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RESEARCH ARTICLE

MANAGEMENT OF CHRONIC KIDNEY DISEASE UTILIZING AYURVEDIC THERAPEUTICS: A CASE REPORT

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Abstract

Background: Chronic Kidney Disease (CKD) is a progressive conditio n characterized by a decline in renal function, often associated with multi-systemic involvement. This case report highlights the successful holistic management of a CKD patient utilizing Ayurveda principles, includingAyurveda medications, dietary and lifestyle modifications.

Case Presentation: A 75 year old male presented with severe weaknes s, constipation, gas/acidity, loss of appetite. Investigations revealed bilateral renal impairment with a glomerular filtration rate (GFR) of 33.7 mL/min (left kidney: 14 mL/min, right kidney: 19.7 mL/min) on DTPA renal scan, fibrotic bands in the right upper lobe with pleural thickening and minimal effusion on HRCT thorax, saccular bronchiecta sis with volume loss in the left lower lobe, and diffuse bronchial wall calcification. CT abdomen and pelvis with angiography showed further evidence of systemic involvement. The patient was managed with an Ayurveda-based regimen, including Ayurvedic medications, and individualized dietary and lifestyle modifications.

Outcome: Post treatment evaluation demonstrated significant symptom atic improvement, including normalization of appetite, resolution of constipation, and alleviation of weakness. Repeat DTPA renal scan showed marked improvement in GFR.

Conclusion: This case highlight the potential role of ayurvedic medicin ein managing advanced CKD cases.

Introduction:-

Chronic Kidney Disease (CKD) is a global health challenge with a rising prevalence, affecting approximately 10% of the global population.[1] It is characterized by a gradual decline in renal function, often leading to end-stage renal disease (ESRD) if not adequately managed. CKD is associated with significant morbidity and mortality due to

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complications such as cardiovascular disease, metabolic derangements, and multi-organ involvement.[2] Conventional management primarily relies on pharmacotherapy and renal replacement therapy (dialysis or transplantation) in advanced stages. However, these approaches are often associated with significant costs,limited availability,and potential adverse effects,necessitating the exploration of integrative treatment modaliti es.[3]Ayurveda, the traditional system of medicine in India, offers a holistic and individualized approach to the management of chronic diseases, emphasizing Ayurvedic medications, dietary modifications, and lifestyle optimization.[4][5]Chronic Kidney Disease (CKD) can be understood in Ayurveda under the umbrella of Mutravaha Srotas Vikara (disorders of the urinary system) and is closely associated with conditions such as Prameha (metabolic disorders) and Mutrakrichra or Mutraghata (obstructive or dysfunctional urinary conditions).[6] The pathogenesis involves an imbalance in the Tridoshas (Vata, Pitta, Kapha), primarily Vata, along with dushya (tissues) such as Rakta, Meda, and Mutra, leading to progressive dysfunction of the kidneys.

Accumulation of Ama (metabolic toxins) and disruption in the Agni (digestive and metabolic fire) play a critical role in disease progression.[7] This results in the vitiation of doshas, impairment of Rasayana Karma (tissue nourishment), and blockage of Mutravaha Srotas. Furthermore, CKD can be linked to Ojokshaya (depletion of vitality) and chronic systemic inflammation as understood in Ayurvedic terms.Management in Ayurveda emphasizes a holistic approach, including Shodhana (detoxification), and Shamana (palliative care) with Ayurvedic formulations[8], alongside dietary modifications and lifestyle changes to balance doshas, improve renal function, and enhance overall vitality.[9][10]This case report presents the successful ayurvedic management of a 75-year-old male patient with CKD who presented with severe systemic symptoms and advanced investigations indicative of significant renal impairment and multi-systemic involvement. The patient was treated using Ayurveda-based Ayurvedic medications, dietary and lifestyle interventions. Post-treatment results revealed significant improvement in renal function and overall quality of life, underscoring the potential of Ayurveda as a complementary approach in CKD management.

Case Report:-

A 75-year-old male, a known case of Chronic Kidney Disease (CKD) with polycystic kidney disease (PKD), renal cysts, and pleural effusion, presented to Jeena Sikho Lifecare Limited Hospital, Pune, on August 7, 2024. His chief complaints were severe weakness, constipation, gas, acidity, loss of appetite. There is a history of a previously detected renal mass.There is a history of prior thoracocentesis. A DTPA renal scan performed on June 24, 2024, revealed the following findings: the split renal function of the left kidney was 41.6%, and the right kidney was 19.7%, with a total split function of 100%. The glomerular filtration rate (GFR) of the left kidney was 14 mL/min, and the right kidney was 19.7 mL/min, resulting in a total GFR of 33.7 mL/min. In conclusion, the scan indicated optimal renal parenchymal function of the left kidney with a prompt excretion pattern and normal renal parenchymal function and excretion of the right kidney. The patient's initial evaluation on the first day is summarized in Table 1.

