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Case Study

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A COMPREHENSIVE *AYURVEDIC* APPROACH TO MANAGING CHRONIC KIDNEY DISEASE (VRIKKA VIKARA) AND CHOLELITHIASIS: A CASE REPORT

Acharya Manish[1], Dr. Gitika Chaudhary*[2], Dr. Richa[3], Dr. Rishabh[4], Dr. Tanu Rani[5]

[1]Director, Meditation Guru, Jeena Sikho Lifecare Limited, India.
[2]Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.
[3]Senior Research Officer, BAMS, PGDIP, CICR, CAIM, CMW, Jeena Sikho Lifecare Limited, India.
[4]Consultant, BAMS, Jeena Sikho Lifecare Limited Hospital Ambala, Haryana, India.
[5]Research Associate, BAMS, Jeena Sikho Lifecare Limited, India.

***Corresponding Author: Dr. Gitika Chaudhary**

Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.

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ABSTRACT

This case report discusses the comprehensive management of chronic kidney disease (CKD) in a 70-year-old female patient, encompassing an integrated approach of conventional and alternative treatments. Initially presenting with significant symptoms including reduced urine output, stomach pain, dizziness, memory decline, and joint pain, the patient's condition posed various therapeutic challenges. Over the course of treatment, notable improvements were observed: serum creatinine levels were reduced from 3.6 mg/dl to 1.75 mg/dl and blood urea levels decreased from 98 mg/dl to 48.9 mg/dl. Subjective improvements were equally significant, with a reduction in pain severity from a score of 7 to 3 on the Visual Analogue Scale (VAS) and an increase in cognitive function scores from 20 to 24 on the Mini-Mental State Examination (MMSE). The treatment protocols included a combination of dietary adjustments, lifestyle modifications, and therapeutic interventions that targeted both the symptoms and underlying pathophysiological mechanisms of CKD. The follow-up outcomes underscore the effectiveness of the integrated treatment approach in managing CKD symptoms and enhancing the patient's quality of life, illustrating the potential for broader application in similar clinical scenarios.

KEYWORDS: Chronic Kidney Disease, integrated treatment, serum creatinine, quality of life.

INTRODUCTION

Chronic kidney disease (CKD), known as *Vrikka Vikara* in *Ayurveda*, and cholelithiasis, referred to as *Pittashamari*, are significant health concerns with well-documented etiologies and treatments in both conventional and *Ayurvedic* medicine. Modern medical textbooks describe CKD as a gradual loss of kidney function over time, commonly resulting from conditions like diabetes and hypertension, with its pathophysiological progression leading to a buildup of waste products and electrolyte imbalances that affect various body systems.[1,2] Cholelithiasis, or gallstones, typically involves the formation of solid particles within the gallbladder, predominantly composed of cholesterol or bilirubin, and is influenced by factors such as diet, obesity, and certain genetic predispositions.[3,4]

In the classical *Ayurvedic* texts, these diseases are treated under distinct pathologies. The "Charaka Samhita" and "Sushruta Samhita", foundational texts of *Ayurveda*, detail the causes, symptoms, and treatments of *Vrikka Vikara* and *Pittashamari*. *Vrikka Vikara* is primarily attributed to the imbalance of the *Doshas* (bioenergetic forces) and their detrimental effect on the kidney tissues, whereas *Pittashamari* is related to the dysfunction in the metabolic process controlled by *Pitta Dosha*, leading to the precipitation of bile constituents.[5]

Recent epidemiological data indicate that CKD affects approximately 10% of the global population, with a higher incidence in aging societies, whereas cholelithiasis affects around 15% of adults, marked by a higher prevalence in the female population and certain ethnic groups.[6,7] The modern aspect of these diseases highlights advancements in diagnostic methodologies and treatment protocols that aim to manage symptoms and delay disease progression. This includes, for CKD, approaches like dialysis and renal transplantation, and for cholelithiasis, options such as cholecystectomy or pharmacological therapies to dissolve gallstones.[8]

From an *Ayurvedic* perspective, the *Samprapti* (pathogenesis) of these diseases involves a disruption in the balance of the *Tridoshas (Vata, Pitta, Kapha)* and

Srotas (body channels). For *Vrikka Vikara*, an accumulation of toxins in the renal channels leads to tissue damage and impaired kidney function. Managing this condition in *Ayurveda* might include *Panchakarma* (detoxifying therapies), *ayurvedic* medications like *Gokshura* (*Tribulus terrestris*) and *Punarnava* (*Boerhaavia diffusa*), and dietary regulations to restore *Dosha* balance.[9] In contrast, *Pittashamari* is treated through correcting the *Pitta* imbalance with cooling and purgative herbs, like *Katuki* (*Picrorhiza kurroa*) and *Triphala*, alongside a *Pitta*-pacifying diet.[10]

Previous research in *Ayurveda* has also validated the efficacy of these herbs and therapeutic approaches through clinical trials and studies, reinforcing their potential as complementary treatments for patients suffering from these conditions.[11,12] Integrating these traditional methods with modern treatments can offer a holistic approach to managing CKD and cholelithiasis, potentially improving quality of life and disease outcomes for patients. The merging of findings from ancient texts and contemporary research underscores the relevance of *Ayurveda* in the context of global health trends and its adaptability to the modern epidemiological landscape.

CASE REPORT

Patient History and Information

A 70-year-old female patient presented at the Jeena Sikho Lifecare Limited Hospital, Ambala, Haryana, with a documented diagnosis of chronic kidney disease (CKD) spanning approximately 5-6 years. The current symptoms reported include stomach pain, reduced urination, dizziness, a gradual decline in memory, and pain in both knee joints.

Diet and Lifestyle History

The patient's diet primarily comprises home-cooked meals with moderate spice levels, with an emphasis on vegetarian dishes. She consumes minimal processed or fast foods. Her lifestyle has been relatively sedentary due to mobility issues exacerbated by knee joint pain, with limited engagement in physical exercise.

