

MANAGEMENT OF CHRONIC KIDNEY DISEASE THROUGH AYURVEDA– A CASE REPORT

Ayurveda

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ABSTRACT

Chronic kidney disease (CKD) affects over 10% of the population and is a significant public health problem. CKD can lead to end-stage renal disease (ESRD), cardiovascular disease, and premature death. The most common causes of CKD are diabetic nephropathy and hypertensive nephropathy. Diabetic nephropathy is characterized by slowly progressive albuminuria, worsening hypertension, and renal insufficiency. Hypertensive nephropathy is more common in elderly people. Diabetic nephropathy can be correlated to upadrava of vata pradhana sannipathika prameha with increase in the Kleda bhava of medodhatu and kapha, and sthanasamsraya in vasthi. A single case of diabetic nephropathy admitted in IPD of Ayurveda College Coimbatore was selected for the study. And the case was managed by adopting deepana pachana, samana and rasayana chikitsa. The changes in blood parameters and RFT was noted and systematically analyzed after each treatment. It was found increase in Hb level, and reduction of values of serum creatinine, blood urea, and urinary excretion of albumin. Marked symptomatic improvement was found in the patient. This management may bring some new hope to the patients of diabetic nephropathy which terminates to chronic renal failure and ultimately to death.

KEYWORDS

Diabetic nephropathy, chronic kidney disease, Ayurveda management

INTRODUCTION

Chronic kidney disease (CKD) encompasses a spectrum of different pathophysiologic process associated with abnormal kidney function, and a progressive decline in the glomerular filtration rate¹. Chronic kidney disease (CKD) is an important public health problem affecting more than 10% of the general population. CKD is an important risk factor progressing to end stage renal disease (ESRD), cardiovascular disease and premature mortality². Renal failure occurs due to significant reduction in the glomerular filtration rate. In Chronic renal failure, there will be irreversible and permanent impairment of kidney function persisting in a period of over 3 months³. It is associated with notable rise in the serum creatinine level, blood urea nitrogen, high blood sodium level and fluctuation in the serum potassium level. ESRD represent a stage of CKD in which accumulation of toxins, fluid, and electrolytes normally excreted by kidneys results in uremic syndrome⁴. Uremic syndrome leads to death if the toxins are not removed by dialysis or kidney replacement therapy. The most frequent causes of CKD are diabetic nephropathy. Diabetic nephropathy is glomerular sclerosis and fibrosis caused by the metabolic and hemodynamic changes of diabetes mellitus. It manifest as slowly progressive albuminuria with worsening hypertension and renal insufficiency. Micro albuminuria is the earliest clinical manifestation of diabetic kidney disease. Protein loss in urine is due to damage to glomeruli & low albumin level results in generalized body swelling and Nephrotic syndrome. It is more common in type 1 than type 2 diabetes mellitus. Reduction in the glomerular filtration rate occurs from a normal of over 90 ml to less than 15 ml on progression. Progression from micro albuminuria to overt nephropathy occurs in 20-40% within a period of 10 years and 20% of these patients progressing to end stage renal disease.

In elderly people, Hypertensive nephropathy is the commonest cause of CKD. In every year, 1.2 million Deaths of CKD occur worldwide⁵. Chronic kidney disease forms the 10th leading cause of death in 2020⁶. Near, 2.5 million of people undergoes renal replacement therapy in every year and is expected to rise by the year of 2030⁷. The other common causes of CKD are chronic glomerular diseases, chronic tubule interstitial diseases, and cystic disease. The management of CKD is important, as we can slow down the progression by proper management into ESRD. The management of CKD includes control of hypertension, hyperlipidemia and diabetes, modification of diet and lifestyle, reduction of proteinuria, control of hyperuricemia, hyperphosphataemia, anemia and, metabolic acidosis. Renal replacement therapy is needed in patients with stage 5 CKD (<15ml GFR) in those with severe uremic manifestations, severe hyperkalemia, resistant metabolic acidosis, pericarditis and uremic encephalopathy⁸. Renal replacement therapy includes peritoneal dialysis and hemodialysis. Many of the patients often cannot afford the cost of these treatments. Kidney diseases are occurring mainly due to long standing diabetes and hypertension in many of the patients. In both of these cases Ayurveda management along with proper diet and lifestyle found to be effective in many of the patients in the early stages

of the illness. Also the need for renal replacement therapy can be prolonged. A case report on chronic kidney disease due to long standing diabetes is well defined.

