



Review Article

A CRITICAL REVIEW ON VRIKKA VIKARA VIS-A-VIS CHRONIC KIDNEY DISEASE (CKD)

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ABSTRACT

Vrikka vikara is a disease afflicting *Mutravaha srotas*. In Ayurveda, Chronic Kidney Disease (CKD) aligns with the concept of *Vrikka Vikara*, encompassing various *Doshas* and *Dhatu*s. The description of *Vrikka roga* is mentioned in *Bhaisajya Ratnavali* chapter no.93 under *Vrikkaroga chikitsa prakaranam*. Chronic kidney disease is the collaborative progression of *Rasavaha*, *Raktavaha*, *Mamsavaha*, *Medovaha srota dushti* which reflects through *Mutravaha srotas* including *Oja dushti*. The clinical features of *Prameha* along with *Mutrakricchra*, *Mutraghata* and *Vrikka Vikara* as a whole resemble with Chronic Kidney Disease (CKD). CKD has emerged as one of the most prominent cause of death and suffering in the 21st century associated with a wide range of complications leading to adverse health outcomes which affects greater than 10% of the general population posing significant risks for major non-communicable diseases like Cardiovascular disease and both Type 1 and Type 2 Diabetes Mellitus. Emphasizing its status as a critical public health issue globally, early detection, and management of CKD are crucial to mitigate its impact on morbidity and mortality.

INTRODUCTION

In the contemporary era, several diseases are prevailing world wide with large number of complications. Chronic Kidney Disease (CKD) stands out as one such disorder, characterized by a multitude of challenges and complexities. The term Chronic Kidney Disease is defined as “structural and functional abnormalities of kidney present for at least three months, with or without decreased glomerular filtration rate, manifests by either pathological abnormalities or other markers of kidney damage, including abnormalities in the composition of blood or urine^[1].

In Ayurveda, Chronic Kidney Disease (CKD) can be classified under *Mutravaha Srota dushti vikara*. The condition involves an imbalance of the *Tridoshas* along with disturbances in the *Saptadhatus* and *Mutra*. The accumulation of *Doshas* within the *Srotas* causes pathological changes, leading to blockages that impair kidney functions such as ultrafiltration, re-absorption,

and secretion. These disruptions are linked to the involvement of the glomerular apparatus and renal tubules.

AIM AND OBJECTIVES

1. To review *Vrikka vikara* on the basis of *Panchanidana*.
2. To study the correlation between Ayurvedic concept of *Vrikka vikara* and contemporary understanding of Chronic Kidney Disease (CKD).

MATERIALS AND METHODS

References related to *Vrikka vikara* and Chronic Kidney Disease were searched and relevant literature was reviewed from *Samhitas*, modern literature, and journal articles. Additionally, commentaries from contemporary scholars were reviewed to gather comprehensive insights into the subject.

Ayurvedic Review of *Vrikka Vikara* *Vrikka*

The term *Vrikka* has been derived from the original *Dhatu* “*Vruk Adane*” which when further suffixed by ‘*Kak*’ giving raise the final word ‘*Vrikka*’ which means ‘to accept’ or to ‘take’.

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Nirukti^[2]

“Varshati iti vrikka” (Amarkosha)

The word *Vrikka* derived from the word “*Vrisha sechane*” which means irrigation.

Synonym - Vukka (Shabdakosha)

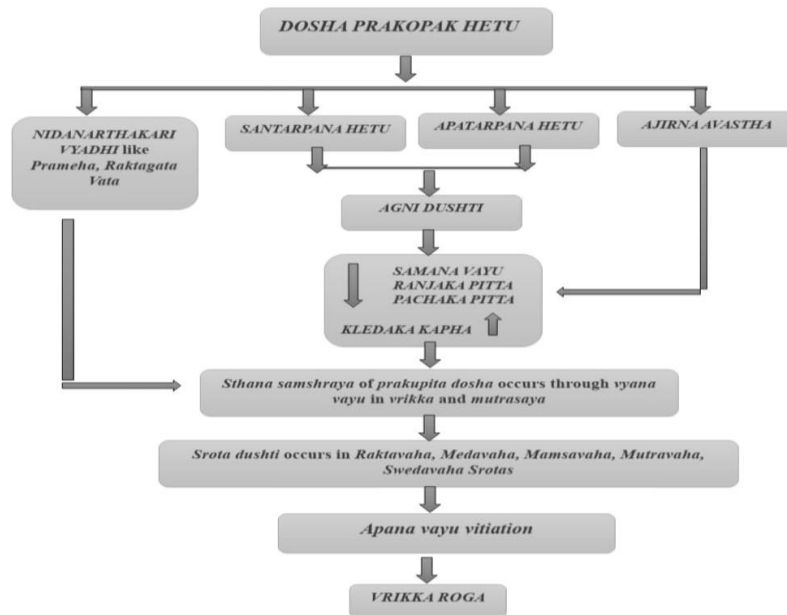
The diseased condition of *Vrikka* is known as *Vrikka vikara*.

