



PEDAGOGY

CHRONIC KIDNEY DISEASE - AYURVEDIC PERSPECTIVE

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Abstract

Chronic Kidney Disease (CKD) is a progressive disease that primarily affects people with diabetes mellitus and hypertension. It has a high rate of morbidity and mortality. With a 4.8% incidence in North Kerala, CKD was ranked as the 16th most common cause of death worldwide. In patients with chronic kidney disease (CKD), renal function gradually declines over months or years. Treatments like renal replacement therapy and dialysis are still too costly for the majority of patients, which drives them towards alternative medical systems like *Ayurveda* and increases the demand for *Ayurvedic* treatment plan. For these clinical situations, it is our responsibility to develop management and diagnostic strategies. Kidney may be correlated with *vrikka*. The embryological origin of *vrikka* is from *medas* and *rakta*. *Meda* and *rakta dhatu* vitiating *aharaviharas* are contributing for the pathogenesis of CKD. Considering the factors involved in pathogenesis, a management plan might also be suggested.

Introduction

Chronic kidney disease (CKD) refers to a range of pathological conditions that result in abnormal kidney function, frequently accompanied by a gradual reduction in glomerular filtration rate^[1]. If left untreated, chronic kidney disease (CKD) can lead to end-stage renal disease (ESRD). In India, the prevalence of CKD increases due to change in lifestyle, eating habits, hypertension, uncontrolled diabetes etc. Restoration of kidney functions is possible only through dialysis or kidney transplantation, which is costly and not affordable to everyone. Most of the people in India belong to the economically weaker section. This burden is not affordable to them. Here comes the relevance of other sciences. In this scenario, a large number of reluctant patients chose the treatment of *Ayurveda*. Hence, we have to develop an Ayurvedic perspective on this clinical condition in etiological aspect.

Description about Chronic Kidney Disease:

CKD is a clinical condition that causes a progressive loss of kidney function over several months or years. Over 10% of adult population suffers from CKD, which has become a significant public health concern^[2]. Irrespective of the underlying etiology, chronic kidney disease (CKD) is defined as reduced kidney function as indicated by a GFR of less than 60 ml/min/1.73 m² or signs of

kidney damage, or both, of at least three months duration.^[3] The risk of worsening CKD is closely linked to both the GFR and the amount of albuminuria. As per global burden of disease, it was mentioned as the 16th leading cause of death. The global estimated prevalence of CKD is 13.4% & prevalence in North Kerala is 4.8%^[4]. There is a strong positive independent link between progressive chronic kidney disease (CKD) and variables like age, sex, hypertension, diabetes, atherosclerosis, usage of painkillers, obesity, hyperuricemia, location of residence, and economic position. The two most significant causes of CKD globally are diabetes and hypertension.

Clinical and laboratory manifestations of chronic kidney disease (CKD) include abnormalities of the heart and blood vessels, gastrointestinal disorders, abnormalities of nutrition, endocrine and metabolic disturbances, disturbed potassium homeostasis, metabolic acidosis, disorders of calcium and phosphate metabolism, etc.

Five stages of chronic kidney disease (CKD) are distinguished by GFR and degree of renal impairment.

Stage 1: kidney damage with normal or relatively high GFR (≥ 90 ml/min/1.73m²)

Stage 2: kidney damage with mild reduction in GFR (60-89 ml/min/1.73m²)

Stage 3: kidney damage with moderate reduction in GFR (30-59 ml/min/1.73m²)

Stage 4: kidney damage with severe reduction in GFR (15-29 ml/min/1.73m²)

Stage 5: Established kidney failure GFR (≤ 15 ml/min/1.73m²)

Only a few numbers of studies on CKD have been conducted in *Ayurveda* until yet. To enable additional research in this area, this article serves as a baseline approach for the application of *Ayurveda* to CKD.

Materials and methods

CKD - Ayurvedic view

There has been no reference to *Vrikkaroga* in *Brhatrayees*. Thus, it might be understood in terms of *Anuktavyadhi*. In light of the CKD disease syndrome, which affects multiple systems and has a broad variety of clinical symptoms, the disease should be assessed based on three aspects in order to improve comprehension.