Table: 1 Examination Findings

Parameter	Findings
Blood Pressure	130/80 mm of Hg
Pulse Rate	76/min
Weight	63 kg
CNS	Conscious, Oriented to time, place and person.
Nadi	Vata Pittaj
Mala	Malavashtambha (Constipation)
Mutra	Avikrita (Normal micturition)
Jivha	Saam (Coated)
Shabda	Spashta (Clear)
Sparsha	Anushna sheeta (Moderate)
Akriti	Madhyam (Moderate)
Drika	Akshikuta shotha(Periorbital swelling)
Kshudha	Alpa (Low)
Agni	Mandya (Low)
Nidra	Khandita (Disturbed)

The patient underwent a thorough series of diagnostic investigations during the course of treatment.

A CT scan of the abdomen and pelvis with abdominal angiography, conducted on September 12, 2024, revealed the following impression:

- Heterogeneously enhancing mass in the interpolar region of the kidney.
- Bilateral renal simple cortical cysts.
- Prostatomegaly.
- Hiatus hernia.

An HRCT scan of the thorax performed on September 12, 2024, provided the following impression:

- Fibrotic bands in the right upper lobe in the apical segments associated with scarring.
- Minimal left pleural effusion associated with left pleural thickening, saccular bronchiectasis in the left lower lobe with volume loss.
- Right middle lobe shows some reticular opacities with areas of centriacinar emphysema/air cysts.
- Diffuse calcification of the bronchial walls in bilateral lungs.
- Few small mediastinal lymph nodes.

A CT KUB performed on November 18, 2024, revealed the following impression:

- No calculus within the kidneys or ureters bilaterally.
- Multiple bilateral renal ill-defined round to oval hypodensities bilaterally.
- An ill-defined lobulated hypodensity in interpolar region of left kidney.

A CT Brain performed on November 18, 2024, revealed no significant abnormalities.The patient underwent a comprehensive therapeutic protocol that included Ayurvedic medications, personalized dietary recommendations, and individualized lifestyle modifications, all aimed at promoting overall health and supporting the restoration of kidney function. The patient received outpatient treatment from August 2024 to January 2025 and demonstrated significant clinical improvements, including improved appetite, adequate urine output, and an overall enhancement in well-being.

Medicinal Intervention:-

Ayurvedic Intervention:-

The Ayurvedic treatment strategy for this patient incorporated a combination of Ayurvedic formulations, including Nephron Plus, Granthi Har Vati, Detox Lung Churna, Triphala Guggulu, and others. Table 2 provides a comprehensive overview of these Ayurvedic medications, detailing their key ingredients, dosagesand specific therapeutic benefits designed to support kidney function and enhance overall well-being.

Allopathic Intervention:-

The patient was previously taking Torasemide (10mg) and Ferrous Ascorbate (152mg) + Folic Acid (1500mcg), which were stopped 10 days before starting Ayurvedic treatment.

Table 2: Ayurvedic Medications, Ingredients, Dosage, Duration, and Therapeutic Benefits in the Management of CKD.

Medicine Name	Ingredients	Dosage	Therapeutic Effects
Nephron Plus Capsules	Hazrool yahood Bhasma, Chandraprabha, Pashanbheda, MulakKshar, YavaKshar, Amalaki Rasayan, Trivikrum Rasa, Navasara, Nimbu Stava, Gokshur Durbhamool, Shila pushpa, Black Salt, Hing	1 Cap BD (Adhobhakta with koshna jala)	It helps in maintaining the Jala Dhatu Samya (proper fluid balance) in the body and supports the overall health of Mutravaha Srotas (renal health)
Granthi Har vati	Kachnar, Gugglu, Amalaki, Vibhitaki, Haritaki, Shunthi, Marich, Pippli Varuna, Sukshamala, Dalchini Tamal Patar	1 tab. BD (Adhobhakta with koshna jala)	Helps in reducing size of Cyst (Granthi)
Detox lung churna	Sajjika Kshar, Arjun, Kantakari, Haridra,	1 tsp BD(Adhobhakta with koshna jala)	It is beneficial in Pranavaha Srotas Vikara (respiratory

	Vasa, Shunthi, Pushkarmool, Sphatika Bhasma, Karkatshringi, Pippali.		disorders) and helps in alleviating Kasa (cough), svasa (breathlessness, chest congestion), and Kaphaja Kasa or Kaphaja svasa (bronchitis-related conditions)
Gadood Sudharak Vati	Kahu, Varuna, Gokshur, Khayarain Shodhit Guggal	1 tab. BD(Adhobhakta with koshna jala)	Supports Mutrala (prostate and urinary health), Shothahar (reduces inflammation), Ama Pachana (aids detox and kidney function), and Rasayana (boosts overall energy and wellness)
Medhya Tonic	Ashwagandha, Brahmi, Jatamansi, Jahara Mohara Bhasma	10 ml BD(Adhobhakta with samamatra koshna jala)	Smriti Vardhan (boosts memory), Manasika Tanavhar (reduces stress), improves focus, Oja Vardhana (restores energy), and supports mental balance
Triphala Guggulu	Amalaki, Haritaki, Vibhitaki Long, Guggulu	1 tab. BD(Adhobhakta with koshna jala)	Relieves Arsha (piles), enhances Agni (digestion), reduces Shotha (inflammation), and promotes Mridu Shodhana (gentle detoxification)

The patient was recommended a specialized CKD diet emphasizing whole, plant-based nutrition. Restricted items included wheat, processed foods, dairy, animal-based products, coffee, tea, and late-night meals. Hydration was limited to 1.5 liter/day, incorporating alkaline water, herbal tea, and turmeric-infused water for detoxification. The diet included five types of millets (foxtail, barnyard, little, kodo, browntop) prepared in stainless steel utensils to preserve nutrients.