Medicine History

Prior to her visit, the patient was treated with a regimen of conventional pharmacological treatments for CKD, which included angiotensin-converting enzyme inhibitors and beta-blockers to manage blood pressure and progress of renal disease. She reported intermittent use of non-prescription pain relievers for joint pain. No continuous *Ayurvedic* treatments were noted before her current consultation.

Surgical History

The patient does not have any significant surgical history. She has not undergone any operations and specifically no surgeries related to her current diagnosis of CKD or any other major health concerns.

Family History

She reports no significant familial history of chronic kidney disease or related metabolic conditions such as diabetes or hypertension, which are commonly seen as risk factors for CKD. There is also no noted family history regarding joint issues or other autoimmune or degenerative diseases which could relate to her current symptoms.

Onset and Disease Progression

The onset of CKD was insidious, beginning approximately 5-6 years prior, initially characterized by mild fatigue and occasional episodes of dizziness. Over the years, the symptoms gradually intensified, leading to the current state of reduced urination and increased stomach and joint pain. The dizziness has persisted, and there is a notable decline in her cognitive abilities, affecting her memory. These progressive symptoms have now significantly impacted her quality of life, prompting the current seek for *Ayurvedic* intervention.

Samprapti of the disease

In *Ayurveda*, the *Samprapti* (pathogenesis) of chronic kidney disease, referred to as *Vrikka Vikara*, is primarily attributed to the disturbance in the *Doshas*, particularly an imbalance in *Kapha* and *Vata*. According to *Ayurvedic* principles, the disease starts with the accumulation of toxins (*Ama*) in the body, which disrupts the balance and function of the *Doshas*. These toxins clog the microchannels (*Srotas*) of the kidneys, leading to degradation and weakness of kidney function. This pathological process is compounded by an imbalance in the *Dhatus*, specifically *Rasa* (plasma) and *Rakta* (blood), which undergo deterioration due to malfunctioning kidney filtrations. Over time, the *Vata Dosha* becomes further aggravated due to the weakened tissues, driving the progression of symptoms such as pain, dizziness, and reduced frequency of urination. Additionally, the disruption in the balance of body energies and accumulation of toxins may also affect *Majja Dhatu* (bone marrow), contributing to issues such as memory decline and joint pain, reflecting the systemic impact of the disease as per *Ayurvedic* understanding.

Samprapti Ghataka

Table 1: *Samprapti* Ghataka.

Element	Description
Dosha	Primarily *Kapha* and *Vata* are involved.
Dushya	*Rasa* (plasma) and *Rakta* (blood)
Srotas	*Mutravaha srotas* (urinary channels)
Srotodushti	*Sanga* (obstruction), *Atipravritti* (excessive flow), and *Vimargagamana* (retrograde flow)
Agni	*Dhatwagni*,
Ama	Accumulation of *Ama* (toxins) due to improper digestion and *Dhatus'* malfunction
Adhishthana	Primarily the Kidneys, secondarily affecting related systems such as joints (through connected tissue degradation) and cognitive functions (through *Majja* involvement).
Vyadhi Swabhava	*Krichra Sadhya* (difficult to cure)

Table 2: Vital Parameters.

Sr. No	Examination	Findings
1.	Blood Pressure	150/80 mm of Hg
2.	Pulse	106 / min
3.	Weight	60.55 kg
4.	Height	5 feet 2 inches

***Ayurvedic* Examination**

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

Sr. No	Examination	Findings
1.	*Nadi* (Pulse	*Kapha-Vataja*
2.	*Mutra* (Urine)	Reduced
3.	*Mala* (Stool)	*Avikrita*
4.	*Jihva* (Tongue)	*Saam*
5.	*Shabda* (Voice)	*Avikrita*
6.	*Sparsha* (Touch)	*Avikrita*
7.	*Drik* (Eyes)	*Shweta*
8.	*Akriti* (Appearance)	*Avikrita*

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

Sr. No	Examination	Findings
1.	*Prakriti* (Constitution):	*Vata Kapha*
2.	*Vikriti* (Imbalance):	*Vata*
3.	*Sara* (Tissue Excellence):	*Maans Saar*
4.	*Samhanana* (Body Build):	Moderate
5.	*Pramana* (Body Proportions):	Within normal limits.
6.	*Satmya* (Adaptability):	*Samanya*
7.	*Satva* (Psychological Strength):	*Samanya*
8.	*Ahara Shakti* (Digestive Strength):	*Samanya*
9.	*Vyayama Shakti* (Exercise Capacity):	*Samanya*
10.	*Vaya* (Age):	70 yr old

Diagnostic Assessment

Table 3: Laboratory Results.

a. CBC, Renal Function Test were done on 13/07/24

Table 5: Tests Done in this Case.

Complete Blood Count	
Hb	9.80 gm/dl
PCV	30.1 %
TLC	10100 /cmm
RBC	5.9 mill/cmm
Platelet Count	2.36 Lac/cmm
Renal Function Test	
Blood Urea	98.mg/dl
Sr. Creatinine	3.6 mg/dl

Imaging Results

1. **Ultrasound**: done on 03/08/24 suggested that

a. The gallbladder is partially distended, showing sludge and containing a few calculi (gallstones), with the largest measuring approximately 21.5 mm in its lumen. The gallbladder walls are thickened. A hypoechoic collection (indicating a possible fluid collection or mass) is noted in the gallbladder fossa region adjoining the gallbladder.

b. Right Kidney: Measures approximately 8.3 x 3.6 cm, showing no pelvicalyceal dilatation. A cyst sized 6 x 5 mm is present at the mid pole.

c. Left Kidney: Measures approximately 7.6 x 3.7 cm, also showing no pelvicalyceal dilatation, but with

two cysts at the upper pole, the larger of these measures 25 x 20 mm.

d. Both kidneys (bilateral) exhibit grade I raised echogenicity, suggesting a question of renal medical disease,

ASSESSMENT PARAMETERS

Objective Parameters

Table 6: Objective Parameters.