1. Nature of the disease (*Vikaaraprakrithi*)
2. Site of its manifestation (*Adhishtananthara*)
3. Etiological factors (*Hethuvisesha*)^[5]

Fivefold clinical assessment criteria for disorders (*Nidanapanchaka*) are another way to look at it. These

criteria which include causative factor (*Nidana*), prodromal symptoms (*Poorvarupa*), symptoms (*Rupa*), relieving factors (*Upasaya*), and pathogenesis (*Samprapthi*). It facilitates the understanding of illness development and diagnostics.

Etiology:

CKD can be considered a disease affecting *madhyamarogamarga*. *Vrikka* becomes the *adhishtana* of CKD. *Vrikka* is one of the *moolasthanas* of *medovahasrotas*^[6] and originated from *rakta* along with *medas*^[7]. The factors that vitiate the *medas* and *rakta* may act as nephrotoxic later. Excessive consumption of *guru*, *snigdha*, *seeta aharas*, and foods and drinks with an *abhisyandi* nature will cause *kaphameda* vitiation and excess use of *lavana-amla-kshara-teekshn-ushna aharas* and *vidahi aharas* may result in *rakta* vitiation

Unhealthy eating habits may be a major contributing factor to the development of chronic kidney disease (CKD) in our modern lifestyle. Compared to the older generation, the younger generation likes new trends and a variety of food items such as fast food, Chinese food, grilled meat, red meat, spicy food, junk food, tin food with preservatives, chocolates, ice creams, pudding, fried items etc as well as sedentary lifestyle. The frequency of intake of these kinds of food items is also higher in the current era. These *ahara* and *vihara* are *rakta* and *meda* vitiating and contribute to CKD.

CKD is also influenced by hereditary disorders (3.1%), including polycystic renal disease. *Charakacharya* explains that anomalies in the *beeja* (germ cell), *beejabhaga* (chromosome), and *beejabhagaavayava* (gene)^[8] respectively, lead to anomalies in the structures generated from them.

Prodromal symptoms

During the *sthanasamsraya* stage of *shadkriyakala*, *poorvarupas* become visible^[9]. According to *Ayurveda*, not all diseases must be linked to *poorvarupa*; for example, *vata vyadhi* has *avyaktapoorvarupa*^[10], like this CKD is having an indistinct prodromal symptom because no evident prodromal features are seen in first stage of CKD. In contrary to this, *Bhaishajyaratnavali* mentioned *poorvarupa* to the *vrikkaroga* like *nidranasa*, *agnimandhya*, *sopha* in *netra*, *asya* and *pada*, *ushnasparshanadi*, *stabdhagatrata*, *twakrookshata*^[11].

Symptomatology

Symptoms of CKD develop very slowly and are not specific to the disease. CKD is generally discovered accidentally or through routine testing using urine and serum chemical profiles. Patients with advanced chronic kidney disease (CKD) may have dyspnoea, peripheral oedema, pruritis, fatigue, decreased appetite, nausea, vomiting, metallic taste in their mouths, unexpected weight loss, and mental disturbances.

Clinical features of various stages of CKD have similarities with symptoms seen in the *vrikkaroga* mentioned in *Bhaishajyaratnavali*^[12].

Loss of appetite: Stage 4 CKD	<i>Agnimandya</i>
Vomiting: Stage 4 CKD	<i>Chardi</i>
Skeletal abnormality due to hypocalcemia & secondary hyperparathyroidism	<i>Sarvanga Vedana</i>
Generalized edema	<i>Sopha</i>
Dry scaly skin	<i>Twakrukshata</i>
Anemia due to erythropoietin deficiency	<i>Pandu</i>
Hypertension	<i>Nadeenoonamvegayuktam</i>
Oliguria/bladder dysfunction	<i>Mootrambinduroopena</i>
Hematuria	<i>Mootra with rakta</i>
Cardiovascular manifestations	<i>Hrdroga</i>
Ocular manifestations in CKD	<i>Netraroga</i>
Sexual dysfunction	<i>Dwajothabhanga</i>

Upasaya

In the early stages of CKD, treatments that helps in *aamapachana*, *srotosodhana*, *raktaprasadana*, and *kleda-medososhana* can be considered *upasaya*. *Medo vrddi kara nidanas* such as a sedentary way of living, an overindulgence in *guru*, and *snigdha seeta abhisyanidi aharas* and furthermore, high *lavana amla teekshna kshara* and *vidahi ahara*, *raktadushtikara nidanas* accelerate the progression of the condition.