Results:-

This study presents a compelling case of a 75-year-old male patient diagnosed with Chronic Kidney Disease (CKD), specifically associated with Bilateral renal simple cortical cysts and Heterogeneously enhancing mass in the interpolar region of the kidney, who underwent a comprehensive Ayurvedic medications, and individualized dietary and lifestyle modifications.

Symptomatic Improvement: Following a structured treatment protocol, the patient exhibited significant symptomatic relief. Key improvements included:

- Appetite Restoration: The patient reported a marked increase in appetite, as previously noted during the initial presentation with severe loss of appetite.
- Resolution of Constipation: The previously severe constipation was alleviated, contributing to enhanced overall digestive health.
- Reduction in Weakness: The patient experienced a substantial decrease in feelings of weakness, leading to improved energy levels.
- Decreased Urinary Frequency: The frequency of urination, which was initially distressing, was reported to be within normal limits by the completion of the treatment. Overall, these symptomatic enhancements contributed to a notable improvement in the patient's quality of life, with no adverse effects documented during the treatment period.

Investigational Improvement: Investigative measures conducted during the treatment journey highlighted significant renal function recovery. The patient's glomerular filtration rate (GFR), initially recorded at 33.7 mL/min (with left kidney function at 14 mL/min and right kidney function at 19.7 mL/min), demonstrated notable

improvement post-treatment. A repeat DTPA renal scan revealed a marked increase in GFR, indicating substantial restoration of renal function.

Interpretation of Pre- and Post-Treatment DTPA Renal Scan:-

The pre-treatment DTPA renal scan (Fig 1), performed on June 24, 2024, showed a total glomerular filtration rate (GFR) of 33.7 mL/min, with the left kidney contributing 41.6% (14 mL/min) and the right kidney contributing 19.7% (19.7 mL/min). The scan indicated optimal renal parenchymal function of the left kidney with a prompt excretion pattern and normal renal parenchymal function and excretion of the right kidney.The post-treatment DTPA renal scan (Fig 2), performed on January 1, 2025, demonstrated significant improvement in renal function. The total GFR increased to 58.9 mL/min, with the left kidney contributing 41.6% (24.5 mL/min) and the right kidney contributing 58.4% (34.4 mL/min). The findings indicated optimal renal parenchymal function of the left kidney with a progressive excretion pattern and normal renal parenchymal function and excretion of the right kidney.This comparison highlights a marked improvement in overall renal function and excretory capacity post-treatment, demonstrating the efficacy of the therapeutic interventions.

Interpretation of Vital Assessments During Follow-Up:-

The vital assessments conducted during outpatient follow-up sessions reveal significant stability in the patient's health parameters, indicative of effective management of Chronic Kidney Disease (CKD) through the ayurvedic treatment approach.

- Blood Pressure (BP): Consistently monitored BP readings, which ranged from 110/70 mmHg to 130/80 mmHg, indicate maintained hemodynamic stability, essential for renal protection and overall cardiovascular health.
- Pulse Rate: The pulse rate remained within a normal range (84-88 beats per minute), suggesting stable cardiovascular function, free from undue stress or complications associated with CKD.
- Temperature: Maintained at approximately 94°F across assessments demonstrates normal physiological responses, indicating the absence of acute infection or systemic inflammation.
- Weight Monitoring: The gradual decline in weight from 63 kg to approximately 58.5 kg may reflect dietary modifications aimed at improving renal function, with a focus on weight management which is often critical in CKD cases.