Vrikka Vikara

Nidana (Etiology)^[3]

- *Prayena Saityasya vishesayogat vrikkadwaye vrikkadabhijayate*- Excessive exposure to cold generally leads to the onset of kidney-related ailments, including conditions like *Vrikka gada* (kidney stones).
- *Masurika visuchika amavate jware upadravatwena*- If a person is affected by chronic diseases like *Masurika* (chicken pox), *Visuchika* (cholera), *Amavata* (rheumatoid arthritis), or *Chiraja jwara* (long-standing fever), then kidney diseases may occur as complications.

Samprapti (Pathogenesis)^[4]



According to *Ayurveda*, *Vrikka Roga* can be defined as an amalgamation of symptoms of several diseases like *Rasa pradosaja vikara*, *Kaphaja Sotha*, *Pandu*, *Mutrakricchra*, *Mutraghata*, *Prameha* and its *Upadrava*. The *Dosha Prakopak Hetu*, include factors like *Nidanarthakara Roga*, *Santarpanjanya*, *Apatarpanjanya* and *Ajirna Avastha*. These factors disrupt the *Agni Dushti*, leading to the imbalance of *Samana Vayu*, *Pachak Pitta*, *Ranjaka Pitta*, and an increase in *Kledaka Kapha*. The *Prakupita Dosh* gets *Sthansamshraya* in *Vrikka* and *Mutrasaya* through *Vyana Vayu* leading to *Srotadushti* of *Dhatu*, *Mala* and *Oja* which results in *Apana Vayu* vitiation. This chain of events culminates in the manifestation of *Vrikka roga*, the disease affecting the kidneys.

Samprapti Ghatak

- **Dosha:** *Tridosha, Vata Pradhana*
- **Dushya:** *Rasa, Rakta, Abaddha Meda*
- **Srotas:** *Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra, Sweda, Mutra, Prana, Anna, Udaka, Oja*
- **Srota dushti:** *Sanga*

- **Adhithana:** *Vrikka, Vasti, Sarva sharira*
- **Agni:** *Dhatwagni*
- **Swabhava:** *Chirakari* (chronic)
- **Sadhya-asadhyata:** *Yapya / Asadhya*

Purvarupa (Prodromal Symptoms)^[5]

- *Nidranasa*- Sleeplessness
- *Vahnimandya*- Loss of digestive fire
- *Netrasotha*- Swelling or puffiness of the eyes
- *Asyapadasotha*- Swelling of the face and feet
- *Nadistabdha*- Stiffness or obstruction in the channels (nerves or vessels)
- *Vega mukta*- Frequent micturition
- *Ushmata*- Sensation of warmth or elevated body temperature.
- *Roukshya*- Dryness of the skin or tissues.

Rupa (Sign and Symptoms)^[6]

Acharya Govinda Das Sen had given a unique contribution regarding the *Swarupa* of diseased

kidneys, described as "*Rogavasthayam Vrukkayo Swaroopam*"

The following sign and symptoms has been described in *Bhaisajya Ratnavali*:

- *Chhardi*- Vomiting
- *Sotha*- Swelling or inflammation
- *Vedana*- Pain
- *Sarvesh angeshvaddha* – Pain and stiffness all over the body.
- *Shirshashoolam* - Headache
- *Jwara*- Fever
- *Raktahrashat panduvarnatvam* – Pale or yellowish discolouration of face due to loss of blood.
- *Asye swedabhavah* - Absence of sweat on the face.
- *Twacharaukshyagnimandye* - Dryness of the skin and poor digestive fire.
- *Peeda katyam cha udare vrikka deshe* - Pain in the lower back, abdomen, and kidney region.
- *Nadi noonam vegayukta* - Pulsating arteries with increased velocity.
- *Mutram shashwad vindurupena cha ushnam peedayuktam vrikka roge sravedvai* - Urine that is consistently warm and painful often passed in drops seen in kidney disorders.
- *Tivra lakshanam vrikka yugme jatu syad eva ashmari yogato api* - Severe symptoms in both kidneys, which may also be associated with the formation of kidney stones.
- *Shishnasyagre jayate cha atipeeda* - Severe pain at the tip of the penis.
- *Mutram raktanavitam syat kadachit* - Urine mixed with blood occasionally.
- *Shaitopyetam panipadam* – Coldness in the hands and feet.
- *Dahashchalpo mutra kale dhvajagre* - Mild burning sensation during urination, especially at the tip of penis.
- *Karyashaithilya hetorghorae swe sweir lakshanair lakshyamanah* - Severe symptoms indicating the

nature and severity of the disease due to their dysfunction.

- *Pleehno Hridyakritsambhavo anurvrikkagrastasyeti chinha pradishtam*
- Affliction of the heart and spleen due to kidney disorders.
- *Nadah Karne* - Ringing in the ears
- *Netraroga* - Eye disorders
- *Dhwajottha bhanga*- Erectile dysfunction
- *Shakha gauravam cha api* - Heaviness in the limbs
- *Murchha* - Fainting
- *Amse grivayam cha murdhni prapida moha linganyevam* - Pain in the shoulders, neck, and head, along with confusion and unconsciousness occurs.

Upadrava (Complications) [7]

- *Murchha*- Loss of consciousness
- *Kasa*- Persistent cough
- *Phuphusabhitthau*- Hiccups
- *Shvayathu*- Swelling, especially in the extremities.
- *Uras toya*- Accumulation of fluid in the chest cavity.
- *Salilodara*- Accumulation of fluid in the abdominal cavity (ascites).
- *Mootravisha Sankramanam*- Infection of the urinary tract, which can lead to severe complications.

Modern Review

Chronic Kidney Disease

Chronic Kidney Disease (CKD) is a growing public health concern, contributing significantly to illness and premature mortality. The World Health Organization (WHO) ranks Chronic Kidney Disease (CKD) as the 12th leading cause of death and the 17th leading cause of disability worldwide. Each year, approximately 8,50,000 individuals develop End-Stage Renal Disease (ESRD).

Incidence of CKD in India

According to Nephrology Dialysis Transplantation, approximately 7.85 million people in India suffer from chronic renal failure. CKD is observed to affect women more frequently than men, with prevalence rates of 16% and 13%, respectively.

Classification [8]

Prognosis of CKD by GFR and Albuminuria Categories KDIGO 2012				Persistent albuminuria categories		
				Description and Range		
				A1	A2	A3
eGFR Categories ml/min/1.73m ² Range and description	G1	Normal or High	≥ 90	Normal to mildly increased < 30mg/g < 3 mg/mmol	Moderately Increased 30-300 mg/g 3-30 mg/mmol	Severely increased >300mg/g >30 mg/mmol
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney Failure	<15			

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red: very high risk

Progression of Chronic Kidney Disease (CKD)

Stages 1 & 2 CKD

- **Characteristics:** Decreased GFR, renal parenchymal disease, polycystic disease, glomerulonephritis, parenchymal and vascular diseases.
- **Symptoms:** Generally asymptomatic with well-preserved GFR. Symptoms may arise from underlying diseases such as edema in nephritic syndrome or hypertension in polycystic kidney disease and glomerulonephritis.

Stages 3 & 4 CKD

- **Characteristics:** Further decline in GFR, anaemia, calcium and phosphorus imbalances, abnormal mineral-regulating hormones (e.g., calcitriol, PTH), and disruptions in sodium, potassium, water, and acid-base homeostasis.
- **Symptoms:** Easy fatigability, decreased appetite, malnutrition, and more evident complications in virtually all organ systems.

Stage 5 CKD

- **Characteristics:** Severe decline in GFR leading to toxin accumulation, marked disturbance in daily activities, well-being, nutritional status, and water and electrolyte homeostasis.
- **Symptoms:** Uremic syndrome, which is fatal without renal replacement therapy (dialysis or transplantation).

