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RESEARCH ARTICLE

A CASE STUDY ON AYURVEDIC MANAGEMENT OF CHRONIC KIDNEY DISEASE

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Abstract

Chronic kidney disease (CKD) is a progressive and irreversible condition that ranks among the leading causes of mortality worldwide. Its development is often linked to hypertension and diabetes, which gradually lead to renal impairment progressing to CKD and potentially to end-stage renal disease. Traditional treatments for CKD, such as dialysis and renal replacement therapy, are financially burdensome for many patients, highlighting the need for alternative, more affordable, and safe approaches. In Ayurveda, CKD is addressed under the concept of mutravah srotas vikar, and also mutrakshaya will be seen which is a main symtpom seen in mutraghata. Seeking an alternative to hemodialysis, a 55-year-old male patient from New Delhi visited the Outpatient Department (OPD) of Kayachikitsa for an Ayurvedic intervention. The treatment approach involved the administration of shamanaushadhi to reduce elevated serum creatinine and blood urea levels. Specific Ayurvedic medications known for their nephroprotective and diuretic properties were prescribed, including Renogrit, Gokshuradi guggulu, Chandraprabha vati, and Punarnavadi madoor. These herbal formulations are believed to exert beneficial effects on kidney function. The holistic Ayurvedic approach aimed to alleviate symptoms, slow down CKD progression, and potentially circumvent the need for hemodialysis. By addressing underlying imbalances and supporting kidney health, Ayurvedic treatment offers a promising alternative for CKD management.

Introduction:-

Chronic kidney disease encompasses a spectrum of pathophysiologic processes which are associated with a progressive decline in glomerular filtration rate (GFR) and an abnormal kidney functions [1]. It is usually developed over some time. Major risk factors for CKD are childhood obesity, hypertension, diabetes mellitus, a family history of CKD, interstitial diseases, glomerular diseases, the presence of proteinuria, etc. In these hypertension and

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diabetes mellitus are a major cause for occurence of CKD. It is called end-stage renal disease (CKD stage 5) ,when death is likely without RRT (renal replacement therapy). [2]

It has been estimated from population data that at least 6% of the adult population in the United States has CKD at stages 1 and 2.[3] Unfortunately there is limited data on the prevalence of CKD in India. Occurence of 40-60% of chronic kidney cases in India is due to hypertension and diabetes.[4]

Raised urea and creatinine levels were found incidentally in routine blood tests and also during screening for high-risk patients such as diabetes and hypertension are typical presentations for CKD. Initially, it is asymptomatic until GFR falls below 30 ml/min/1.73 m2. The most common early symptom will be nocturia. Once the glomerular filtration rate (GFR) decreases to below 15-20 ml/min/1.73 m^2, symptoms manifest and impact various bodily systems. Common manifestations include fatigue, shortness of breath, likely stemming from renal anemia and fluid retention. As renal function continues to decline, additional symptoms such as itching, loss of appetite, weight loss, nausea, vomiting, and hiccups may develop.[5]

There is no direct correlation between CKD mentioned in Ayurveda. So according to clinical presentation, it is considered under mutravaha srotas vikar and its main symptom is mutrakshaya which is primarily seen in mutraghata so it is treated accordingly. Acharya sushruta mentioned the origin of the term vrikka by meda and rakta dhatu. So both the dhatus will be involved in CKD. Also, there will be involvement of all three doshas and mutravaha, udakvaha and raktavaha srotas will be involved. Hence the condition will be treated on the basis of its lakshana i.e. srotoshodhak, tridoshdhamak and mutraghata chikitsa.

Materials and Methods:-

A male patient of 55 years hailing from New Delhi came to OPD of the department of Kayachikitsa at Patanjali Ayurveda Hospital, Haridwar on 18 October 2023 with a diagnosed case of CKD with complaints of -

S.NO.	Complaints	Duration
1.	Weakness	Since 2 months
2.	Vomiting	X 1 month
3.	Decreased appetite	X 1 month
4.	Swelling in B/L lower limbs	Since 15 days

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

Table 1-

S.NO.	Drug prescribed	Dose	Anupana
1.	Sarvakalpkwath, Vrikkdoshar kwath ,Neem ki chaal, Peepal ki chaal, Gokhru kwath	100 ml BD	
2.	Renogrit Muktavati extra power	2 X BD before a meal	With normal water
3.	Gokshuradi guggulu, Vrikkdoshar vati , Chandraprabha Vati Punarnavadi mandoor	1 X TID after meal	With equal water

The above treatment was prescribed for 1 month-

Savakalp kwath -

Punarnava (Boerhavia diffusa), Bhumiamla (Phyllanthus niruri), Makoy (Solanum Nigrum) , these all are the contents of savakalp kwath.