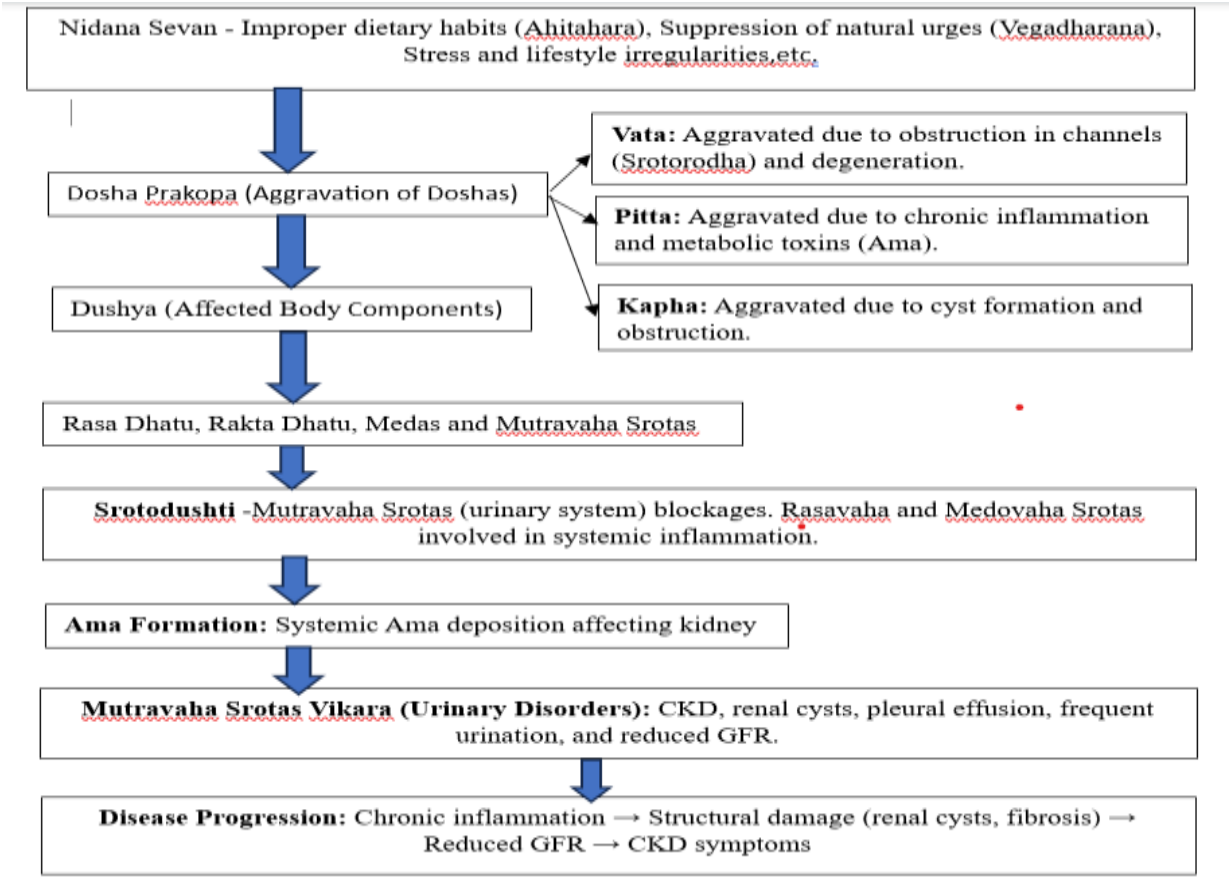
Collectively, these vital assessments as shown in Table 3 underscore the positive impact of the ayurvedic management strategy on the patient's overall health status, reflecting both symptomatic relief and systemic stabilization.

Table 3: Vital Assessments During Follow-Up on Outpatient Basis

Date	B.P.	Pulse Rate	Temp.	Weight
07/08/2024	130/80 mm of Hg	87/min	94 F	63 kg
10/09/2024	120/80 mm of Hg	84/min	94 F	60 kg
14/09/2024	110/70 mm of Hg	88/min	96 F	59.4 kg
11/10/2024	130/80 mm of Hg	86/min	95 F	60.35 kg
19/11/2024	110/70 mm of Hg	87/min	94 F	59.35 kg
02/01/2024	120/70 mm of Hg	84/min	94 F	58.50 kg

Discussion:-

Chronic Kidney Disease (CKD) represents a significant global health challenge, characterized by a progressive decline in renal function often leading to substantial morbidity and mortality. This case report highlights an holistic approach combining Ayurvedic principles and diet & lifestyle management, showcasing significant clinical and investigational outcomes in a 75-year-old male patient with advanced CKD complicated by Bilateral renal simple cortical cysts and Heterogeneously enhancing mass in the interpolar region of the kidney. The samprapti of the patients reflects the progression of the disease from its root causes to its clinical manifestations as shown below, Ayurvedic concepts.