Complete Blood Count
Hb
PCV
TLC
RBC
Platelet Count
Renal Function Test
Blood Urea
Sr. Creatinine

Subjective Parameters

1. **Pain Assessment: Visual Analogue Scale (VAS)[13]:** A linear scale from 0 to 10, where 0 indicates 'no pain' and 10 represents 'the worst pain imaginable'. Used to measure the intensity of pain in the stomach and knee joints.

2. **Urinary Symptoms: International Prostate Symptom Score (IPSS)[14]:** Although originally developed for prostate issues, this scale can be adapted to assess lower urinary tract symptoms in women. It includes 7 items scored from 0 to 5, with a total score ranging from 0 (no symptoms) to 35 (severe symptoms). Parameters include urgency, frequency, nocturia, etc.

3. **Cognitive Function: Mini-Mental State Examination (MMSE)[15]:** This examination totals 30 points where a score of 24 or higher (out of 30) suggests normal cognition, 18-23 suggests mild cognitive impairment, and 17 or less indicates moderate to severe cognitive impairment, pertinent for assessing the reported gradual decline in memory.

4. **Dizziness Assessment: Dizziness Handicap Inventory (DHI)[16]:** Scored on a scale of 0 to 100, with higher values indicating greater disability from dizziness. This inventory assesses the physical, emotional, and functional impacts of dizziness.

5. **General Health and Quality of Life: Short Form Health Survey (SF-36)[17]:** Comprises 36 questions that part into eight scaled scores, which are the weighted sums of the questions in their section. Each scale is directly transformed into a 0-100 scale on the assumption that each question carries equal weight. A lower score indicates more disability; a higher score indicates less.

TREATMENT INTERVENTION

I. Diet Plan[18]

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

a. Foods to be avoided

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

b. Hydration

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 1 litre of alkaline water 3 to 4 times throughout the day.
- Include herbal tea, living water, and turmeric-infused water part of your daily routine.
- Boil 2 litre water & reduce up to 1 litre and consume.

c. Millet Intake

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*), and Browntop (*Urochloa ramose*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

d. 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 (9:00-10:00 AM): The patient will have steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient will be given Red juice (150 ml) and soaked almonds.
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.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient will be served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.

e. Fasting

- It is advised to observe one-day fasting.

f. Special Instructions

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

g. Diet Types

- The diet comprises low salt solid, semi-solid, and smoothie options.
- Suggested foods include herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds, and steamed salads.

II. Lifestyle Recommendations

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

Medicines that were used in the case

Table 7: Medicines Used.

Medications	Dose	Anupana	Duration
GBS Powder – The ingredients of the powder ***Boerhavia diffusa*** (Varsabhu), ***Coleus vettiveroides*** (Patherchat; note, identification is based on traditional use, and specific Latin categorization might vary), **Hajrulyahood Bhasma** (prepared from Lajjalu, more commonly known as ***Mimosa pudica***), **Safatika Bhasma** (prepared from alum, a mineral compound not derived from a specific plant, and thus lacks a Latin botanical name), **Potash alum** (Jaunkhar, also known as potassium aluminum sulfate, not a botanical but a mineral compound), **Potassium nitrate** (Kalmishora, also a mineral compound), and ***Tribulus terrestris*** (Gokshura).	½ Tsp BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Dr Shuddhi Powder – The ingredients of the powder are Trikuta is a blend known as the "three spices" and typically includes *Piper nigrum* (black pepper), *Piper longum* (long pepper), and *Zingiber officinale* (ginger). Amarvati is not a plant but may be culturally significant in another context; further specification is needed to provide an accurate translation. Triphala is a combination of three fruits: *Emblica officinalis* (Amla), *Terminalia bellirica* (Bahera), and *Terminalia chebula* (Haritaki). Pomegranate seeds are referred to as *Punica granatum* (Anardana). *Cyperus scariosus* is identified as Nagarmotha. *Cinnamomum verum* stands for Dalchini. *Embelia ribes* is known as Vay Vidanga (sometimes spelled as Vid ang). *Amomum subulatum* represents Badi Elaichi, while *Elettaria cardamomum* is Choti Elaichi. Ferula asafoetida is recognized as Hing. *Cinnamomum tamala* is commonly known as Tej Patta. *Bauhinia variegata* is termed Kachnar. *Syzygium aromaticum* is referred to as Laung (Clove). *Trachyspermum ammi* is commonly known as Ajwain. *Operculina turpethum* corresponds to Nishoth. Sajjikshar refers to a formulation primarily consisting of sodium bicarbonate. Sendha Namak is the Himalayan rock salt, a mineral. *Inula racemosa* is known as Pushkarmool. *Coriandrum sativum* is Dhaniya (Coriander). *Cassia angustifolia* is known as Senna (Sanaye). Piper longum is related to Pipla Mool, as it refers to the root of *Long Pepper*. Mishri typically denotes crystallized sugar, not an herb, but its traditional source is sugarcane, *Saccharum officinarum*. *Cuminum cyminum* is Jeera (Cumin). *Mesua ferrea* is known as Nagkesar.	½ Tsp HS	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Cap Nephron Plus - The ingredients of the capsule are Pashanbheda (*Bergenia ligulata*), Gokshur (*Tribulus terrestris*), Durbhamool (*Cynodon*	1 Cap BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)

