Powder, *Arogya Vati, Sama Vati, Vrikit tonic* and the combinations *Amlaki, Giloy* and *Gokshura Yog* and *Arjun, Dalchini, Gokshura, Punarnava, Varun* and *Giloy Kashaya*, along with *Panchakarma* therapies. These interventions were designed to improve kidney function and alleviate symptoms. The patient reported significant relief from key symptoms like pain and frothy urine, which were also reflected in the DTPA scan parameters, indicating improved renal perfusion and filtration.

Amlaki yog: It is an Ayurvedic formulation used for the support of overall health, increase immunity and improve digestion. It contains *Amlaki* (*Emblica officinalis*), *Giloy* (*Tinosporacordifolia*) and *Gokshura* (*Tribulus terrestris*).

***Arjun, Dalchini, Gokshura, Punarnava, Varun* and *Giloy Kashaya*:** This Ayurvedic herbal combination ensures cardiovascular health, kidney and urinary health, detoxification and immunity enhancement and provide vitality. The herbs used for this combination are Arjun (*Terminalia arjuna*), Dalchini (*Cinnamomum verum*), *Gokshura* (*Tribulus terrestris*), *Punarnava* (*Boerhavia diffusa*), *Varun* (*Crateva religiosa*) and *Giloy* (*Tinospora cordifolia*).

***Arogya Vati* tablet:** This medicine is formulated with the Ayurvedic herbs, *Kajan* (*Carthamustinctorius*), Loh *Bhasma* (Ferrum), *Abhrak Bhasma* (Mica), *Tamra Bhasma* (Copper), *Amalaki* (*Emblica officinalis*), *Vibhitaki* (*Terminalia bellirica*), *Haritaki* (*Terminalia chebula*), *Chitrak* (*Plumbago zeylanica*), *Katuka* (*Picrorhiza kurroa*), *Nimba Patra* (*Azadirachta indica*). The herbs present in the formulation helps to boost immunity, supports respiratory health, promotes detoxification and aids in the management of infections.

***Chander Vati*:** The ingredients are *Kapoor Kachri (Hedychiumspicatum), Vacha (Acoruscalamus), Motha (Cyperusrotundus), Kalmegh (Andrographispaniculata), Giloy (Tinospora cordifolia), Devdaru (Cedrusdeodara), Desi Haldi (Curcumalonga), Atees (Aconitum heterophyllum), Daru Haldi (Berberisaristata), Pipla Mool (Piperlongum root), Chitraka (Plumbago zeylanica), Dhaniya (Coriandrum sativum), Harad (Terminalia chebula), Bahera (Terminalia bellirica), Amla (Phyllanthus emblica), Chavya (Piper chaba), Vayavidang (Embeliaribes), Pippal (Piperlongum), Kalimirch (Pipernigrum), Sonth (Zingiberofficinale dried ginger), Gaj Pipal (Scindapsus officinalis), Swarn Makshik Bhasma* (Gold iron pyrite ash - Ayurvedic preparation), *Sujji Kshar* (Potassium carbonate - traditional alkali preparation), *Senda Namak* (rock salt), *Kala Namak* (black salt), *Choti Llayachi (Elettaria cardamomum-* small cardamom), *Dalchini (Cinnamomum verum), Tejpatra (Cinnamomum tamala), Danti (Baliospermum montanum), Nishothra (Operculina turpethum), Banslochan (Bamboo silica), Loh Bhasam* (Iron ash - Ayurvedic preparation), *Shilajit (Asphaltum punjabinum), Guggal (Commiphora wightii). Pitta Dosha* is balance by this Ayurvedic herbs, which is important for relieving urinary tract infection (UTI). It also helps in detoxification and diuretic effects that contribute to effective management of chronic kidney disease.

CKD Syrup: This syrup supports kidney health, stimulates urinary function, lessens swelling, helps in detoxification, and includes antioxidants to protect kidney cells from oxidative stress, supporting in the management of CKD. The Ayurvedic herbs used for the preparation are *Kasani* (*Cichoriumintybus*), Gokhru (*Tribulus terrestris*), *Shatavari* (*Asparagusracemosus*), Giloy (*Tinospora cordifolia*), Sorbitol and *Shudh Shilajit* (*Asphaltum punjabianum*).

***Divya Shakti* Powder**: This formulation includes *Trikatu, Triphala, Nagarmotha* (*Cyperus rotundus*), *Vaya Vidang* (*Embelia ribes*), *Chhoti Elaichi* (*Elettaria cardamomum*), *Tej Patta* (*Cinnamomum tamala*), Laung (*Syzygium aromaticum*), *Nishoth* (*Operculina turpethum*), *Sendha Namak, Dhaniya* (*Coriandrum sativum*), *Pipla Mool* (*Piper longum* root), Jeera (*Cuminum cyminum*), *Nagkesar* (*Mesua ferrea*), *Amarvati* (*Achyranthes aspera*), *Anardana (Punica granatum*), *Badi Elaichi* (*Amomum subulatum*), *Hing* (*Ferula assafoetida*), *Kachnar* (*Bauhinia variegata*), Ajmod (*Trachyspermum ammi*), *Sazzikhar*,

Pushkarmool (*Inula racemosa*), Mishri (*Saccharum officinarum*), which enhance energy levels, boosts immunity, aids digestion, alleviates stress and encourages rejuvenation.