Etiology

Susceptibility Factors

- Advanced age
- Low income or education levels
- Racial or ethnic minority status
- Reduced kidney mass
- Low birth weight
- Family history of CKD are at higher risk

Initiation Factors

- Diabetes Mellitus
- Hypertension
- Glomerulonephritis

Risk Factors

- Age >65 years old
- Obesity
- Smoking
- Cardiovascular disease (CVD)
- Metabolic syndrome
- Hyperlipidemia
- Use of nephrotoxic drugs, long-term use of proton-pump inhibitors (PPIs), or analgesics.
- Family history of CKD or hereditary kidney disease.

- Gout
- Multisystem diseases with potential kidney involvement, e.g., Systemic Lupus Erythematosus (SLE).
- Structural renal tract disease, renal calculi, or prostatic hypertrophy.
- Opportunistic (incidental) detection of Hematuria or Proteinuria.

Clinical Features

- **Uremic Symptoms:** Symptoms such as fatigue, weakness, shortness of breath, mental confusion, nausea, vomiting, bleeding, and anorexia are generally absent in stages 1 and 2, minimal during stages 3 and 4, and common in stage 5 CKD. Patients with stage 5 CKD may also experience itching, cold intolerance, weight gain, and peripheral neuropathies.
- Polyuria and Nocturia
- Proteinuria
- Haematuria
- Hypertension and fluid overload
- Anaemia
- Bone Disease (Renal Osteodystrophy)
 - Secondary hyperparathyroidism
 - Osteomalacia (reduced mineralization)
 - Mixed renal osteodystrophy (both hyperparathyroidism and osteomalacia)
 - Adynamic bone disease (reduced bone formation and resorption)

Chronic Kidney Disease (CKD) and *Vrikka Roga* share many clinical features that highlight their correlations

1. Uremic Symptoms: Fatigue, weakness, shortness of breath, mental confusion, nausea, vomiting, bleeding, and anorexia are common in advanced stages of CKD (stage 5). This correlates with: *Chhardi* (vomiting), *Vedana* (pain), *Jwara* (fever), *Raktahrashat panduvarnatvam* (pale or yellowish discoloration due to blood loss).

2. Polyuria and Nocturia: Increased urine output and night time urination aligns with *Mutram shashwad vindurupena cha ushnam peedayuktam* (warm and painful urination).

3. Proteinuria and Haematuria: The presence of protein and blood in the urine correlates with *Mutram raktanavitam* (occasional blood in urine).

4. Hypertension and Fluid Overload: These conditions are linked to *Sotha* (swelling or inflammation), *Shaitopyetam panipadam* (coldness in the hands and feet).

5. Anaemia: Anemia in CKD relates to *Asadhyapandu* (severe anemia, though not explicitly listed, is implied by symptoms like pallor and fatigue).

6. Bone Disease (Renal Osteodystrophy): This includes:

Secondary hyperparathyroidism, osteomalacia, mixed renal osteodystrophy, adynamic bone disease. These conditions are associated with *Peeda katyam cha udare vrikka deshe* (pain in the lower back, abdomen, and kidney region).

7. Severe Symptoms in Both Kidneys: This can be correlated with *Tivra lakshanam vrikka yugme* (severe symptoms in both kidneys, possibly associated with kidney stones).

8. Additional Symptoms

Shishnasyagre jayate cha atipeeda (severe pain at the tip of the penis) and *Dahashchalpo mutra kale dhvajagre* (mild burning sensation during urination) correspond to CKD-related discomfort.

Nadah Karne (ringing in the ears) and *Netraroga* (eye disorders) reflect systemic complications of CKD.

Shakha gauravam cha api (heaviness in limbs) and *Murchha* (fainting) are indicative of advanced CKD complications.

Amse grivayam cha murdhni prapida moha linganyevam (pain in shoulders, neck, and head, along with confusion) reflects the systemic impact of CKD on the body.

Markers of Kidney Damage

- Albuminuria: Albumin excretion rate (AER) ≥ 30 mg/24 hours or albumin-to-creatinine ratio (ACR) ≥ 3 mg/mmol.
- Urine sediment abnormalities.
- Electrolyte and other abnormalities: Due to tubular disorders.
- Abnormalities detected by histology.
- Structural abnormalities: Detected by imaging.
- History of kidney transplantation.