Pathogenesis

In CKD primary pathology involved is glomerulonephritis, which reduces the ability of renal tissue to filter blood and prevents the removal of toxic substances from the blood. At the end stage of CKD, the toxic metabolites retained inside the body slowly and affecting other organs. CKD is the outcome of a decline in GFR and an increase in *kleda* throughout the body (uremic syndrome). Diabetes mellitus is the most common cause of chronic kidney disease (CKD).

According to *Ayurveda*, diabetes may be correlated with *prameha*. In *prameharoga samprapti*, the *sthanasamsraya* occurs at *vastipradesha*^[13]. In diabetes mellitus, the function of *vasti* is impaired, which can lead to excess fluid accumulation in the body. As a result of the disease's chronicity, *vata dosha* becomes predominant, increasing *ruksha*, *kharaguna*, and *soshana* of *kleda*. This can result in glomerulosclerosis in CKD.

In non-diabetic instances foods and activities that vitiate *rakta* and *meda*, particularly in relation to *medo dhatu*, cause *aama* development. It leads to *medodhatvagni* impairment, which further accumulates *malasanchaya* in *medovahasrotas*. Since *vrikka* becomes the *moolasthan* of *medovaha srotas* and whose embryological genesis is from *rakta* and *meda* it becomes the *asrayasthana* and functional



impairment of *vasti* which further leads to chronic kidney disease (CKD).

Based on shadkriyakala

Depending on GFR, CKD has five stages. wherein the initial three stages are mainly asymptomatic. Only the *sthanasamsraya* stage of *shadkriyakala* takes place here. *Srotorodha* to *raktavahasrotas* can happen in this stage. The primary urinary abnormality in these stages is therefore albuminuria. After the *sthanasamsraya* stage, specific disease-related symptoms start to show. Here, there were some structural and functional abnormalities. *Aruchi*, *chardi*, *malabandha*, *agnimandhya*, and *pandu* symptoms are present at the stage 4 CKD. *Bhedavasta* can be used to describe stage 5 CKD. This *vatapradhana tridoshakopa* may have caused the *dhatukshaya* and *ojakshaya*, which ultimately caused other systemic manifestations found in full blown CKD.

Treatment

The *nidana*, *dosha*, *dushya*, and *samprapthi* of a disease should guide the path of treatment. By analyzing the *samprapthi* of CKD-generally, there may be dominance of *aamasanchaya*, *agnimandhya*, *kledavrddi*, *raktamedodushti*, *srotorodha*, *kapha-pitta dusti* and *pratilomata* of *vata* in

different degrees. The status of each event may vary in different individuals with CKD. The line of treatment should be framed as per the Samprapthi. In line with the clinical involvement of the *samprapthighatakas*, the diagnosis should be done and the treatment should be framed to reverse these *samprapthi* variations. Drugs that helps in *aamapachana*, *agnideepana*, *kledasoshana*, *rakthamedoprasadana*, *srotosudhikara*, *kaphapittasamana* and *anulomana* can be selected according to that.

Discussion

The functions of the kidney include removing waste products from the blood, maintaining electrolyte balance, producing RBCs via releasing erythropoietin, etc. Accumulation of waste products may hamper the function of the kidney causing an electrolyte imbalance and an increase in bio markers.

According to *Ayurveda*, CKD can be considered a *madhyamarogamargavyadhi*, as it affects *vasthimarma*. The function of *mootra* is *kledavahana*^[14], and normal quality and quantity of *kleda* are needed for homeostasis. Excess *kleda* in our body can be considered an *aama* or foreign body. *Aama* in *mootravahasrotas* hamper the function of kidney, which gradually impair the functional integrity of related *rasadi dhathus* also. Hence the manifestation of symptoms associated with these dhathus. Upon analysing the clinical signs and symptoms of chronic kidney disease (CKD), it becomes evident that renal disease can affect numerous different systems. CKD is asymptomatic at the beginning of the disease. When it starts to exhibit the symptoms, the kidney damage may exceed > 70%.so, it can also be considered *gudalingavyadhi*.