GFR Powder: This powder enhances kidney function by minimizing inflammation and removing accumulated toxins. Its anti-inflammatory properties help reduce renal inflammation, supporting overall kidney health and detoxification.

Kidney Care Syrup: The ingredients in this syrup work together to reduce inflammation, enhance kidney function, and support detoxification. *Punarnavarishtha* and *Ushirasava* help reduce renal inflammation, while *Chandanasava* alleviates urinary discomfort and *Gokshuradi Kadha* promotes diuresis and toxin elimination.

Nephron Plus: This supplement contains ingredients like *Punarnava* (*Boerhavia diffusa*), *Varuna* (*Crataeva nurvala*), *Gokshura* (*Tribulus terrestris*), Amla (*Phyllanthus emblica*), and *Bhumyamalaki* (*Phyllanthus niruri*), with renal protective and detoxifying qualities. It enhances kidney function, increases urinary health, eases fluid retention and antioxidant protection efficiency, making it beneficial for CKD.

Sama Vati*: Sama Vati* is an Ayurvedic formulation aimed at supporting mental health, particularly for anxiety, stress, and depression. It includes ingredients like *Gokru (Tribulus terrestris), Kaunch (Mucuna pruriens), Shatawar (Asparagus racemosus), Ashwagandha (Withania somnifera), Vidarikand (Pueraria tuberosa), Beej Band Lal (Sida cordifolia), Akarkara (Anacyclus pyrethrum), Talmakhana (Hygrophila auriculata), Musli (Chlorophytum borivilianum), Aawla (Emblica officinalis), Sonth (Zingiber officinale), Jaiphal (Myristica fragrans), Swarn Makshik (Chalcopyrite), Shilajit Shudh (Asphaltum punjabianum),* which promote mental clarity, reduce anxiety, support emotional well-being, enhance memory and provide neuroprotective effects.

Vrikka **tonic:** The Ayurvedic herbs in this tonic supports kidney function, promotes healthy urine flow, manages water retention and edema and helps with urinary tract infections (UTIs). The formulation includes *Punarnava* (*Boerhavia diffusa*), *Gokshura* (*Tribulus terrestris*), *Varuna* (*Crataeva nurvala*) and *Shilajit*.

Yakrit Shoth Har Vati**:** It is a medicinal formulation containing *Punarnava* (*Boerhavia diffusa*), *Mandur Bhasma* and *Haldi* (*Curcuma longa*), which is beneficial for betterment of liver function, increasing digestion process and detoxification.

It is concluded that integrating Ayurvedic treatment with conventional treatment methods opens a new path to alternate advanced conventional treatment methods for CKD which is nearly unprocurable to common people. These therapies address the underlying imbalances along with curing the symptoms. This treatment also improves kidney health and function and the overall welfare of the patient. The results of this study seem promising, but more comprehensive studies with large trails are need to optimize and standardize the Ayurvedic interventions.

This case study for the treatment of CKD through Ayurvedic interventions can be concluded as follows:

Symptoms: Before treatment, the symptoms experienced by the patient includes as intermittent gas, itching, dry skin, lower backache, pedal edema, abdominal pain and frothy urine. After 10 days of IPD treatment and follow-up Ayurvedic care, the patient seems symptomatically better. The patient reported increased urine output, relief from ache, no itching with no new complaints, which shows a noticeable improvement in kidney function and overall wellness.

Vitals: The patient's vital signs fluctuated throughout the treatment period. Blood pressure remained fluctuated throughout the treatment period. The patient's weight decreased from 53kg to 50kg, the urination also become clear from frothy urination, which reflects the positive lifestyle and diet changes that results in improvement of the kidney function.

Investigations: Laboratory tests conducted during the treatment period depicted the renal function improvement. The Serum urea levels decreased from 91mg/dL to 59.38mg/dL during regular follow-ups and then reduced to 38mg/dL, indicating enhanced kidney function. The global GFR improved from 7.5ml/min/1.51sqm to 17.0ml/min/1.59sqm, reflecting a remarkable escalation in the filtration capacity of kidney. These investigations supports the reliability of Ayurvedic treatment methods for CKD.

CONCLUSION

In conclusion, incorporating Ayurvedic medicines & Panchakarma therapies with prescribed allopathic medicines for CKD provided favorable results, like improvement in symptoms, vitals and laboratory results. Thus the traditional therapies are capable for increasing kidney function and heath and also the overall well-being of the patient. Still, future research is essential to authenticate the conclusions of this case study and standardize treatment protocol establishment.

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