As per Ayurveda, punarnava is a plant of the rasayan category. Both punarnava and bhumiamla have anti-inflammatory and immunomodulation properties. Makoy helps in balancing all three doshas and is anti-inflammatory. Overall sarvakalp kwath possesses anti-oxidant, antinflammatory, and hepatoprotective properties.[6]

Vrikkdoshar kwath-

It contains drugs such as Dhak (Butea monosperma), pittpapda (Fumaria indica), Punarnava mool (Boerhhavia diffusa), Pashanbhed (Saxifraga ligulata), Varun (Crataeva nurvala), kulthi (Dolichos biflorus), Apamarga (Achyranthus aspera), Kasni (Cichorium intybus). Peepal (ficus religiosa), Neem (Azadirachta indica), Makoy (Solanum nigrum), Gokhru (tribulus terretris), Dhamasa (Fagonia arabica), Kush (Desmotachya bipinnata), Kas

(Saccharum officinarum), Ekh (Saccharum munja), Unkatara (Echinops echinta), Giloy (Tinospora Cordifolia), Shatavari (Asparagus racemosus), Vidari (Puerarua tuberosa), Kateri choti (Solanum xanthocarpum), Kateri badi (Solanum indicum), Jou (Hordeum vulgare), Kutaki (picorhiza kurroa) these all affect kidneys.

The majority of the herbs in this concoction are listed in charak samhita as "mutravirechaniya dashemani". These herbs exhibit diuretic properties and help protect the kidneys .[7]

Gokhru kwath -
It contains yavakuta powder of Gokhru. The ethanolic extract obtains from dried gokhru fruit demonstrates nephroprotective effects, alongside possessing anti-inflammatory and antioxidant properties.[8]

Neem and peepal ki chaal-
Neem and peepal endowed with anti-inflammatory and antioxidant attributes. Additionally, the alcoholic extract derived from peepal bark exhibits an immunmodulatory effect.[9]

Renogrit-
It is a herbal composition consist of apamarga (Achyranthes aspera), pashanbheda (Saxifraga ligulata), palash (Butea frondosa), varun (Crateva nurvala), punarnava (Boerhiva diffusa), kasni (Cichorium intybus), Gokhru (Tribulus terretris). Renogrit acts as a nephroprotective agent due to the presence of Boeravinone B and it also possesses anti-inflammatory properties due to the presence of Butrin.[10]

Muktavati extra power-
The contents are Gajwa (Onosma bracteatum), Brahmi (Bacopa monnieri), Shankhpushpi (Convolvulus pluricaulis), Ghodbach (Acorus calamus), Ashwagandha (Withania somnifera), Malkangni (Celastrus paniculatus), Saunf (Foeniculum vulgare), Pushkarmool (Inula recemosa), Ustekhaddus (Lavandula stoechas), fine powders of jata manasi (Nardostachys jatamansi), Sapagandha (Rauwolfia serpentina), Mukta pishti. Sarpagandh when used at an appropriate dose is effective in hypertension. Sarpagandha contains reserpine having antidepressant property.[11] Brahmi, shankhapshpi, and vacha possess antianxiety and antidepressant properties helpful in lowering blood pressure. Overall it helps cure high blood pressure caused by CKD.