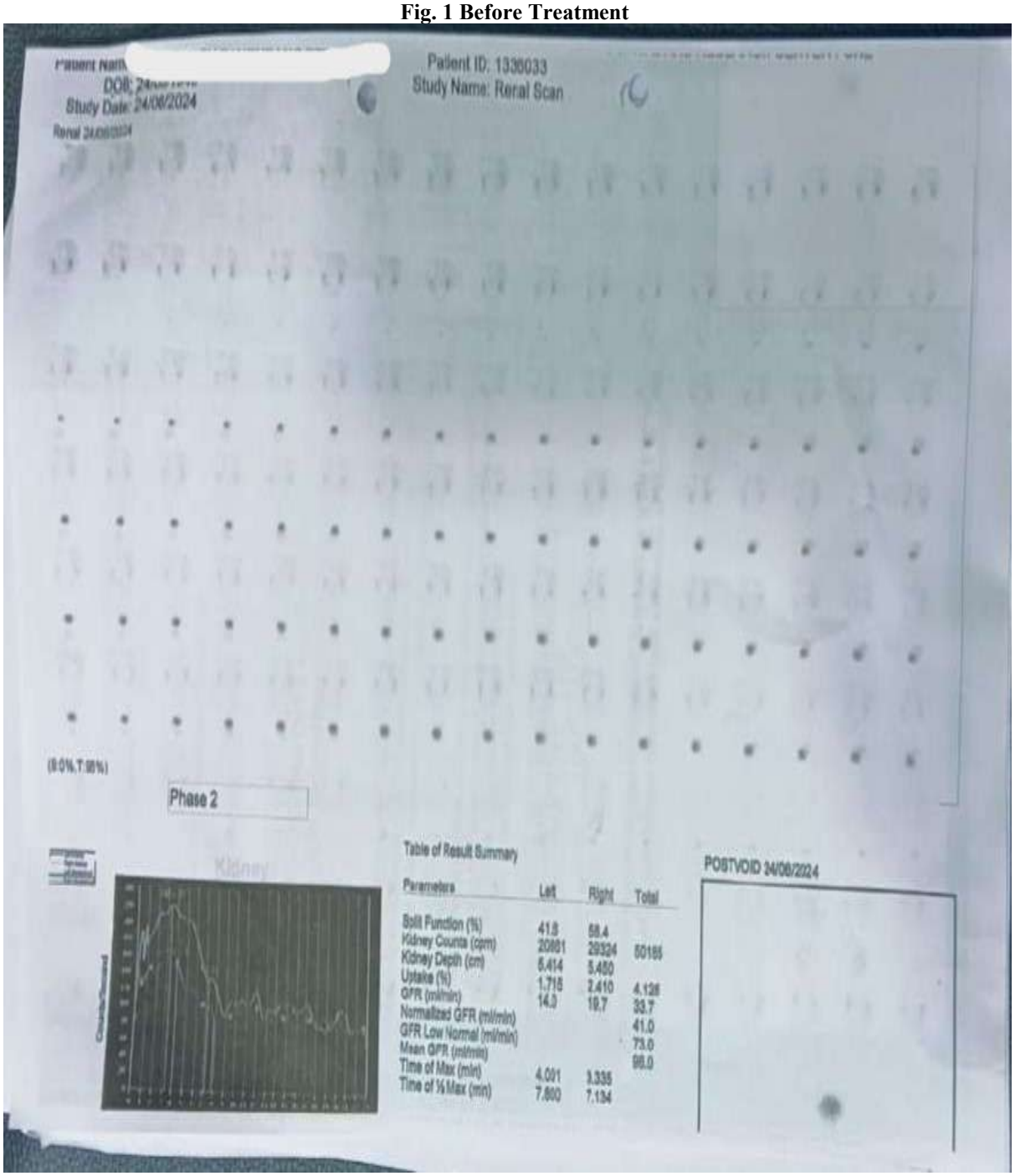
The patient's treatment regimen, which included Ayurvedicformulations, and individualized dietary and lifestyle modifications, resulted in notable symptomatic improvement. Improvement in appetite, alleviation of constipation, and increased energy levels reflect the holistic perspective of Ayurveda, which emphasizes the balance of the body's energies (doshas) and the elimination of metabolic toxins (ama).In addition to symptomatic relief, the significant improvement in the patient's renal function, as evidenced by a marked increase in glomerular filtration rate (GFR), provides compelling evidence supporting ayurvedic medicine approaches.The specific Ayurvedic formulations employed in this case, including Nephron Plus and Granthi Har Vati, etc. have documented benefits in alleviating symptoms.The Ayurvedic formulations employed in the treatment of Chronic Kidney Disease (CKD) exhibit a range of therapeutic benefits that contribute to the overall management of renal function and associated systemic conditions.