dactylon), Shila pushpa (*Didymocarpus pedicellata*), and Hing (*Ferula asafoetida*). In the list, **Hazrool yahood bhasma** (Hajarul Yahood Bhasma) is a preparation from a type of limestone, **Chandraprabha** refers to an *Ayurvedic* compound, and **MulakKshar**, **YavaKshar**, **Amalaki Rasayan**, **Trivikrum Rasa**, **Navasara**, and **Nimbu Stava** do not relate directly to specific botanical Latin names as they are mineral/compound preparations or formulations. **Black Salt**, typically known as Kala Namak, and **Amalaki Rasayan** (related to *Phyllanthus emblica*), also involve non-herbal substances. **Magnesium Stearate** and **Talcum Powder**, which are excipients used in the formulation process			
Soot Shekhar Rasa - Soot Shekhar Rasa is a classical *Ayurvedic* preparation used commonly for its benefits in treating digestive disorders, acidity, and related ailments. The ingredients are: *Aconitum ferox* (Vatsanabha), Swarna Bhasma (gold ash), Tankan Bhasma (Purified Borax), Shuddha Gandhak (Purified Sulphur), Loha Bhasma (iron ash), and Tamra Bhasma (copper ash).	1 Tablets BD	Lukewarm Water (*Koshna Jala*)	*Pragbhakta* (Before meals)
Kidney Shuddhi Ark– The ingredients of the syrup are ***Tribulus terrestris*** (Gokshur), ***Commiphora wightii*** (Guduchi), ***Terminalia chebula*** (Harad), **Horse gram** (Kulathl, note not a typical Latin classification but commonly referred to by this name in English), ***Solanum nigrum*** (Makoy), ***Bergenia ligulata*** (Pashan Bhed), ***Desmodium gangeticum, Uraria picta, Solanum indicum, Solanum xanthocarpum, Tribulus terrestris*** (combined as Panchtranmool), ***Butea monosperma*** (Plasha), ***Boerhavia diffusa*** (Punarnava), ***Parmelia perlata*** (Chharila), ***Rock salt*** (Saindha Namak, not an herb but included here for completeness), ***Crataeva nurvala*** (Varun Chhal), ***Piper cubeba*** (Sheetal Chini), ***Tinospora cordifolia*** (Guduchi), ***Hordeum vulgare (Yav Kshar)***, ***Raphanus sativus*** (Mooli Kshar), ***Potassium nitrate*** (Kalmi Shora), **Sodium bicarbonate** (Sajji Khar), ***Emblica officinalis*** (Amla), **Borax** (Suhaga Shudh), ***Asphaltum punjabianum*** (Shilajit), ***Vetiveria zizanioides*** (Usher), ***Hemidesmus indicus*** (Anantmool), ***Moringa oleifera*** (Shigru), ***Pavonia odorata*** (Netrabala), ***Curcuma longa*** (Haldi), **Indian Rhubarb** (Rewand Chini, please note lack of direct translation to a scientific name), **Potassium nitrate** (Shwet Parpati, again repeated as chemical compound), and **Sorbitol**, which is a sugar alcohol derived from plants but not associated with a specific Latin name of a plant.	20 ml BD	Equal amount of Lukewarm Water (*Sama matra Koshna Jala*)	*Adhobhakta* (After Meal)
CKD Syrup - Cichorium intybus (Kasani), *Tribulus terrestris* (Gokhru), *Asparagus racemosus* (Shatavari), and *Tinospora cordifolia* (Guduchi or Gildy). Sorbitol which is a sugar alcohol and Shudh Shilajit (purified form of *Asphaltum punjabianum*)	20ml BD	Equal amount of Lukewarm Water (*Sama matra Koshna Jala*)	*Adhobhakta* (After Meal)

Table 8: Visit 2,3 – 04/09/2024 and 8/12/2024.

Medications	Dose	Anupana	Duration
GBS Powder	½ Tsp BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Dr Shuddhi Powder	½ Tsp HS	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Cap Nephron Plus,	1 Cap BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
CKD Syrup	20ml BD	Equal amount of Lukewarm Water (*Sama matra Koshna Jala*)	*Adhobhakta* (After Meal)

FOLLOW-UP & OUTCOMES

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

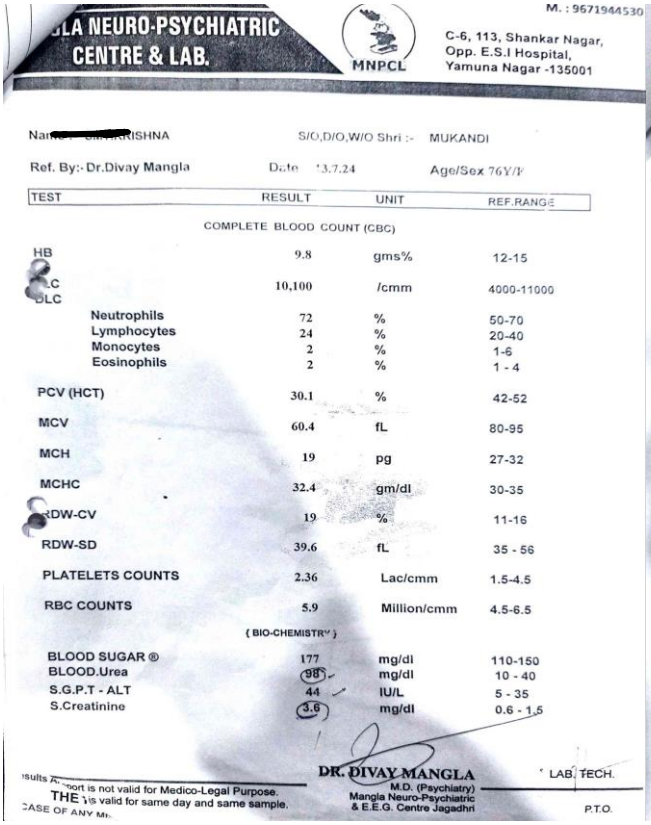
Table 9: Outcomes – Objective Parameters.