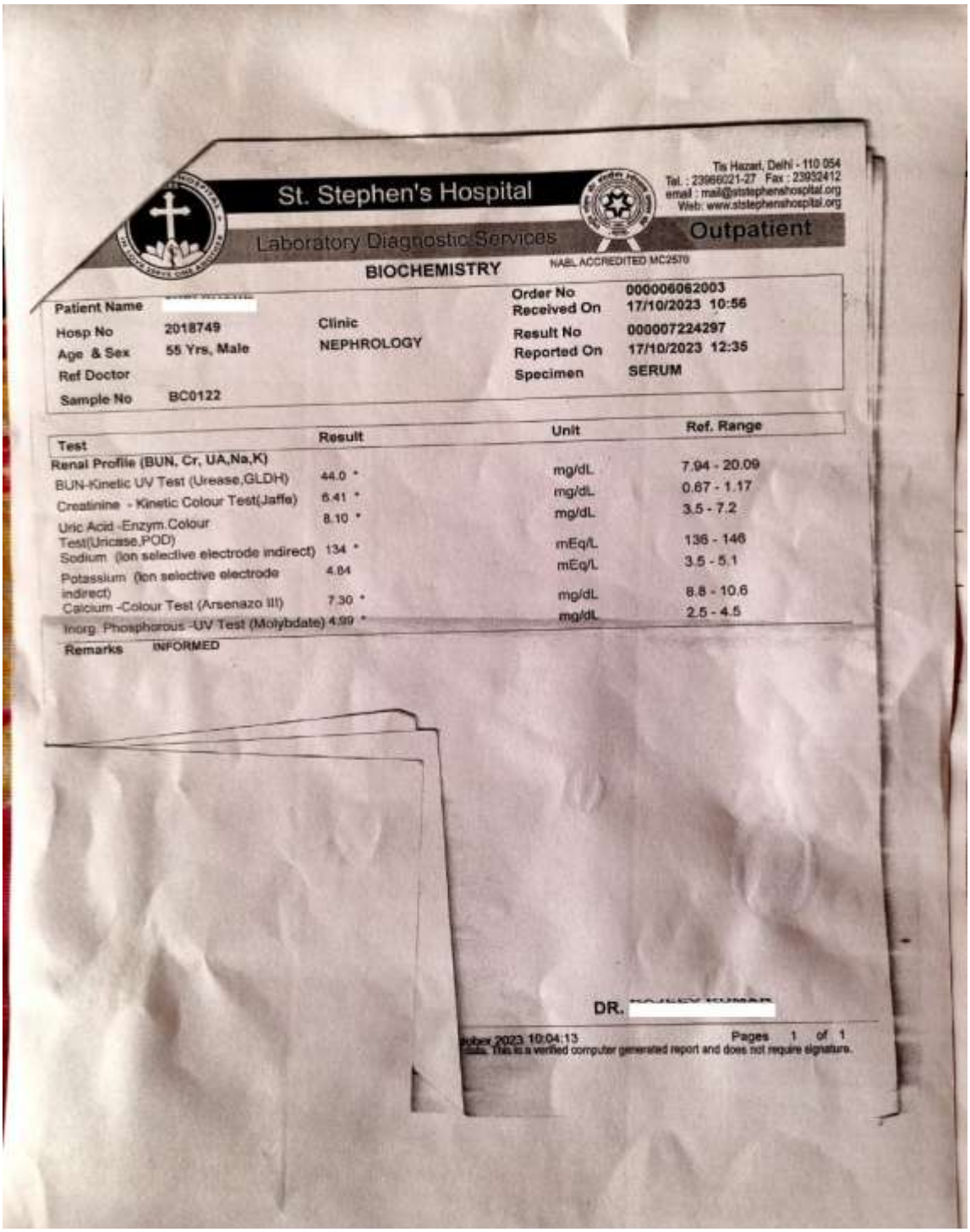
Gokshuradi guggulu-
The contents are goksura (Tribulus terrestris), shudha guggulu (Commiphora mukul), Shunthi (Zinziber officinale), maricha (Piper nigrum), pippali (piper longum), haritaki (terminalia chebula), bibhitaki (Terminalia bellirica), amalaki (Emblica officinalis), Mustaka (Cyperus rotundus). It overall possesses anti-inflammatory, antioxidant, immunomodulator and diuretic properties.[12]

Chandraprbha vati-
It is an ayurvedic formulation and it has 37 contents some of which are karpura (Cinnamomum camphora), vacha (Acorus calamus), Musta (Cyperus rotundus), amruta(Tinospora cordifolia), daruka (cedrus deodara), haridra (Curcuma longa), ativisha (aconitum heterophyllum), darvi (berberis aristata), pippali moola (piper longum), chitraka (Plumbago zeylanica), dhanyak (Coriandrum sativum), haritaki (terminalia chebula), bhibhitaki (Terminalia bellirica), shunthi(Zinziber officinale), etc have a good effect in mutraghata and mutakriccha. It also possesses tridosha nashak properties, primarily targeting vata and kapha doshas and exhitbits rejuvenating (rasayana) qualities. Components such as karpooora, musta, devdaru, triphala, ela, shilajatu and makshik bhasma within it carry anti-inflammatory charateristics. Additionally, it contains loha bhasma and shilajatu, aiding in alleviating overall weakness and fatigue.[13]

Punarnavadi mandoor
Referenced in the pandurogadhikar of charak samhita, this aids in alleviating panduta (anemia) and shotha (edema), common in CKD patients. Amlaki, Danti, Pippali,Punarnava, Kustha and Daruharidra are among the documented herbs possessing immunomodulatory and antioxidant properties, potentially offering health benefits in managing anemia.[14]