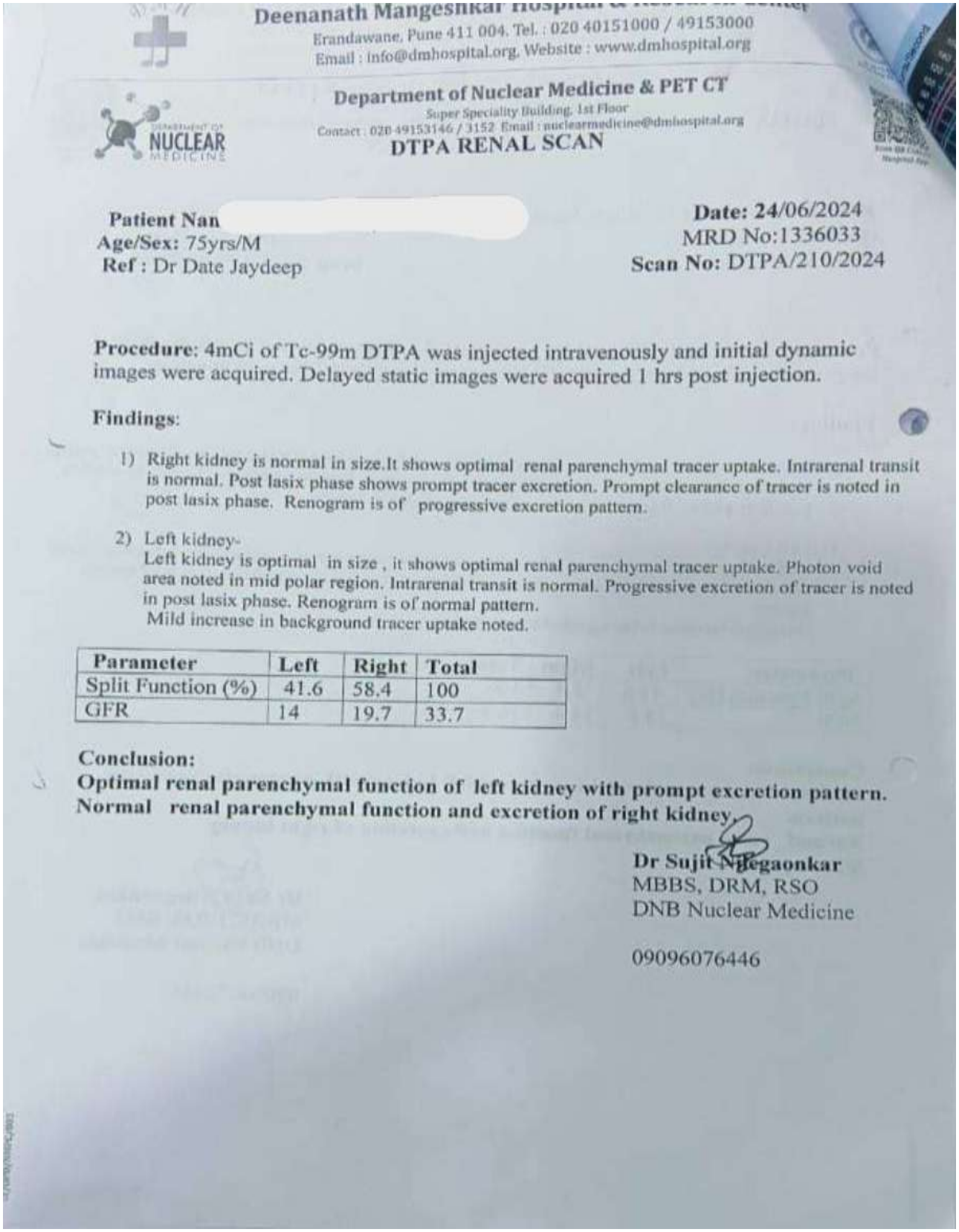
Nephron Plus is designed to alleviate symptoms of CKD, such as burning micturition and urinary tract infections, by utilizing a blend of ingredients known for their nephroprotective properties. Granthi Har Vatipromotes Garbha shuddhi (Fetal purification), Stri rogahara (Women's disease reliever), Rakta vardhaka (Blood enhancer), Ritu sthapana (Menstrual cycle regulator), Pitta Shaman (Pitta pacifier), Ama Pachan (Metabolic toxin eliminator). Detox Lung Churna aids in managing in Pranavaha Srotas Vikara (respiratory disorders) and helps in alleviating Kasa (cough), svasa (breathlessness, chest congestion), and Kaphaja Kasa or Kaphaja svasa (bronchitis-related conditions).Gadood sudharak vatisupports Mutrala (prostate and urinary health), Shothahar (reduces inflammation), Ama Pachana (aids detox and kidney function), and Rasayana (boosts overall energy and wellness). Medhya Tonic is Smriti Vardhan (boosts memory), Manasika Tanavhar (reduces stress), improves focus, Oja Vardhana (restores energy), and supports mental balance. Triphala Guggulu relieves Arsha (piles), enhances Agni (digestion), reduces Shotha (inflammation), and promotes Mridu Shodhana (gentle detoxification)— vital for patients undergoing comprehensive treatment regimens. Collectively, these formulations work synergistically to support physiological balance, enhance renal function, and improve patient outcomes comprehensively.

Need For Further Research:-

While the findings of this case report are promising, it is essential to acknowledge the limitations inherent in single-case studies, including the absence of a control group and potential biases. Future studies should aim to include larger sample sizes and controlled methodologies to further evaluate the efficacy and safety of ayurvedic approaches in CKD management.Continued research is warranted to further explore the mechanisms of action and confirm the applicability of these findings in broader clinical settings, ultimately contributing to the development of therapeutic paradigms in the management of chronic kidney diseases.

Fig. 1 Before Treatment





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DTPA RENAL SCAN

Patient Nan
Age/Sex: 75yrs/M
Ref : Dr Date Jaydeep

Date: 24/06/2024
MRD No:1336033
Scan No: DTPA/210/2024

Procedure: 4mCi of Tc-99m DTPA was injected intravenously and initial dynamic images were acquired. Delayed static images were acquired 1 hrs post injection.

Findings:

1) Right kidney is normal in size.It shows optimal renal parenchymal tracer uptake. Intrarenal transit is normal. Post lasix phase shows prompt tracer excretion. Prompt clearance of tracer is noted in post lasix phase. Renogram is of progressive excretion pattern.

2) Left kidney-
Left kidney is optimal in size , it shows optimal renal parenchymal tracer uptake. Photon void area noted in mid polar region. Intrarenal transit is normal. Progressive excretion of tracer is noted in post lasix phase. Renogram is of normal pattern.
Mild increase in background tracer uptake noted.

Parameter	Left	Right	Total
Split Function (%)	41.6	58.4	100
GFR	14	19.7	33.7

Conclusion:
Optimal renal parenchymal function of left kidney with prompt excretion pattern.
Normal renal parenchymal function and excretion of right kidney.