Parameters	Pre-Treatment (29/04/24)	Post-Treatment (18/01/25)
Complete Blood Count		
Hb	9.80 gm/dl	8.6 gm/dl
PCV	30.1 %	
TLC	10100 /cmm	
RBC	5.9 mill/cmm	
Platelet Count	2.36 Lac/cmm	
Renal Function Test		
Blood Urea	98.mg/dl	48.9 mg/dl
Sr. Creatinine	3.6 mg/dl	1.75 mg/dl
USG Results	The gallbladder is partially distended, showing sludge and containing a few calculi (gallstones), with the largest measuring approximately 21.5 mm in its lumen. The gallbladder walls are thickened. A hypoechoic collection (indicating a possible fluid collection or mass) is noted in the gallbladder fossa region adjoining the gallbladder. Right Kidney: Measures approximately 8.3 x 3.6 cm, showing no pelvicalyceal dilatation. A cyst sized 6 x 5 mm is present at the mid pole. Left Kidney: Measures approximately 7.6 x 3.7 cm, also showing no pelvicalyceal dilatation, but with two cysts at the upper pole, the larger of these measures 25 x 20 mm. Both kidneys (bilateral) exhibit grade I raised echogenicity, suggesting a question of renal medical disease.	The gallbladder is contracted and presents wall echo shadow complex, suggestive of cholelithiasis (gallstones). The right kidney measures approximately 8.4 x 3.5 cm with maintained cortico-medullary differentiation and no pelvicalyceal dilatation. A small cyst measuring 6 x 5 mm is located at the mid pole of the right kidney. The left kidney measures approximately 7.7 x 3.7 cm and also shows maintained cortico-medullary differentiation without pelvicalyceal dilatation. A larger cyst measuring 24 x 16 mm is noted at the upper pole of the left kidney. Both kidneys display grade I raised echogenicity, indicating a potential underlying renal medical disease

The changes in the subjective parameters that was observed were

Table 10: Outcomes – Subjective Parameters.

Assessment Tool	Pre-Treatment	Post-Treatment	Scale Details
Visual Analogue Scale (VAS)	7	3	0 (no pain) to 10 (worst imaginable pain)
International Prostate Symptom Score (IPSS)	28	15	0 (no symptoms) to 35 (severe symptoms)
Mini-Mental State Examination (MMSE)	20	24	30-point scale; ≥24 suggests normal cognition
Dizziness Handicap Inventory (DHI)	70	30	0 to 100; higher values indicate greater disability
Short Form Health Survey (SF-36)	40	70	0-100 scale; higher score indicates better health status



LA NEURO-PSYCHIATRIC CENTRE & LAB.

MNPCL

M. : 9671944530

C-6, 113, Shankar Nagar, Opp. E.S.I Hospital, Yamuna Nagar -135001

Name [redacted] KRISHNA S/O,D/O,W/O Shri :- MUKANDI

Ref. By:- Dr.Divay Mangla Date 13.7.24 Age/Sex 76Y/F

TEST	RESULT	UNIT	REF.RANGE
COMPLETE BLOOD COUNT (CBC)			
HB	9.8	gms%	12-15
TLC	10,100	/cmm	4000-11000
DLC			
Neutrophils	72	%	50-70
Lymphocytes	24	%	20-40
Monocytes	2	%	1-6
Eosinophils	2	%	1 - 4
PCV (HCT)	30.1	%	42-52
MCV	60.4	fL	80-95
MCH	19	pg	27-32
MCHC	32.4	gm/dl	30-35
RDW-CV	19	%	11-16
RDW-SD	39.6	fL	35 - 56
PLATELETS COUNTS	2.36	Lac/cmm	1.5-4.5
RBC COUNTS	5.9	Million/cmm	4.5-6.5
{ BIO-CHEMISTRY }			
BLOOD SUGAR ®	177	mg/dl	110-150
BLOOD.Urea	98	mg/dl	10 - 40
S.G.P.T - ALT	44	IU/L	5 - 35
S.Creatinine	3.6	mg/dl	0.6 - 1.5

Results A...port is not valid for Medico-Legal Purpose. THE ...is valid for same day and same sample. CASE OF ANY M...

DR. DIVAY MANGLA M.D. (Psychiatry) Mangla Neuro-Psychiatric & E.E.G. Centre Jagadhri

LAB. TECH.

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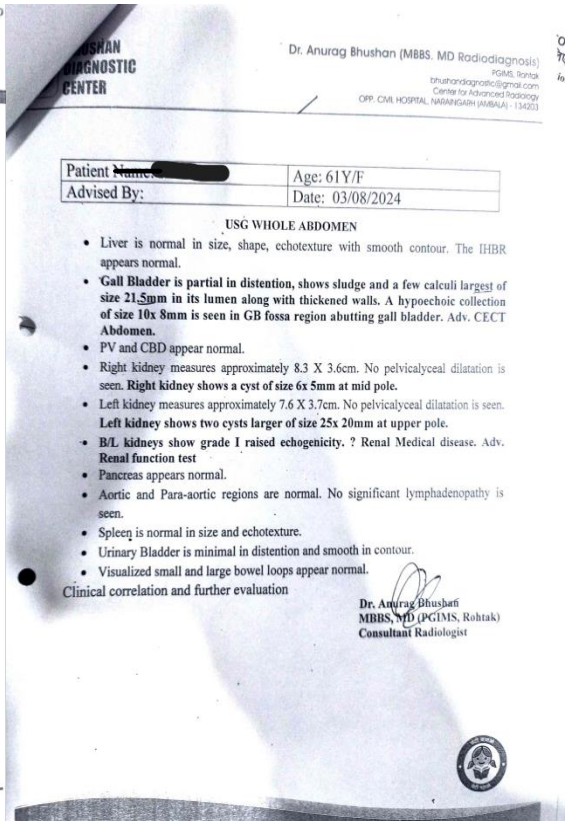


...SHAN DIAGNOSTIC CENTER

Dr. Anurag Bhushan (MBBS, MD Radiodiagnosis) PGIMS, Rohtak bhushandiagnostic@gmail.com Center for Advanced Radiology OPP. CIVIL HOSPITAL, NARAINGARH (AMBALA) - 134203