Before treatment

Date	Creatnine	Uric acid	Phosphorus	BUN	Calcium
17/10/23	6.41	8.10	4.99	44	7.30



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Laboratory Diagnostic Services
Outpatient
BIOCHEMISTRY
NABL ACCREDITED MC2570

Patient Name
Hosp No 2018749
Age & Sex 55 Yrs, Male
Ref Doctor
Sample No BC0122
Clinic NEPHROLOGY
Order No 000006062003
Received On 17/10/2023 10:56
Result No 000007224297
Reported On 17/10/2023 12:35
Specimen SERUM

Test	Result	Unit	Ref. Range
Renal Profile (BUN, Cr, UA,Na,K)			
BUN-Kinetic UV Test (Urease,GLDH)	44.0 *	mg/dL	7.94 - 20.09
Creatinine - Kinetic Colour Test(Jaffe)	6.41 *	mg/dL	0.67 - 1.17
Uric Acid -Enzym.Colour Test(Uricase,POD)	8.10 *	mg/dL	3.5 - 7.2
Sodium (ion selective electrode indirect)	134 *	mEq/L	136 - 146
Potassium (ion selective electrode indirect)	4.84	mEq/L	3.5 - 5.1
Calcium -Colour Test (Arsenazo III)	7.30 *	mg/dL	8.8 - 10.6
Inorg. Phosphorous -UV Test (Molybdate)	4.99 *	mg/dL	2.5 - 4.5

Remarks INFORMED

DR.

Pages 1 of 1
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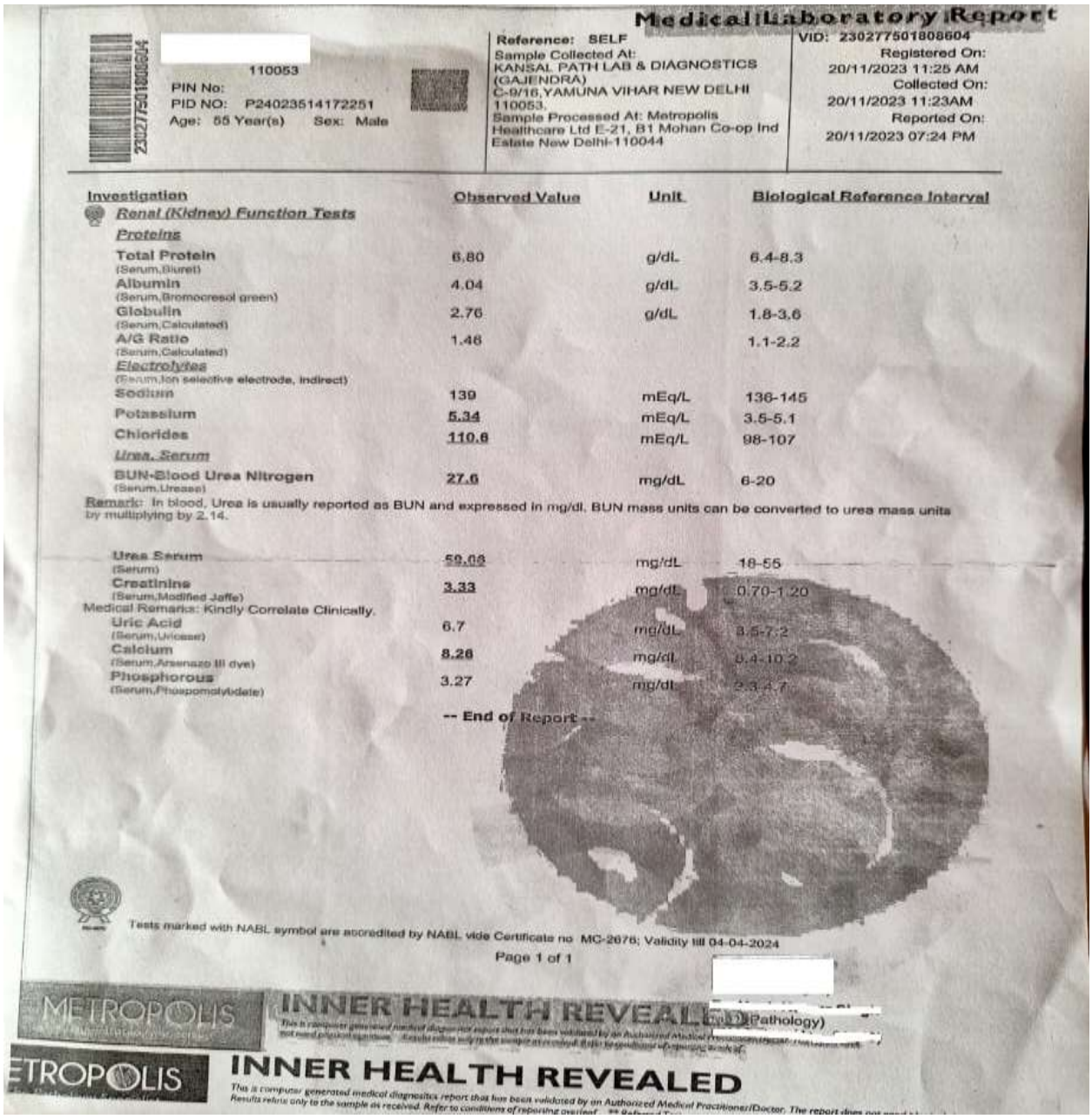
After treatment