Case report

A 60 year old male patient chronic smoker, with k/h/o DM2 (16 years), DLP (5 years), HTN(10 years), developed acute onset of head ache, vomiting, loose stools, loss of appetite, low back pain, fever with chills, reddish discoloration of urine, increased frequency of Micturition, hesitancy, painful micturition and urgency 6 months back. The early morning stream of urine had bad smell along with froths. Occasionally clots and pus present in urine. Initial evaluations were done. He was advised to take antibiotics and measures for glycemic control. During the period of hospital stay he was catheterized due to urinary incontinence for 14 days and removed catheter after attaining bladder control. He also had recurrent onset of UTI associated with fever with chills and sweating. His urine was excessive in quantity; frothy with foul smell also had reddish discoloration of urine. Gradually he developed numbness in bilateral foot. 2 months before he developed ulcer on his right foot, blackish discoloration and painless swelling over both legs. He had excessive fatigue and loss of appetite and glycemic control was not attained. So he was continuing allopathic medications for glycemic control. Due to persisting urinary tract infection he was advised to continue antibiotics.

History of past illness

- H/o DM2 - 16 yrs
- H/o HTN-10 yrs
- DLP – 5 yrs
- Recurrent UTI- For last 6 months.
- No h/o thyroid dysfunction, trauma

Drug history

Insulin 30U-0.25U
Losar 50 mg 0-0-1

Family history

Positive family history of H/o DM, DLP, HTN/

Psychosocial history and sexual history

- He had increased sexual drive and sexual perversions (sodomy, buccal coitus etc.)
- Sexual relationship with wife for multiple times in a day.
- While he was working abroad he had done masturbations multiple times / day
- Also he had sexual relationship with teenage girls.
- Erectile dysfunction present after 6 years of the onset of diabetes

Personal history

- Appetite : reduced
- Bowel: 2/day, loose stools, sticky and foul smelling. No colour changes.

- Micturition: 7-8 times / day, 4 times/ night; urgency+/ hesitancy+/ increased frequency+/polyuria+/ nocturia+.
- Sleep : sound(6hrs) , Day sleep -1 ½ hrs
- Addiction: no h/o alcoholism

Smoking: 40 cigarettes / day for 38 yrs

Smoking index: 76 pack / years.

Completely stopped 2 yrs back.

Allergy: Nil

General examination

Revealed pallor, blackish discoloration, hair loss and oedema on B/L lower limbs, BMI 27.1, normal vitals, nicotine staining on sclera and nails, longitudinal ridging and pitting of the nails. No half and half nails.

System review:

He had weight loss of 10 kg for the last 6 months, poor appetite, reduced food intake, loose and sticky stools with foul smell, increased frequency of micturition, nocturia, hesitancy, urgency, polyuria, and erectile dysfunction

vitals

- HR : 72/ min (loud S2 with a split)
- PR : 72/min
- BP: 140/100 mm of Hg; sitting right arm.
- RR: 22/ min
- Height : 174.5 cm
- Weight: 84 kg
- BMI:27.7

Systemic examination

Cardio vascular system (CVS)-he had normal pulse rate 72/min regular rhythm, right radial, HR. was 72 beats/min S1 and S2 was normal no split sound or added sounds, no apex shift, BP-140/80 mm of hg.

- Peripheral vascular system affected with feeble peripheral pulses. But there was no JVP.

Gastro intestinal system (GIT)

On examination of GIT: there was G-I tenderness present on right loin and renal angle. No signs of ascites were found.

Respiratory system- not affected

Genito urinary system

On examination of genito urinary system, there was erectile dysfunction, urinary urgency, and increased frequency of urine and also urine had reddish discoloration of urine with froth and bad smell

Nervous system

Sensory system is affected.

Sensory system

Superficial sensations

- Fine touch – lost in S1, L5, L4 – b/l
- Pain and crude touch- normal
- Temperature –normal
- Deep sensations
- Vibration sense – reduced in bilateral tibial tuberosity
- JPS – Lower limb- pressure

Investigations

Table 1: renal function test

Test	14/04/2021	30/04/2021	12/05/2021	10/06/2021	20/07/2021	7/08/2021
S. creatinine	2.57	2.3	1.55	1.48	1.43	1.3
S. uric acid	9.2	7	6.7	6.3	5.7	5.67
S. urea	59	55	52	49	48	45

Table 2: blood routine examination

Test	14/04/2021	30/04/2021	12/05/2021	10/06/2021	20/07/2021	7/08/2021
FBS	328	180	157	160	130	120
PPBS	432	230	180	200	170	160
Hb	10.2	10.5	11.55	11	11.3	10.5

ESR	135	120	101	80	60	35
CRP	104.5	92	61	40	34.5	20

Table 3: urine routine examination

Pus cells	Plenty /hpf	30-40/hpf	2-4/hpf	2-3/hpf	3-4/hpf	3-4/hpf
Bacteria	Present	Few	Absent	Absent	Absent	Absent