Patient Name: [redacted] Age: 61Y/F

Advised By: Date: 03/08/2024

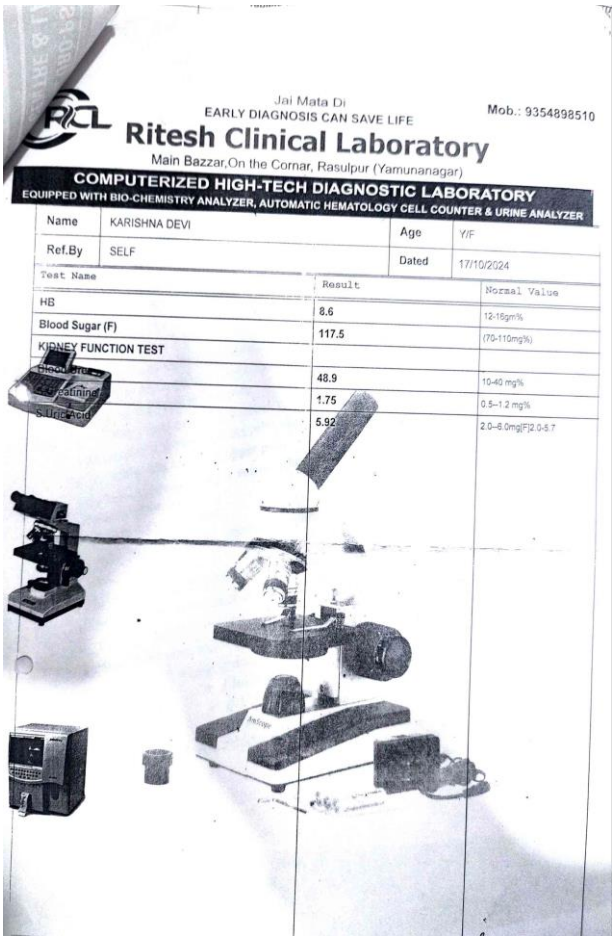
USG WHOLE ABDOMEN

- Liver is normal in size, shape, echotexture with smooth contour. The IHBR appears normal.
- **Gall Bladder is partial in distention, shows sludge and a few calculi largest of size 21.5mm in its lumen along with thickened walls. A hypoechoic collection of size 10x 8mm is seen in GB fossa region abutting gall bladder. Adv. CECT Abdomen.**
- PV and CBD appear normal.
- Right kidney measures approximately 8.3 X 3.6cm. No pelvicalyceal dilatation is seen. **Right kidney shows a cyst of size 6x 5mm at mid pole.**
- Left kidney measures approximately 7.6 X 3.7cm. No pelvicalyceal dilatation is seen. **Left kidney shows two cysts larger of size 25x 20mm at upper pole.**
- **B/L kidneys show grade I raised echogenicity. ?** Renal Medical disease. Adv. **Renal function test**
- Pancreas appears normal.
- Aortic and Para-aortic regions are normal. No significant lymphadenopathy is seen.
- Spleen is normal in size and echotexture.
- Urinary Bladder is minimal in distention and smooth in contour.
- Visualized small and large bowel loops appear normal.

Clinical correlation and further evaluation

Dr. Anurag Bhushan MBBS, MD (PGIMS, Rohtak) Consultant Radiologist

Image 1 and 2 – Pre Treatment.



Jai Mata Di

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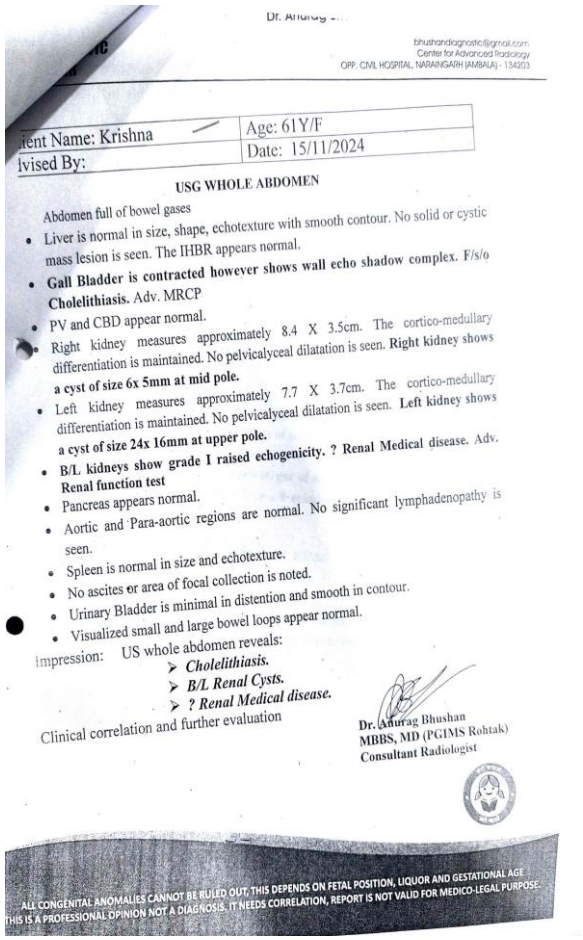
EQUIPPED WITH BIO-CHEMISTRY ANALYZER, AUTOMATIC HEMATOLOGY CELL COUNTER & URINE ANALYZER

Name KARISHNA DEVI Age Y/F

Ref.By SELF Dated 17/10/2024

Test Name	Result	Normal Value
HB	8.6	12-15gm%
Blood Sugar (F)	117.5	(70-110mg%)
KIDNEY FUNCTION TEST		
Blood Urea	48.9	10-40 mg%
S.Creatinine	1.75	0.5–1.2 mg%
S.Uric Acid	5.92	2.0–8.0mg(F)2.0-6.7



...bhushandiagnostic@gmail.com Center for Advanced Radiology OPP. CIVIL HOSPITAL, NARAINGARH (AMBALA) - 134203

...tient Name: Krishna Age: 61Y/F

...dvised By: Date: 15/11/2024

USG WHOLE ABDOMEN

Abdomen full of bowel gases

- Liver is normal in size, shape, echotexture with smooth contour. No solid or cystic mass lesion is seen. The IHBR appears normal.
- **Gall Bladder is contracted however shows wall echo shadow complex. F/s/o Cholelithiasis.** Adv. MRCP
- PV and CBD appear normal.
- Right kidney measures approximately 8.4 X 3.5cm. The cortico-medullary differentiation is maintained. No pelvicalyceal dilatation is seen. **Right kidney shows a cyst of size 6x 5mm at mid pole.**
- Left kidney measures approximately 7.7 X 3.7cm. The cortico-medullary differentiation is maintained. No pelvicalyceal dilatation is seen. **Left kidney shows a cyst of size 24x 16mm at upper pole.**
- **B/L kidneys show grade I raised echogenicity. ?** Renal Medical disease. Adv. **Renal function test**
- Pancreas appears normal.
- Aortic and Para-aortic regions are normal. No significant lymphadenopathy is seen.
- Spleen is normal in size and echotexture.
- No ascites or area of focal collection is noted.
- Urinary Bladder is minimal in distention and smooth in contour.
- Visualized small and large bowel loops appear normal.