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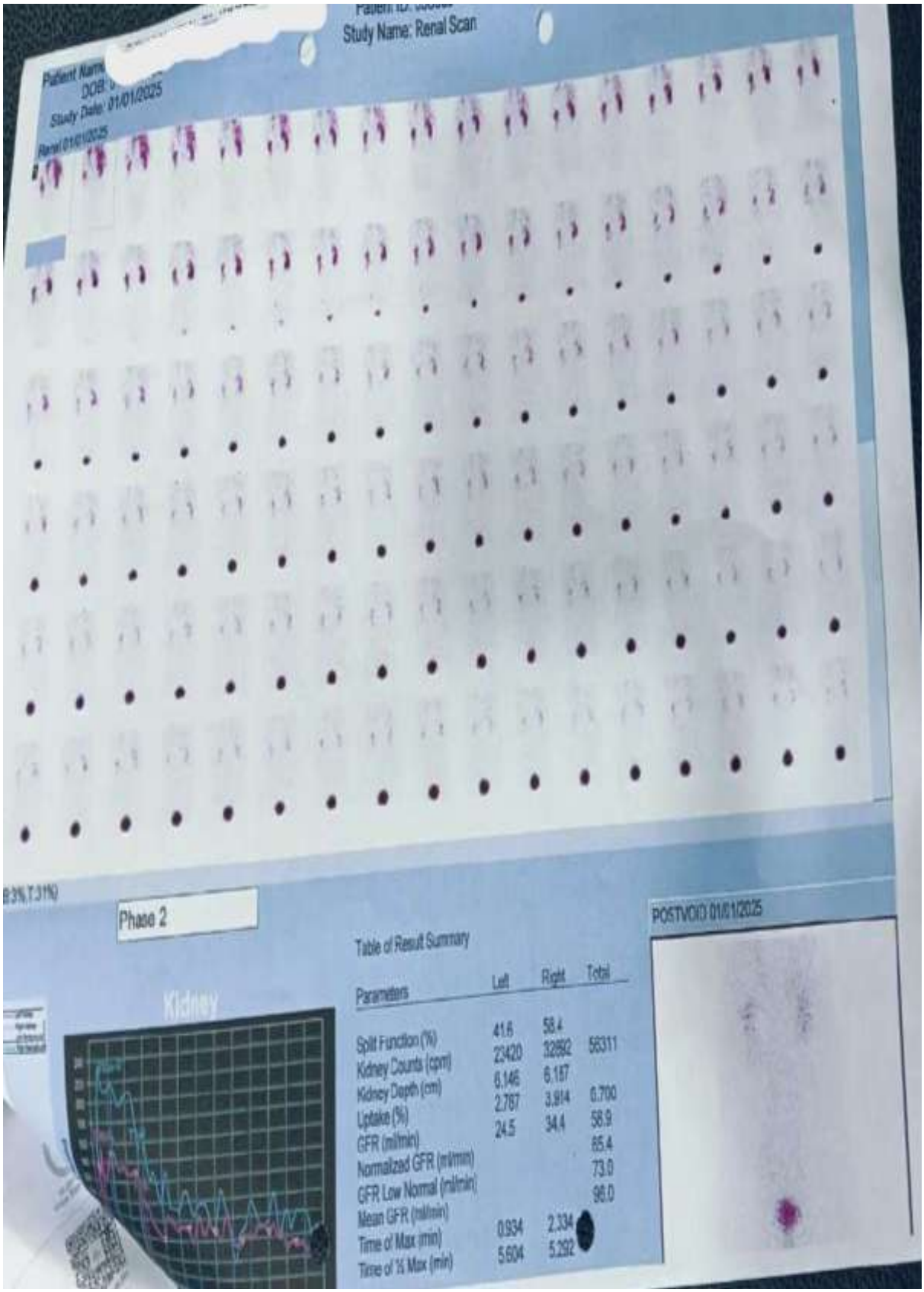
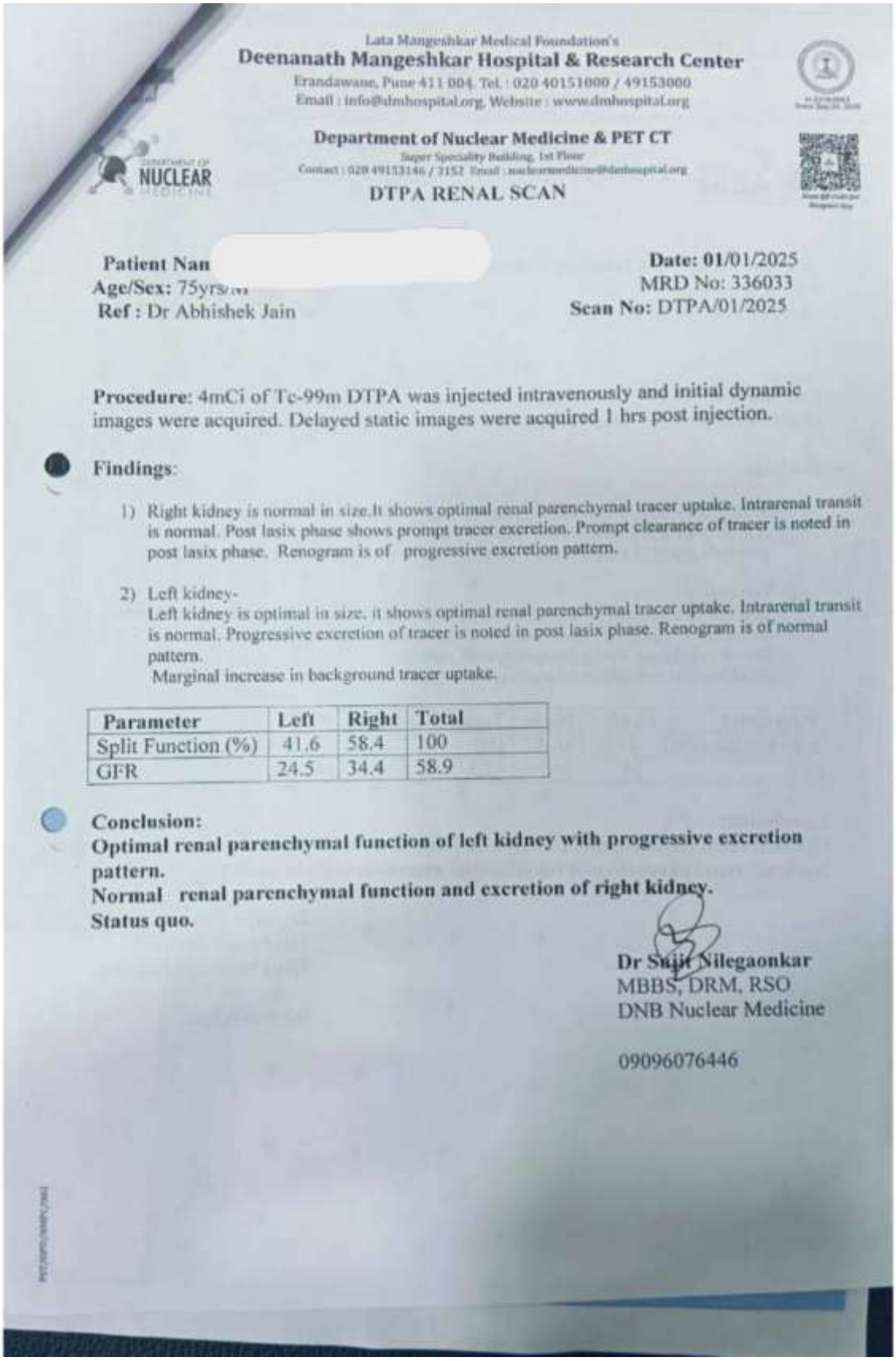
Fig. 2After Treatment