Conclusion

The early stages of CKD are typically asymptomatic and are detected only on investigations. From *rakta* and *meda*, *vrikka* originates. Therefore, nephrotoxic agents are involved in *rakta* and *meda* vitiation. *Kledavahana* serves as the purpose of *mootra*. If urine fails to conduct *kleda*, it will accumulate in the body and results in many diseases. In accordance with *Ayurveda*, CKD is an example of an *anuktavyadhi*. *Dhatwagnimandhyakara*, *dhatumalasanachayakara*, and *srotorodhakara* are all involved in the primary pathophysiology of chronic kidney disease (CKD). The pathogenesis of chronic kidney disease is multifaceted and progressive in nature. Hence, the management approach also varies according to the stage of the disease and the status of involved *doshas* and *dooshyas*.

References

1. Joseph Loscalzo, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, J. Larry Jameson . et al. Harrison's principles of internal medicine. Twenty-first edition. McGraw Hill, Vol 1, Chapter 311 chronic kidney disease , 2309p
2. New definition and classification of CKD by National Kidney Foundation – Kidney Disease Outcomes Quality Initiative (KDOQI), USA
3. Andrew S. Levey, Kai- Uwe Eckardt, Yusuke Tsukamoto, Adeera Levin, Josef Coresh, Jerome Rossert, Dick D. E. Zeeuw, Thomas H. Hostetter, Norbert Lameire, Garabed Eknoyan. Definition and classification of chronic kidney disease: A position statement from Kidney Disease: Improving Global Outcomes (KDIGO), June 2005, Kidney international, Vol.67.pp2089-2100.
4. Sheela P. Haveri, Sebastian NM2, Jeshu MM3, Arya S. Nath, Burden of Renal failure among adults in Rural Kerala: A community-based study, Indian Journal of Forensic and Community Medicine October -December 2016;3(4):288-291
5. Agnivesha, Charaka, Chakrapani. Charakasamhitha, Ayurvedsdeepika. Acharya Yadavji Trikamji, editor. Varanasi: Chaukhamba Krishnadas Academy; 2021 reprint. Sutrasthana, chapter 18, verse 45-46,pg: 108.
6. Agnivesha,Charaka,Chakrapani.Charakasamhitha,Ayurvedsdeepika. AcharyaYadavjiTrikamji,editor.Varanasi:ChaukhambaKrishnadasAcademy; 2021 reprint. Vimanasthana, chapter 5, verse8,pg: 251.
7. Susrutha,Dalhana.Susruthasamhitha,Nibandhasamgrahacommentary.Acharya YT acharya, Naarayan Ram Acharya kavyatirtha, editor. Varanasi: Chaukhamba Surabharati Prakashan 2013, Sareerasthana, chapter 4, verse 31,pg:358
8. Agnivesha,Charaka,Chakrapani.Charakasamhitha,Ayurvedsdeepika. AcharyaYadavji Trikamji, editor. Varanasi: Chaukhamba Krishnadas Academy; 2021 reprint, Sareerasthana, chapter 3, verse17,pg: 315.
9. Prof. K.R Srikanthamurthy, Susrutasamhithasareerastana, English translation,volume1,varanasi. Chaukhamba Orientalia; 2012 reprint. Sutraasthana, chapter 21, verse 33, pg: 162.
10. Agnivesha,Charaka,Chakrapani.Charakasamhitha,Ayurvedsdeepika. AcharyaYadavjiTrikamji,editor.Varanasi:ChaukhambaKrishnadasAcademy; 2021reprint.Chikitsasthanachapter28, verse 19,pg:617.
11. Kaviraj Sri Ambhikadatta Sastri Ayurvedacharya, Bhaishajyaratnavali, Choukambhprakashan, Varanasi 2021 chapter 93,verse 3, pg:1193
12. Kaviraj Sri Ambhikadatta Sastri Ayurvedacharya, Bhaishajyaratnavali ,Choukambhprakashan ,Varanasi 2021 chapter 93,verse 6-10, pg:1193
13. Vagbhata, Ashtanga Hridayam (Sarvangasundara commentary of Arunadatta). Pt. Hari sadasivashastra B, editor. Varanasi: Chaukhamba Surabharati Prakashan; 2021 reprint. Nidanasthana, chapter 10, verse 4, pg: 502.
14. Vagbhata,AshtangaHridayam (SarvangasundaracommentaryofArunadatta).Pt.Harisadasivashastra B,editor.Varanasi:ChaukhambaSurabharatiPrakashan; 2021reprint.Sutrasthana,chapter 11, verse5,pg:183

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