Date	Creatnine	Uric acid	Phosphorus	BUN	Calcium
20/11/23	3.33	6.7	3.27	27.6	8.26



Medical Laboratory Report

110053
PIN No:
PID NO: P24023514172251
Age: 55 Year(s) Sex: Male

Reference: SELF
Sample Collected At:
KANSAL PATH LAB & DIAGNOSTICS (GAJENDRA)
C-9/16,YAMUNA VIHAR NEW DELHI 110053.
Sample Processed At: Metropolis Healthcare Ltd E-21, B1 Mohan Co-op Ind Estate New Delhi-110044

VID: 230277501808604
Registered On: 20/11/2023 11:25 AM
Collected On: 20/11/2023 11:23AM
Reported On: 20/11/2023 07:24 PM

Investigation	Observed Value	Unit	Biological Reference Interval
Renal (Kidney) Function Tests			
Proteins			
Total Protein (Serum,Biuret)	6.80	g/dL	6.4-8.3
Albumin (Serum,Bromocresol green)	4.04	g/dL	3.5-5.2
Globulin (Serum,Calculated)	2.76	g/dL	1.8-3.6
A/G Ratio (Serum,Calculated)	1.46		1.1-2.2
Electrolytes (Serum,Ion selective electrode, Indirect)			
Sodium	139	mEq/L	136-145
Potassium	5.34	mEq/L	3.5-5.1
Chlorides	110.6	mEq/L	98-107
Urea, Serum			
BUN-Blood Urea Nitrogen (Serum,Urease)	27.6	mg/dL	6-20

Remark: In blood, Urea is usually reported as BUN and expressed in mg/dl. BUN mass units can be converted to urea mass units by multiplying by 2.14.

Urea Serum (Serum)	59.08	mg/dL	18-55
Creatinine (Serum,Modified Jaffe)	3.33	mg/dL	0.70-1.20
Medical Remarks: Kindly Correlate Clinically.			
Uric Acid (Serum,Uricase)	6.7	mg/dL	3.5-7.2
Calcium (Serum,Arsenazo III dye)	8.26	mg/dL	8.4-10.2
Phosphorous (Serum,Phosphomolybdate)	3.27	mg/dL	2.3-4.7

-- End of Report --

Tests marked with NABL symbol are accredited by NABL vide Certificate no MC-2676; Validity till 04-04-2024

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METROPOLIS INNER HEALTH REVEALED (Pathology)

METROPOLIS INNER HEALTH REVEALED

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Discussion:-

As outlines earlier, chronic kidney disease (CKD) is not directly addressed in Ayurvedic texts but is managed within the framework of mutravaha srotas disorders. Considering the involvement of all the doshas and dushyas in CKD, Kapha dosha primarily contributes to microvascular occlusion and microangiopathy, while vata dosha is accountable for structural degeneration of the kidneys.[15] Ayurvedic treatment focuses on tissue regenration and prevention, utilizing rasyana herbs such as Gokhru kwath, Punarnavadi Mandoor and Gokshuradi guggulu. Additionally, guggulu- based medications are employed to alleviate channel blockages. Notably, Ayurvedic interventions have demonstrated significant efficacy within a short duration in managing chronic kidney disease (CKD).

Result:-

Within just one month, notable progress was observed, with significant improvements noted in seum creatnine, uric acid and Blood urea nitrogen (BUN) levels, previously elevated. Morevover, the patient experienced considerable alleviation of symptoms.

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