Treatment Principle^[9]

The treatment principle of *Vrikka vikara* outlined in *Bhaisajya Ratnavali* includes:

- *Raktamokshana* (bloodletting)
- *Virechana* (purgation) and *Swedana* (*Vashpa sweda* - steam therapy)
- Administration of specific drugs: *Mutrala* drugs, *Rakta samsodhana* drugs, *Dhatupusti* drugs, *Agnibalavardhana* drugs.
- In cases of *Vrikka roga*, the use of mercury and mercury-based formulations is prohibited as they are believed to exacerbate the condition.

- If there is an obstruction of the excretory channels in kidney diseases, it is advisable to use *Sneha Vasti* (oleation enema). Additionally, if it is confirmed through diagnosis that there are kidney stones (*Ashmari*), then treatment to address the stones should be determined accordingly.

- *Shamana ousadhis* like *Sarvatobhadra vati* and *Maheswara vati* are described in *Bhaisajya Ratnavali*.

Pathya- Apathya^[10]

Pathya: *Purana Shali, Yava Kshara, Yava anna, Tikshna and ushna padartha, Takra, Godugdha, Dadhi, Jangal Mamsa, Mamsa rasa, Mudga yusha, Sita, Supakwa kushmanda, Patola, Ardraka, Gokshura, Ghrita kumari, Puga, Kharjuraka, Narikela phala, Taladruma, Haritaki, Trapusa, Laghu Ela, Sitala peya, Sitala annapana, Nadeya jala, Karpura.*

Apathya: *Madyapana, Shrama, Maithuna, Gajabaji yana, Viruddha ahara vihara sevana, Vishamasana, Tambula, Matsya, Lavanadraka taila bhrista, Pinyaka, Hingu, Tila, Sarshapa, Vegavarodha, Masha, Karira, Ati tikshna, Vidahi, Ruksha, Amla padartha sevana.*

DISCUSSION

In pathological states, patients with Chronic Kidney Disease (CKD) may present with various clinical manifestations such as *Mutraoukasada* (anuria), *Mutrakshaya* (oliguria), *Shotha* (renal edema), *Asadhyapandu* (severe anemia), and *Sannipataja Chardi* (uremic vomiting). *Mutraoukasada*, caused by obstructions from *Pitta* or *Kapha*, can be associated with conditions like post-infectious Glomerulonephritis and Diabetic Nephropathy. *Mutrakshaya* often results from secondary diseases such as systemic hypertension, Systemic Lupus Erythematosus (SLE), hyperuricemia, amyloidosis, pyelonephritis, and renal tuberculosis, which correlate with *Shonitaabhishtyanda* (bleeding disorders), *Asadhyavatarakta* (difficult-to-treat bleeding disorders), *Ama* (toxicity), *Abhyantaravidradhi* (internal abscess), and *Raktaja Mutrakricchra* (urinary disorders stemming from blood disorders), respectively.

As CKD progresses to stage 5, the accumulation of toxins severely impacts daily activities, overall well-being, nutritional status, and the balance of water and electrolytes, culminating in uremic syndrome. Without renal replacement therapy, such as dialysis or transplantation, this condition ultimately leads to death.

In Ayurvedic terms, *Acharya Charaka* identifies the *Basti* (urinary bladder) and *Vankashna* (groin) as the core components of *Mutravaha Srotas*. *Acharya Sushruta* describes urine formation occurring in the *Pakvashayagat sthana* (digestive system) and its

secretion through the *Gavini* (ureters) and storage in the *Basti*. He also emphasizes that the *Basti* regulates *Kleda* (water-electrolyte balance), which is crucial for kidney function. This indicates that the formation and excretion of *Mutra* (urine) is a coordinated process involving the entire *Mutravaha Srotas* system. Any pathology affecting this system disrupts its function, leading to *Mutravaha Srotas Dusti*.

CONCLUSION

Since Chronic Kidney Disease (CKD) is a significant concern among the elderly persons in the society, presenting a range of etiologies and symptoms that complicate its management. Effective treatment should focus on addressing the underlying imbalances causing tissue damage, specifically the accumulation of toxins like creatinine and urea. This involves correcting *Oja Dusti* (imbalance in vital energy), improving *Jatharagni* (digestive fire), and ensuring *Dhatu Samyata* (proper metabolism and rejuvenation of kidney tissues). The goal is to enhance the estimated Glomerular Filtration Rate (eGFR) and prevent the progression of CKD. According to *Acharya Charaka*, the management of *Mutravaha Srota dusti* should be aligned with the principles outlined in *Mutrakricchra Chikitsa*.

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