Table 4: Electrolyte panel

Test	14/04/2021	30/04/2021	12/05/2021	10/06/2021	20/07/2021	7/08/2021
S. sodium	139 mmol/L	137mmol/L	138mmol/L	135mmol/L	132mmol/L	135mmol/L
S. potassium	4.80 mmol/L	4.5mmol/L	5mmol/L	4.3mmol/L	4.28mmol/L	4.6mmol/L
Bicarbonate	23.3 mmol/L	22mmol/L	24mmol/L	23mmol/L	22.5mmol/L	22.8mmol/L

Dasavidhapareeksha

Dosha

Vata- Karsnyam, Anaham,Swapna,Roukshyam, Syavavarnam, Mukhasosham Parushyam,Ruk Pita-TritAtiswedam Kapha- Agnimandhya,Tandra,Sopha

Dooshya-

- RASA Aruchi, pandutwam, agninasam, Agnimandiyam,
- RAKTA Vyangam, Agninasam,
- MEDAS Atiswedam,, Talusosha
- ASTHI Kesasatanam, Nakhavakrata, Dantavaivarnyam
- SUKRA Dhvajabhanga klaibya

Mala

- SWEDA- Atiswedam, dourgandhya
- PUREESHA- gradhita, dourgandhya, guru
- MUTRA- vivarna, sasram, rujayukthamutravrithi, Avila, pichila, durgandham,

Desa-

- Dehadesa- ulpathisthana- vasthi,
- Vyakthisthana -sarvasareera,
- Rogadesa- sadharana

Balam-

Rogibalam – avara ; rogabalam- pravaram

Kalam

Ritu – varsham; vyadhyavastha- puranam

- Prakriti – Kaphapitham

Vaya - vardhakya

- Satwa- avara
- Satmyam- seetam

Aharam

- Jaranasakti – avaram;
- Abhyavaharana sakti - avaram

MANAGEMENT

Diet

Depending on the stage of CKD patient is advised the limit the blood levels of potassium to less than 2g /day. Food items such as oranges, potatoes, tomatoes, whole grain breads, bananas, nuts, red beans, lentils, avocado, tomato, split peas, and many other foods high in potassium. The patient is advised to consume apple, carrots, cabbage, cauliflower, onion and white bread that are lower in potassium.

Patient is advised to eat a food with less salt/ sodium to maintain the blood pressure normal. The patient has to restrict salt usage to less than 2g /day in order to control the sodium level to be normal. So he was advised to avoid the usage of instant noodles, sausage, salted crackers, nuts, and chips. Avoid canned soups, frozen items, bottled sauces, pickles etc .

Fluid intake was also restricted to not more than 750 ml/day. The patient must have to limit the protein intake/day to less than 40 g/day. So he was advised to limit meat, egg, and dairy products. Also the total energy requirement from carbohydrates was restricted to less than 60% per day by substituting food with more vegetables and fruits.

Ayurveda management

The treatment was given for a period of 45 days in the hospital IP

department and was observed in OP department for a period of 3 months. The treatment principle is samana and rasayana.

Stage1 Deepana pachana

Medicine	Dosage	Duration	Anupana
Sapthasaram kashayam	15 ml	Twice daily 1 hour before food	45 ml lukewarm water
Nisakatakadi kashaya	15 ml	Twice daily	45 ml lukewarm water
Gomutra hareetaki tablet	2-0-2	30 mins before food	With luke warm water

Stage 2 samana chikitsa

Medicine	Dosage	Duration	Anupana
Punarnavadi kashaya	15 ml	Twice daily before food	45 ml lukewarm water
Ayaskriti	15 ml	Twice daily after food	
Chandraprabha vati	2-0-2	Twice daily after food	Luke warm water

Satge 3 Rasayana chikitsa

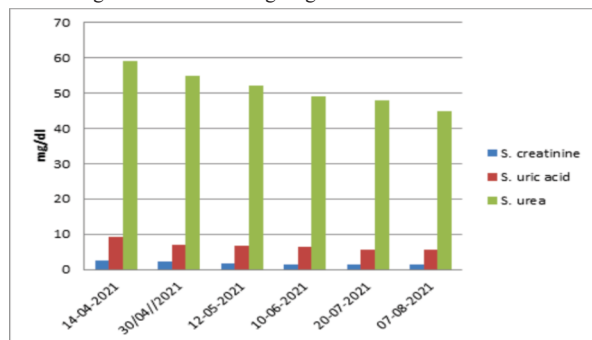
Medicine	Dosage	Duration	Anupana
Dasamoola hareetaki lehya	1 tsp hs	Before bed	Hot water
Gomutrahareetaki tablet	2-0-2	Twice daily before food	Luke warm water
Punarnava ayolepa rasayana	12g	Early morning in empty stomach	Along with buttermilk

Follow up and outcomes

Patient was followed up every 3 months after discharge. Patient was advised to follow proper diet and medicine.

