



AYURVEDIC CONCEPT FOR THE MANAGEMENT OF CHRONIC RENAL DISEASE (CRD): THE CONCEPTUAL INSIGHTS

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Abstract:

Chronic kidney disease refers to an irreversible loss in renal function, which develops over a period of years. This initially manifests only as a biochemical abnormality. CRF is considered when glomerular filtration rate (GFR) falls below 30 ml/min. The conventional approach of management includes dialysis and renal transplantation, which are not affordable by Indian population mainly due to economic reasons. Therefore, exploration of a safe and alternative therapy is needed, which proves to be helpful in reducing the requirement of dialysis and in postponing the renal transplantation.

Keywords: Mutrakriccha roga, Chronic renal disease, Rasayana churna

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Chronic Kidney Disease (CKD) is usually defined as the presence of kidney damage or decreased kidney function that persists for at least 3 months is often associated with progressive and irreversible loss of large numbers of functioning nephrons¹.

The National Kidney Foundation - Kidney Disease Outcomes Quality Initiative (NKF KDOQI) working group has defined CKD as under which has been accepted and adopted internationally.

- (1) The presence of markers of kidney damage for more than 3 months, as defined by structural or functional abnormalities of the kidney with or without decreased Glomerular Filtration Rate (GFR), manifested by either pathological abnormalities or other markers of kidney damage including abnormalities in the composition of blood or urine or abnormalities in imaging tests or
- (2) The presence of GFR less than 60 ml / min / 1.73 sq.m. for more than 3 months with or without other signs of kidney damage as described above².

ESRD (End-Stage Renal Disease)

When the kidney fails to perform most of their functions the clinical state is called end - stage renal disease.

ESRD represents a stage of CRD where accumulation of toxins, fluid and electrolytes normally excreted by the kidneys lead to death unless the toxins are removed by renal replacement therapy, using dialysis or kidney transplantation is required to sustain life³.

Uraemia:

Uremia is a toxic condition characterized by accumulation of end products of protein metabolism such as urea, nitrogen and creatinine in blood.

There is also accumulation of other toxic substances such as organic acids and phenols⁴.

Anatomy:

The kidneys are bean - shaped organs, reddish brown in colour, lie on the posterior abdominal wall, one on each side of the vertebral column, behind the peritoneum and below the diaphragm at the level of 12th thoracic vertebrae (T12) to the 3rd lumbar vertebrae (L3). The left kidney is slightly upper than the right⁵.

Functions⁶:

1. Formation of urine
2. Excretion of wastes / waste products and foreign substances - kidney excretes urea creatinine, uric acid etc.
3. Also excrete harmful foreign chemical substances such as toxins, drugs, heavy metals, pesticides etc.
4. Regulation of water and electrolyte balance.
5. Regulation of Acid - base balance / regulation of blood PH.
6. Regulation of blood pressure Regulation of Erythrocyte production
7. Regulation of blood calcium level.
8. Regulation of blood glucose level⁷.

Causes^[2,3]: -

- Diabetes mellitus / Diabetic nephropathy
- Glomerulonephritis
- Hypertension / Hypertensive renal disease

Tubulointerstitial disease:

- Reflux nephropathy (Chronic pyelonephritis)
- Analgesic nephropathy
- Obstructive nephropathy (Stones, benign prostatic hypertrophy)

Systemic Inflammatory Diseases:

- Systemic Lupus Erythematosus (SLE)
- Scleroderma

Congenital and inherited:

- Autosomal dominant polycystic kidney disease

Clinical Presentation of CRD^[1,2,8]:

- Puffiness of face
- Dyspnea
- Orthopnea
- Asymptomatic in most causes (Even till stage 5)
- Pedal edema
- Nausea
- Vomiting
- Abdominal discomfort
- Itching
- Dryness of skin
- Decreased appetite
- Malaise
- Weakness
- Polyuria (in early stages)
- Nocturia
- Oliguria
- Unexplained anaemia (pallor)

Categories in Chronic Kidney Disease

Table 1 -Glomerular Filtration Rate (GFR)⁸

Grading (G)	GFR (ml/min/1.73m ²)	Description
G1	>or = 90	Normal or high
G2	60-89	Mildly decreased
G3a	45-59	Mildly to moderately decreased
G3b	30-44	Mildly to severally decreased
G4	15-29	Severally decreased
G5	<15	Kidney failure

Table 2- Albumin Excretion rate (AER)

Category	Albumin Excretion Rate (AER) (mg/24h)
Normal albuminuria	<30
Microalbuminuria	30-300
Macroalbuminuria	>300

Investigations findings^[1,2,3,4,8]

- GFR<60/ml/min/1.73m²
- AER (mg/24h)
 - Microalbuminuria 30 – 300
 - Macroalbuminuria > 300
- Blood urea > 40 mg/dl
- Serum creatinine > 1.5 mg/dl
- urinalysis
- FBS (Fasting blood sugar) and PPBS (Post Prandial Blood Sugar)
- Glycosylated haemoglobin (HbA1C)
- Complete Blood Count (CBC)
- Imaging
 - Ultrasound

Ayurvedic View

CKD is a disease of *Mutravaha Srotas -Vrkka roga*⁹

Management Strategies

Therapies prescribed for the treatment of *Mutrakricchra* should be adopted in diseases of *Mutravaha Srotas* (CKD)¹⁰

- *Gokshura* is a drug of choice¹¹.
- *Haritakyadi kvatha*¹² (*Mutrakricchra Rogadhikara*)

Decoction of *haritaki, goksura, rajavrksa / aragvadhya, pasanbheda and dhanvayasa* should be given twice a day.

Indicated in ' *Mutrakricchra* associated with burning sensation, pain and obstruction.

- *Trnapanchanmula Kvatha*¹³

Decoction of *kusa , kasa , sara , darbha and iksu* twice a day

Is a *bastivisodhana*. Indicated in *Mutrakricchra*

- *Punarnavastaka Kvatha*¹⁴

Decoction of *punarnava , nimba , patola , sunthi tikta / katuki , amrta / guduchi , devadaru and abhaya / haritaki* should be given twice a day .

Indicated in *Sarvangasotha, Shvasa / dyspnea , panduroga/anemia* etc.

- *Satavari Churna*- one tsf twice a day with water
- *Rasayana (amalaka, guduchi, gokshura)*

Churna -one tsf twice a day with water

Tablet- 2 tablet twice a day with water

- *Goksura ghanavati* - 2 tab twice a day with water
- *Punarnava ghanavati*- 2 tab twice a day with water
- *Varuna ghanavati*- 2 tab twice a day with water
- *Goksuradi guggulu*¹⁵-2 tab twice a day with water
- *Chandraprabha Vati*¹⁶-2 tab twice a day with water
- *Amalaki Rasayana*-2 tab twice a day with water
- *Goksuraka Rasayana, Punarnava rasayana, Rasayana churna* should be given¹⁷.

Pathya⁹: *Yavanna, mudga , mudga yusa , old raktasali rice , patola , lauki , karvellaka* like vegetables , seasoning with *dhanyaka* and *jiraka* , *amalaka dadima , papita* like fruits , *godugdha* , limited use of *saindhava* instead of *lavana*.

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