Study Name: Renal Scan
Study Date: 01/01/2025
Phase 2
Table of Result Summary
Parameters
Left
Right
Total
Split Function (%)
41.6
58.4
Kidney Counts (cpm)
23420
32892
56311
Kidney Depth (cm)
6.146
6.157
Uptake (%)
2.767
3.914
6.700
GFR (ml/min)
24.5
34.4
58.9
Normalized GFR (ml/min)
65.4
GFR Low Normal (ml/min)
73.0
Mean GFR (ml/min)
96.0
Time of Max (min)
0.934
2.334
Time of ½ Max (min)
5.604
5.292
Kidney
POSTVOID 01/01/2025



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DEPARTMENT OF NUCLEAR MEDICINE

DTPA RENAL SCAN

Patient Nan
Age/Sex: 75yrs/M
Ref : Dr Abhishek Jain

Date: 01/01/2025
MRD No: 336033
Scan No: DTPA/01/2025

Procedure: 4mCi of Tc-99m DTPA was injected intravenously and initial dynamic images were acquired. Delayed static images were acquired 1 hrs post injection.

Findings:

1) Right kidney is normal in size.It shows optimal renal parenchymal tracer uptake. Intrarenal transit is normal. Post lasix phase shows prompt tracer excretion. Prompt clearance of tracer is noted in post lasix phase. Renogram is of progressive excretion pattern.

2) Left kidney-
Left kidney is optimal in size. it shows optimal renal parenchymal tracer uptake. Intrarenal transit is normal. Progressive excretion of tracer is noted in post lasix phase. Renogram is of normal pattern.
Marginal increase in background tracer uptake.

Parameter	Left	Right	Total
Split Function (%)	41.6	58.4	100
GFR	24.5	34.4	58.9

Conclusion:
Optimal renal parenchymal function of left kidney with progressive excretion pattern.
Normal renal parenchymal function and excretion of right kidney.
Status quo.

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Conclusion:-

Aholistic management approach utilizing Ayurvedic and diet & lifestyle modification yielded significant symptomatic and investigational improvements in patients with Chronic Kidney Disease(CKD). The key findings are summarized as follows:

1. **Symptomatic Improvement:**
   - **Restoration of Appetite:** The patient reported a significant increase in appetite, resolving the initial concern of loss of appetite.
   - **Resolution of Constipation:** Alleviation of severe constipation led to improved gastrointestinal health and comfort.
   - **Decreased Weakness:** The patient experienced a marked reduction in feelings of weakness, resulting in enhanced energy levels and activity.

2. **Investigational Improvement:**
   - **Significant Increase in GFR:** A substantial rise in glomerular filtration rate (GFR) was observed, indicating enhanced renal function and improved kidney health.
   - **Positive Outcomes on Renal Imaging:** Follow-up DTPA renal scans provided evidence of renal recovery, supporting the effectiveness of the ayurvedic treatment approach.

These findings underscore the potential of an ayurvedic medicine framework, particularly Ayurveda, in managing advanced cases of CKD. The results advocate for further research to explore the pathways and broader implications of such treatments in chronic kidney disease management.

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