OBSERVATION AND RESULTS

The main causative factor for CKD is hypertension and diabetes mellitus along with history of chronic smoking habit. Reduction of glomerular filtration rate occurs due to the presence of high glucose levels for long duration causing thickening of glomerular basement membrane. Clinically this condition was diagnosed as madhumeha with upadrava vyadhis like mutrakricha and sophia. Outcome of the treatment given in the following diagram.



Graph 1: Renal Function Test Vs Month

Improper lifestyle contributes to many of the long term illnesses. In this particular case kapha pitha pradhana tridosha dushti and raktha dushti resulting in kledatwa of rasa, raktha, mamsa and medus. Family history of the patient points that he had sahaja medodhatwagni mandhya. Both of these factors resulted in the formation of aparipakwa medo dhatu formation along with increased production of kledatwa. On progression, vata pradhana tridosha dushti and Sthana samsraya of dosha mainly occur in the medovaha srotus and vasthi pradesha.

So clinically we can correlate this condition as madhumeha along with upadrava vyadhis like mutrakricha and sophia. Sukravaha sroto dushti resulted in klaibya. Rasavaha and rakthavaha srotodushti resulted in pandu, aruchi, angamardha, asyavairasya, irritability etc. Rasayanees in the adhakaya is durbala in madhumeha. So vata vaigunya also affected in the sira, snayu and kandara situated mainly in the adhakaya lead to the formation of supatwa of pada. Apathyacharana lead to prolonged kleda samchaya in the body lead to the development of sopathi upadrava.

CONCLUSION

Ayurvedic management was mainly given to improve the quality of life and to prevent further complications. Samsamana and rasayana treatment was given for a period of 1 ½ months in the inpatient department. After discharge, patient was under regular follow up for a period of 3 months. Proper diet and life style modification was given to the patient. To maintain all the blood parameters in a normal range, regular follow up, proper medication, samana and rasayana therapy in proper interval is essential.

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REFERENCES:

- Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2009). *Harrison's Manual of Medicine, 17th Edition*. McGraw Hill Professional.
- Das, K. K. (2008e). *Textbook of Medicine*. Jaypee Brothers, Medical Publishers Pvt. Limited
- Das, K. K. (2008e). *Textbook of Medicine*. Jaypee Brothers, Medical Publishers Pvt. Limited
- Ajeet Pratap Singh, & Avira Gautam, (2021). Effective Management of Chronic Kidney Disease by Using Ayurvedic Interventions. *International Journal of Ayurveda and Pharma Research*, 9(7), ISSN2322-0902. <https://doi.org/1047070/ijapr.v9i7.1979>
- Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2009). *Harrison's Manual of Medicine, 17th Edition*. McGraw Hill Professional.
- Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2009). *Harrison's Manual of Medicine, 17th Edition*. McGraw Hill Professional.
- Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2009). *Harrison's Manual of Medicine, 17th Edition*. McGraw Hill Professional.
- Fauci, A. S., Braunwald, E., Kasper, D. L., Hauser, S. L., Longo, D. L., Jameson, J. L., & Loscalzo, J. (2009). *Harrison's Manual of Medicine, 17th Edition*. McGraw Hill Professional.
- Ajeet Pratap Singh, & Avira Gautam, (2021). Effective Management of Chronic Kidney Disease by Using Ayurvedic Interventions. *International Journal of Ayurveda and Pharma Research*, 9(7), ISSN2322-0902. <https://doi.org/1047070/ijapr.v9i7.1979>
- Ajeet Pratap Singh, & Avira Gautam, (2021). Effective Management of Chronic Kidney Disease by Using Ayurvedic Interventions. *International Journal of Ayurveda and Pharma Research*, 9(7), ISSN2322-0902. <https://doi.org/1047070/ijapr.v9i7.1979>
- Ajeet Pratap Singh, & Avira Gautam, (2021). Effective Management of Chronic Kidney Disease by Using Ayurvedic Interventions. *International Journal of Ayurveda and Pharma Research*, 9(7), ISSN2322-0902. <https://doi.org/1047070/ijapr.v9i7.1979>
- Das, K. K. (2008e). *Textbook of Medicine*. Jaypee Brothers, Medical Publishers Pvt. Limited
- Das, K. K. (2008e). *Textbook of Medicine*. Jaypee Brothers, Medical Publishers Pvt. Limited