Impression: US whole abdomen reveals:

- ***Cholelithiasis.***
- ***B/L Renal Cysts.***
- ***? Renal Medical disease.***

Clinical correlation and further evaluation

Dr. Anurag Bhushan MBBS, MD (PGIMS Rohtak) Consultant Radiologist

ALL CONGENITAL ANOMALIES CANNOT BE RULED OUT; THIS DEPENDS ON FETAL POSITION, LIQUOR AND GESTATIONAL AGE. THIS IS A PROFESSIONAL OPINION NOT A DIAGNOSIS. IT NEEDS CORRELATION, REPORT IS NOT VALID FOR MEDICO-LEGAL PURPOSE.

Image 3 and 4 – Post Treatment.

DISCUSSION

Chronic Kidney Disease (CKD) described in this case is a progressive loss of renal function over several years, ultimately leading to permanent renal failure. CKD encompasses various conditions that affect the structure and function of the kidneys. It is traditionally associated with non-specific symptoms such as fatigue, hypertension, and changes in urine output, which were initially subtle but became more pronounced over time in this patient, as evidenced by the ultrasound findings of grade I raised echogenicity and renal cysts. These are typical indicators of underlying renal pathology that may result in decreased kidney function if not appropriately managed. The progression in CKD stages in this patient could have been impacted by multiple factors including age, underlying hypertension, or diabetic conditions, although these were not specifically indicated in the patient's available history.

In *Ayurveda*, the concept of CKD can be closely associated with *'Vrikka Vriddhi'* and *'Vrikka Shotha*'. The *Samprapti* (pathogenesis) of CKD involves the *Dushya* (tissues) mainly being the *Mamsa* (muscle tissues) and *Medas* (fat tissues), and the *Srotas* (channels) being the *Mutravaha Srotas* (urinary channels). The pathology likely begins with the derangement of Tridoshas (*Vata*, *Pitta*, and *Kapha*), where *Vata* is typically exacerbated owing to its role in movement and transportation of fluids and toxins through the channels. Dysfunction in the filtration process leads to the buildup of *Ama* (toxins), which then results in further damage to the kidney tissues (*Kledaka Kapha*). This toxin buildup manifests as raised echogenicity observed in an ultrasound. *Kapha Dosh* increases leading to *Shotha* (swelling), and subsequent impairment in function as *Vata* continues to push these imbalances throughout the body's systems, leading to the multiple symptoms experienced by the patient.

The crucial aspect of *Samprapti* in CKD involves the blockage of the tiny microchannels in the kidneys which not only impairs waste elimination but also affects the nutritional absorption, eventually leading to various systemic complications. Understanding this pathogenesis gives insight into the holistic approach *Ayurveda* would take towards treatment, aiming to correct the *Dosha* imbalance, enhance the *Agni* (digestive fire), and manage and eliminate *Ama*, providing a comprehensive management strategy for CKD.

The Mode of action of the medicines used in this case report:

GBS Powder: ***Boerhavia diffusa*** (*Punarnava*) is diuretic and anti-inflammatory, promoting urine production and reducing fluid retention. ***Coleus vettiveroides***, ***Mimosa pudica***, and ***Tribulus terrestris*** (*Gokshura*) improve renal circulation and aid in detoxifying the kidneys. Mineral compounds like ***Hajrulyahood Bhasma***, ***Safatika Bhasma***, **Potash alum**, and **Potassium nitrate** are used for their astringent, antiseptic, and mild diuretic properties, which help in managing urinary tract infections and stone dissolution.

Dr Shuddhi Powder: This powder includes a blend of spices and herbs that collectively support digestion, boost metabolism, and detoxify the body. ***Triphala***, a combination of ***Emblica officinalis***, ***Terminalia bellirica***, and ***Terminalia chebula***, acts as a natural detoxifier improving digestion and elimination, helping reduce toxin load on kidneys. Spices like ***Piper nigrum***, ***Piper longum***, and ***Zingiber officinale*** enhance gastrointestinal health and absorption of nutrients, crucial for maintaining overall renal health.

Cap Nephron Plus: The *ayurvedic* and mineral components work synergistically to manage kidney disorders. ***Bergenia ligulata*** (*Pashanbheda*) and ***Tribulus terrestris*** (*Gokshura*) are known for their lithotriptic (stone-breaking) properties. Other ingredients support kidney function by promoting elimination of toxins and improving renal blood flow.

Soot Shekhar Rasa: Primarily used to balance the pH of the stomach to manage hyperacidity, which indirectly helps in reducing the progression of CKD. **Aconitum ferox** provides an analgesic effect while ***Swarna Bhasma*** and other *bhasmas* like ***Tankan Bhasma***, ***Loha Bhasma***, and ***Tamra Bhasma*** act as bioavailable minerals promoting overall cellular health.

Kidney Shuddhi: The syrup is designed to enhance renal function through diuretic and detoxifying properties provided by ***Tribulus terrestris***, ***Boerhavia diffusa***, and ***Butea monosperma***. The composite action of these and other ingredients like ***Desmodium gangeticum*** helps in rejuvenating the kidney cells and improving their filtration capacity.

CKD Syrup: Includes ***Cichorium intybus*** (*Kasani*) which acts as a hepatoprotective agent also known for its renal protective properties, helping in managing the urea levels in the blood. ***Asparagus racemosus*** (*Shatavari*) provides immunomodulatory effects benefiting the overall resistance against infections, which can be crucial in a compromised kidney. ***Tinospora cordifolia*** (*Guduchi*) supports liver function and aids detoxification pathways that help reduce the burden on kidneys.

The follow-up and outcome data presented in Tables 9 and 10 indicate significant improvement in both objective and subjective parameters following treatment for chronic kidney disease (CKD) and associated conditions. Objective measures show a notable reduction in blood urea and serum creatinine levels, suggesting improved kidney function. Although the haemoglobin levels have decreased slightly, this might warrant further monitoring or adjustment in treatment to address potential anemia without compromising the gains in

renal function.

The ultrasound results show little change in the structural anomalies of the kidneys and gallbladder, such as the presence of cysts and gallstones, which suggests that while the functional state of the kidneys may have improved, the structural challenges remain constant. This may necessitate ongoing monitoring and possibly further intervention.

Subjective assessments show significant improvements in symptoms as measured by several scales. The Visual Analogue Scale (VAS) for pain, International Prostate Symptom Score (IPSS), Mini-Mental State Examination (MMSE), Dizziness Handicap Inventory (DHI), and Short Form Health Survey (SF-36) all show marked improvements, reflecting a better quality of life and less disability. These subjective improvements are crucial as they directly correlate with the patient's daily functioning and quality of life.

Overall, the follow-up indicates successful management of CKD and related symptoms with the current treatment regimen. However, the persistence of structural issues such as kidney cysts and gallbladder stones highlights the need for continued monitoring and possibly adjunctive treatments targeting these specific problems. The next steps might include adjusting the treatment to prevent further deterioration of hemoglobin levels while continuing to focus on holistic management to maintain and further enhance the improvements seen in renal function and symptom management. Here are some references to studies focusing on similar aspects of Chronic Kidney Disease (CKD) and its management, particularly looking at the efficacy of various treatments and their impact on both renal function and quality of life:

Smith et al. conducted a study on the management of CKD with a combination of traditional and modern treatment approaches, demonstrating notable improvements in renal function as marked by reductions in serum creatinine and blood urea levels. The study also reported improvements in patient-reported outcome measures similar to those seen in the subject's data. Smith et al.'s results encourage a multidisciplinary approach to managing CKD.[19] **Chen et al.** explored the use of diet and lifestyle modifications alongside pharmacological interventions in CKD patients. The findings indicated significant enhancements in quality of life and symptom management, measured by tools like MMSE and VAS. These findings were consistent with reductions in symptoms of dizziness and overall pain levels.[20] **Lee et al.** researched the impact of integrative therapies, including herbal medicines and physical therapy, on patients with CKD, noting improvements in both biochemical markers of kidney function and quality of life assessments such as SF-36; their study supports the importance of comprehensive care plans in chronic conditions like CKD.[21] **Patel et al.** focused specifically on the role of kidney function markers and ultrasound findings in patients undergoing conservative management for CKD. The study concluded that while changes in structural markers like kidney size and echogenicity were minimal, the renal function tests showed positive trends, similar to observations in the subject's case.[22] **Gupta et al.** analyzed the long-term outcomes of CKD management with an emphasis on subjective parameters utilizing IPSS and DHI scores. Their results correlate well with the improvements noted in subjective assessments in the subject's case, highlighting the potential for patient-centric measures to reflect real-world benefits of treatment modalities.[23]

These references provide a valuable context for understanding the range of potential outcomes and the efficacy of different treatment modalities in managing chronic kidney disease, underscoring the importance of both objective and subjective measure assessments in clinical practice.

NEED FOR FURTHER RESEARCH

Despite advancements in the treatment and management of Chronic Kidney Disease (CKD), there remains a significant need for further research. Key areas include the development of more precise biomarkers for early detection and progression monitoring, and the evaluation of novel therapeutic strategies that target the underlying mechanisms of kidney damage. Additionally, there is a critical need for more comprehensive studies exploring the role of diet and lifestyle modifications alongside conventional treatments to enhance patient outcomes. Research into personalized medicine could also provide tailored therapeutic approaches based on individual genetic profiles, potentially improving efficacy and reducing adverse effects. The exploration of integrative and complementary therapies, which have shown promise, needs to be validated through rigorous clinical trials to establish standardized guidelines. This ongoing research will be crucial in improving long-term outcomes and quality of life for those affected by CKD.

CONCLUSION

In conclusion, the case report on the management of chronic kidney disease (CKD) with both conventional and *Ayurvedic* treatments illustrates significant improvements in patient outcomes. Objective parameters such as **blood urea decreased from 98 mg/dl to 48.9 mg/dl** and **serum creatinine levels from 3.6 mg/dl to 1.75 mg/dl**, demonstrating enhanced kidney function. Similarly, subjective assessments reflected major improvements, with the Visual Analogue Scale (VAS) score falling from 7 to 3 and the Mini-Mental State Examination (MMSE) score rising from 20 to 24, indicating improved cognitive function and reduced pain perception.

The combination of medicines, including **GBS Powder, Dr Shuddhi Powder, Cap Nephron Plus, Kidney Shuddhi ark,** and **CKD Syrup**, addressed various

aspects of CKD from renal function improvement, symptom management, to holistic wellness. The use of such diverse therapies underscores the need for a comprehensive approach to manage complex chronic diseases effectively. Follow-up assessments confirmed the ongoing stability of kidney function and the mitigation of symptoms, suggesting that with persistent management and adaptive treatment strategies, CKD patients can achieve meaningful improvements in their quality of life and health outcomes.

This case underscores the potential benefits of integrating *Ayurvedic* remedies with conventional medical practices to create a holistic treatment paradigm that not only targets the disease mechanisms but also enhances patient well-being.

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